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

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27 April 2020 (manuscript)

1 Introduction

The last several decades have seen the notion of subjecthood 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). Through 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, this paper lends support to this approach and argues for an even further decomposition of this notion. In West Circassian, there are at least two subject-like positions in the clause: the highest A-position in the clause in Spec,TP and the highest A-position in vP, which may in fact correspond to a number of specific coordinates: Spec,vP, Spec,ApplP, or even the internal argument within VP. 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: Spec,TP by the absolutive case-marked argument

*The author thanks Svetlana K. Alishaeva, Saida Gisheva, Susana K. Khatkova, and Zarema Meretukova for sharing their knowledge of West Circassian. The author is grateful to Karlos Arregi, Cleo Condoravdi, Itamar Francez, Vera Gribanova, Boris Harizanov, Paul Kiparsky, Yury Lander, Beth Levin, Jason Merchant, Yakov G. Testelets, the participants of the Morphology & Syntax Workshops at UChicago and Stanford, and the audiences at WCCFL36 and GLOW42 for feedback on various versions and parts of this project. This work was funded by the Graduate Research Aid Initiative in Linguistics from the University of Chicago, the Dissertation Research Grant from the Association for Slavic, East European, and Eurasian Studies, and the NSF Doctoral Dissertation Research Improvement Grant #1749299. All mistakes and shortcomings are my own.

and the highest position within vP by an ergative agent or an applied object. This leads to a systematic distribution of subjecthood properties across two distinct nominals within a given clause, thus confirming previous scholarship on distributed subjecthood properties and rendering the notion of subjecthood theoretically vacuous within the tree-geometric framework adopted in modern Minimalism.

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). Previous proposals for such an approach, however, appeal to A′-phenomena (or, in Schachter's (1977) terms, reference-related properties) such as quantifier scope and extraction asymmetries as subjecthood properties which target the higher, 'surface' subject. This leaves open the possibility of characterizing this high position as a type of topic, i.e. an A′-position, rather than an A-position typically associated with classic argument prominence. This paper is set apart from previous proposals in that it presents compelling evidence that the high subject position in West Circassian is an A-position which is obligatorily occupied by the absolutive argument regardless of its theta-role, while the lower subject-like argument likewise occupies an A-position which c-commands other arguments within the verbal theta-domain. Surprisingly, the two positions may be diagnosed by the same subjecthood test – the ability to bind anaphors: reciprocals provide evidence for the surface subject position in Spec,TP, while reflexives allow us to diagnose the vP-internal subject position. 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. The current proposal lends support for this approach and provides a systematic explanation for the observed distribution of subjecthood properties in the language.

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. Puzzlingly, reflexives and reciprocals appear to display opposite directionality of binding in transitive (ergative-absolutive) verbs: while the reflexive morpheme appears in place of the absolutive cross-reference

marker (1a), the reciprocal morpheme replaces the ergative personal marker instead (1b).[1]

(1)

	Theme(ABS)-	**Agent(ERG)-**			
a.	**zə-**	t-	λeʁʷə	-ʁ	**ABS→REFL**
	REFL.ABS-	1PL.ERG-	see	-PST	'We saw ourselves.'
b.	te-	**zere-**	λeʁʷə	-ʁ	**ERG→REC**
	1PL.ABS-	**REC.ERG-**	see	-PST	'We saw each other.'

If restated in terms of argument alignment, reflexive binding appears to follow a syntactically accusative pattern, with an ergative antecedent c-commanding an absolutive reflexive anaphor, while reciprocals display a syntactically ergative pattern, with the absolutive antecedent c-commanding the reciprocal pronoun in the ergative position.

Despite the seemingly contradictory directionality of binding, I argue that both reciprocals and reflexives in West Circassian are standard anaphors which must be bound within the local A-domain, i.e. TP. Reflexives, however, differ from reciprocals in that they fall into a cross-linguistically common class of local subject oriented anaphors which must be licensed by a specialized reflexive voice head (Labelle 2008; Ahn 2015; Bhatia and Poole 2016, cf. Sportiche's (2014) HS projection). The syntactic properties of this voice projection reduce the set of possible antecedents to the highest argument in the theta-domain, i.e. vP. The mismatch in directionality between reflexives and reciprocals is then reduced to a difference in licensing conditions. The availability of this mismatch within a single language has far-reaching repercussions for our understanding of binding conditions on pronominal elements, including our understanding of the role of subjecthood in binding and of binding conditions B and C.

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 syntacti-

[1]Following Testelets (2009); Lander (2012); Lander and Testelets (2017); Arkadiev and Testelets (to appear), a.o., I use the following non-standard transcription symbols: c = IPA /t͡s/; č = IPA /t͡ʃ/; h = IPA /ħ/; l = IPA /ɬ/; λ = IPA /ɬ/; š = IPA /ʃ/; ŝ = IPA /ʃ̻/; ž = IPA /ʒ/; ẑ = /ʒ̻/; ʒ = IPA /d͡z/; ǯ = IPA /d͡ʒ/; C' = palatalization; Ç = ejective.

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

cally 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.

In addition to informing our understanding of subjecthood cross-linguistically, this paper has implications both for the understanding of syntactic ergativity and the role of subjecthood in defining the distribution of local subject oriented anaphors. In regards to syntactic ergativity, this analysis provides support for the idea that syntactic ergativity is derived, i.e. that the absolutive moves to a high clausal position from a position that may be lower than other arguments in the theta-domain, as has been proposed e.g. by Bittner and Hale (1996); Manning (1996); Baker (1997); Aldridge (2008); Coon et al. (2014); Yuan (2018), thus lending support to the idea that there is a universal correlation between thematic roles and syntactic structure, as originally proposed by Baker (1988, 1997). In departure from previous proposals, however, I use the reciprocal binding data to argue that the high position of the absolutive argument must be derived via A-movement, rather than A′-movement. While some authors implicitly or explicitly assume that the absolutive undergoes A-movement (e.g. Aldridge 2008), the diagnostics involved in identifying the high position in previous research are compatible with an A′-movement analysis.

In regards to anaphor binding, West Circassian provides novel evidence that local subject orientation is due to conditions on locality of movement, as argued e.g. by Ahn (2015); Bhatia and Poole (2016), and not subjecthood per se, providing further argumentation for the insignificance of this grammatical construct. As a syntactically ergative language, West Circassian sheds light on the nature of local subject orientation, confirming an implicit prediction of locality-based analyses that the antecedent of the reflexive need not be the surface subject, as long as it meets the necessary locality conditions for binding.

Finally, this paper brings to light a grammatical phenomenon that, as far as I am aware, has not been attested outside of the Northwest Caucasian family – syntactic ergativity in the domain of anaphor binding. Besides providing compelling evidence for a type of syntactically ergative structure where the absolutive argument occupies a high A-position, this paper contributes to the typology of anaphor binding and suggests avenues of identifying similar patterns in other languages.

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 Adygea 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.[2] The language is classified as vulnerable by UNESCO.[3] In the Republic of Adygea, 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 Shovgenovsky district of the Republic of Adygea in Russia, conducted

[2] https://www.ethnologue.com/language/ady

[3] http://www.unesco.org/languages-atlas/index.php

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)[4]. Unless otherwise indicated, all examples are 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 *qeŝen* '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.

(2) a. mə pŝaŝe-**r(ABS)** jane paje Ø-qa-ŝʷe
this girl-**ABS** 3PL.PR+mother for 3ABS-DIR-dance
'The girl is dancing for her mother.'

b. s-jə-pŝaŝe-xe-**m(ERG)** nəsχape-xe-**r(ABS)** Ø-a-fepa-ʁe-x
1SG.PR-POSS-girl-PL-**OBL** doll-PL-**ABS** 3ABS-3PL.ERG-dress-PST-PL
'My daughters dressed the dolls.'

c. mə č̣'ale-r(ABS) bere Ø-jə-ʔahəl-xe-**m(IO)** telefon-č̣'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.'

The label *oblique* for the case on ergative agents and applied objects is additionally motivated by the appearance of this case on possessors (3a) and complements of postpositions (3b).

(3) a. pŝaŝe-**m** Ø-jə-pŝeŝeʁʷ
girl-**OBL** 3SG.PR-POSS-female.friend
'the girl's friend'

[4] http://adyghe.web-corpora.net/index_en.html

b. mə ŝʷəzə-**m** paje
this woman-**OBL** for
'for this woman'

Caponigro and Polinsky (2011) differentiate between the use of the oblique case marker *-m* on ergative DPs and its other uses; Rogava and Keraševa (1966); Arkadiev et al. (2009); Lander (2012); Lander and Testelets (2017) provide a uniform treatment for all instances of this marker. This paper does not argue for a particular analysis of morphological case marking in the language. In line with recent work on West Circassian I label all instances of *-m* as *oblique* and propose to uniformly treat it as assigned via a dependent case rule, per the system developed by Marantz (1991); McFadden (2004); Baker (2015); Yuan (2018). 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.

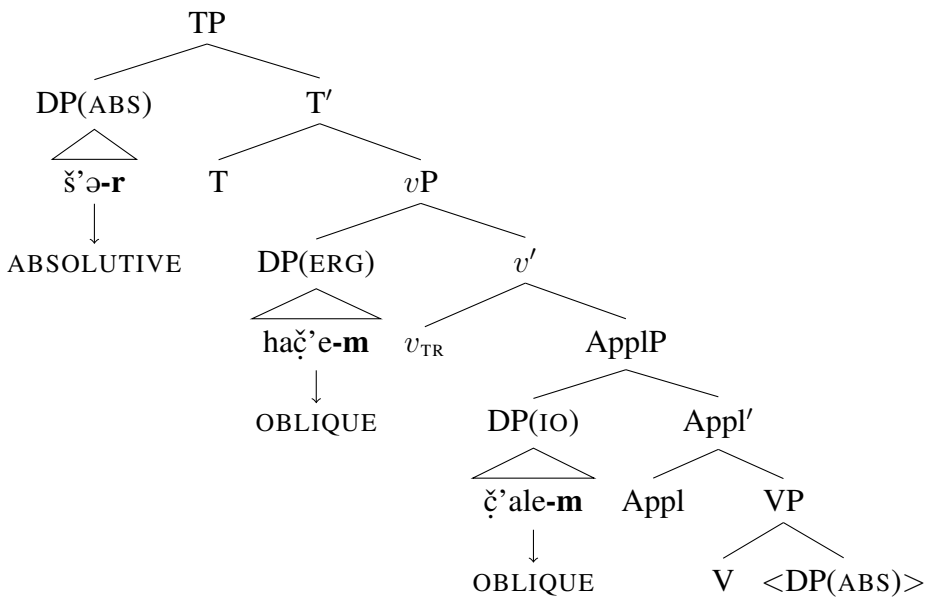
Based on evidence from reciprocal binding, I argue in section 4 that West Circassian is a high absolutive language, with the absolutive case-marked nominal raising to occupy Spec,TP. Using this clause structure as a baseline, I follow Yuan (2018); Yuan and Ershova (2020) in treating the case marker on the ergative agent (and – in West Circassian – any applied objects) as a downward-assigned dependent case per the rule in (4).

(4) **West Circassian dependent case rule:**
Within the case domain of TP, if DP_1 is c-commanded by another DP_2, assign OBLIQUE case to DP_1.
Otherwise, DP_1 is ABSOLUTIVE.

The application of this rule for a three-place transitive predicate as in (5) is demonstrated in the tree in (6): the absolutive theme in Spec,TP is assigned default absolutive case, while the ergative agent and the applied object are both assigned dependent oblique case. Nothing in this paper relies on this analysis of case assignment, and the data is equally compatible with an inherent case account per Woolford (2006); Legate (2008); Pylkkänen (2008), a.o., wherein the ergative and applied arguments are assigned case in situ, and absolutive case is assigned by T^0.

(5) hač'e-m(ERG) č'ale-m(IO) š'ə-r(ABS) Ø-Ø-r-jə-tə-ʁ
guest-OBL boy-OBL horse-ABS 3ABS-3SG.IO-DAT-3SG.ERG-give-PST
'The guest gave the horse to the boy.' (Arkadiev et al. 2009:54)

(6)



Nouns may appear without overt case marking; the lack of case marking is generally associated with indefiniteness. Thus, the absolutive argument *txəλ* 'book' lacks case marking in (7a). Additionally, possessed nominals in the singular, proper names and personal pronouns generally do not inflect overtly for case (Arkadiev et al. 2009:51-52; Arkadiev and Testelets to appear): this is shown for a personal pronoun in (7a), a possessed nominal in (7b), and proper names in (7c). I assume that all arguments are assigned case as shown in (6) regardless of the presence of an overt morphological case marker.[5]

(7) a. **we** mə pŝaŝe-m **txəλ** Ø-Ø-je-p-tə-ʁ
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^{w}** Ø-q-ə-š'a-ʁ
this child-ABS **3SG.PR-sister(ERG)** 3ABS-DIR-3SG.ERG-bring-PST
'Her sister brought this child.'

c. **zarjəne** Ø-Ø-faj **asje** Ø-qe-ŝ^{w}e-n-ew
Zarina(ABS) 3ABS-3SG.IO-want **Asya(ABS)** 3ABS-DIR-dance-MOD-ADV
'Zarina wants Asya to dance.'

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;

[5]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.

Lander and Testelets 2017:951), and nominal phrases referring to arguments are often omitted. The former point is illustrated in (8): in this sentence the applied object may precede the absolutive external argument (8a), or follow it (8b), with no change in meaning.

(8) a. **[mə ç̣'ale-m](IO)** zaʁ^{w}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)** zaʁ^{w}ere **[mə ç̣'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 (9), where the verb indexes four arguments, none of which are overtly expressed, but this utterance is nevertheless understood as a complete sentence.

(9) sə- qə- p- f- a- r- jə- ʁe- λeʁ^{w}ə -ʁ
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)

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 2018, 2019b, *inter alia*). Thus, a verbal form includes cross-reference morphology referring to all participants of the event it denotes; for example, the predicate in (9) 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 *ʁe-*. The markers referring to the applied objects appear alongside applicative prefixes marking the semantic role of the corresponding applied object. The applicative markers may vary based on the theta-role

of the applied object (e.g. benefactive *fe-*, comitative *de-*, locative *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.

The morphemes in a West Circassian word follow a particular order and are organized into zones as shown in Table 1. The argument structure zone (A) includes any personal cross-reference markers and corresponding applicative prefixes marking the particular semantic role of the applied object (e.g. benefactive *fe-*, comitative *de-*, locative *š'ə-*, etc.), as well as the directive prefix *qə-* which, apart from some lexicalized uses, expresses directionality towards the speaker or inversion in accordance with the person hierarchy $1 > 2 > 3$ (Arkadiev et al. 2009:43; Arkadiev 2017, 2018a,b). The pre-stem zone (B) includes the dynamic prefix *e-*/*me-* which marks present tense on dynamic predicates[6], the optative prefix *were-* and prefixal negation *mə-*. Zone (C) contains solely the causative morpheme *ʁe-*, of which there could potentially be more than one instance (for discussion of such forms see Lander and Letuchiy 2010). The stem (D) contains the lexical root and any incorporated lexical stems, followed by suffixes expressing an array of temporal, aspectual and modal information. Finally, endings (E) include the plural suffix and a variety of subordinating morphemes such as case markers. The last zone is set apart from the rest of the template in that it does not participate in a productive edge-sensitive vowel alternation.[7]

Argument structure zone	**Pre-stem zone**	**Causative marker(s)**	**Stem**		**Endings**
(A)	(B)	(C)	(D)		(E)
Verbs: ABS, ERG, IO Nouns: POSS	NEG, DYN, jussive	CAUS	incorporated stems + root	TAM-related suffixes	number, case, etc.

Table 1: Morphological template (adapted from Lander 2017:79)

While the ordering of verbal morphology generally reflects semantic and syntactic scope (Korotkova and Lander 2010; Ershova 2019c), cross-reference prefixes in the argument structure zone in Table 1 are organized templatically. The prefixes are strictly ordered in accordance with an

[6]The latter form only appears if there are no overt prefixes preceding it; the former allomorph appears everywhere else (Arkadiev et al. 2009:45-46).

[7]See Arkadiev and Testelets (2009) on general properties of this alternation; Lander (2017); Ershova (2019c) for the use of this alternation as a diagnostic for word boundaries.

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 2.

Absolutive-	Directive-	**IO+Applicative-**	**Ergative-**

Table 2: Organization of the argument structure zone (A)

This ordering can be seen most clearly in the presence of the directive prefix *qə-/qe-*, which in these examples is used to mark the directedness of the action. 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 (10a) or applicative indirect object (10b) surface to the right of the directive prefix, while the first person marker referring to the theme of the transitive verb (10c) or the sole argument of an intransitive verb (10d) appears to the left of the directive 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 (10b) appears to the left of the benefactive prefix *f(e)-*, which is then followed by a third person prefix, while in (10a) this same first person prefix marks the ergative agent and thus appears directly adjacent to the verbal root.

(10) a. Ø- qə- [Ø- fe-] **s-** š'a -ʁ
3SG.ABS- DIR- 3SG.IO- BEN- **1SG.ERG-** bring -PST
'**I (ergative)** brought him/her to him/her'

b. Ø- qə- [**s-** f-] jə- š'a -ʁ
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 -ʁ
1SG.ABS- DIR- 3SG.ERG- bring -PST
'S/he brought **me (absolutive)**'

d. **sə-** qe- kʷa -ʁ
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 its syntactic role in a given clause, allowing us to appeal to the morphological form of a given predicate

as a diagnostic for the syntactic position of the corresponding verbal argument. For concreteness, I assume throughout the paper that the cross-reference prefixes expone ϕ-agreement between a functional head and an argument: v^0 tracks agreement with the ergative agent, Appl^0 agrees with the applied object, and T^0 agrees with the absolutive theme. I leave questions relating to spell-out and the templatic organization of these markers to future research.

The following section appeals to general properties of the morphosyntax of West Circassian to argue for the status or reflexive and reciprocal morphology as a type of ϕ-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, 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 given that 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 (18)-(19).

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 prevocalically and immediately preceding a glide, resulting in the surface form *z-* (Arkadiev et al. 2009:27-28):

   (11) /ə/ → Ø / _ [-consonantal]

   This is illustrated in the wordforms in (12):

   (12) 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- thaǩ'ə -ʁ {**zə**+a+fe+s+thaǩ'ə+ʁe}
   REFL.ABS- 3PL.IO- BEN- 1SG.ERG- wash -PST
   'I washed myself for them.'

   c. **z**- jə- wəǩ'ə -ž'ə -ʁ {**zə**+jə+wəǩ'ə+ž'ə+ʁe}
   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.[8] For example, the reflexive morpheme surfaces as *z-* in the following example:

   (13) sə- **z**- fe- g^wəbžə -ž'ə {sə+**zə**+fe+g^wəbžə+ž'ə}
   1SG.ABS- **REFL.IO**- BEN- angry -RE
   'I am angry at myself.'

[8] 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.

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

(14) wə- **zə-** fe- g^{w}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-*:

(15) ŝ^{w}ə **ze-** s- e- λeʁ^{w}ə -ž'ə {**zə**+s+e+λeʁ^{w}ə+ž'ə}
good **REFL.ABS**- 1SG.ERG- DYN- see -RE
'I love myself.'

The reciprocal marker has two allomorphs: *ze-* (16a), which appears in the applied object position, and *zere-*, which appears in the ergative position (16b), or the applied object position cross-referencing the causee of a transitive verb (16c) (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 (16c).

(16) a. Ø- **ze-** fe- χ^{w}ə -ʁe -x
3ABS- **REC.IO**- BEN- become -PST -PL
'they became [strong] for each other'

b. Ø- tje- **zere-** ʁe- fe -ž'ə -ʁe -x
3ABS- LOC- **REC.ERG**- CAUS- fall -RE -PST -PL
'they made each other fall over'

c. tə- **zer-** a- ʁe- ṣ̂a -ʁ {tə+**zere**+a+ʁe+ṣ̂e+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:

(17) 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).

Since the set of prefixes subject to this rule, as well as the set of prefixes conditioning this alternation are idiosyncratic and do not fully overlap, 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 (18a) and as *də-* when it is followed by a locative applicative prefix such as *š'ə-* (18b).

(18) 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 (17) seems reasonable, especially given that forms containing the morpheme *zə-* may receive a reciprocal interpretation, as e.g. in (19).

(19) te **zə-** t- λeʁʷə -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).[9] As can be seen in (18a), the morphological environment within which this prefix appears in (19) – 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 (17). For example, the reciprocal marker is followed by the locative prefix *š'ə-* in (20), which is expected to trigger the vowel change, as shown in (18b), and nevertheless surfaces as *ze-*. In fact, Smeets (1984) lists the reciprocal morpheme *ze-* among the set of morphemes which are never subject to the rule in (17).

(20) tə- **ze-** š'ə- ʁʷəpša -ʁ
1PL.ABS- **REC.IO**- LOC- forget -PST

[9]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.

'We forgot about each other.'

Based on these considerations I 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. This is important to establish, because we would be otherwise 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-*; see also subsection 5.2.2 for discussion of a case where this distinction is important.

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.

1. Unergative verb with an applied object (ABS>IO).[10] In order to express reflexive or reciprocal co-indexation between the absolutive argument of an unergative predicate such as *qeŝʷen* 'dance' and an applied object, for example, a comitative argument cross-referenced by the prefix *de-*, the reflexive or reciprocal marker appears in the applied object position, as shown in (21a) for the reflexive and (21b) 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 (22a), nor the reciprocal (22b) marker may appear in the absolutive position instead.

(21) a. wə- qə- **z-** d- e- ŝʷe -ž'ə
2SG.ABS- DIR- **REFL.IO**- COM- DYN- dance -RE
'You are dancing with yourself.' **IO→REFL**

b. tə- qə- **ze-** d- e- ŝʷe
1PL.ABS- DIR- **REC.IO**- COM- DYN- dance
'We are dancing with each other.' **IO→REC**

(22) a. * **zə-** qə- b- d- e- ŝʷe -ž'ə
REFL.ABS- DIR- 2SG.IO- COM- DYN- dance -RE
Intended: 'You are dancing with yourself.' ***ABS→REFL**

[10]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.

b. * **ze(re)**- qə- d- d- e- ŝ^{w}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 (23a) and reciprocals (23b).[11]

(23) a. we wəne-r Ø- **zə**- fe- p- ṣ̂ə -ž'ə -ʁ
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- ṣ̂ə -ž'ə -ʁ
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 (24a) and reciprocal (24b).

(24) a. * we wəne-r Ø- p- fe- **zə**- ṣ̂ə -ž'ə -ʁ
you house-ABS 3ABS- 2SG.IO- BEN- **REFL.ERG**- do -RE -PST

Intended: 'You built a house for yourself.' ***ERG→REFL**

[11] 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 forced to use 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.

b. * te wəne-xe-r Ø- t- fe- **ze**- ṣ̂ə -ž’ə -ʁ
we house-PL-ABS 3ABS- 1PL.IO- BEN- **REC.ERG**- do -RE -PST
Intended: ‘We built houses for each other.’ ***ERG→REC**

Given that the applied object is structurally lower than the ergative agent and 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 (25a) 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 (25b) this can be discerned from the appearance of this prefix between the applicative morpheme and the causative prefix.

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

a. **zə-** ŝ^{w}- e- s- š’e -n s-λeč̣’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)[12] **ERG→REC**

Recall that this is 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. More evidence for this approach (rather than assuming, for example, that the form containing the reciprocal marker in (25b) 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.

[12] Adyghe corpus: `http://adyghe.web-corpora.net/index_en.html`

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: (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 ϕ-agreement. This is illustrated for different argument structure combinations below.

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 absolutive external argument, rather than the oblique applied object: this is shown for a reflexive-marked unergative verb in (26a) and for a reciprocal-marked unergative verb in (26b).

(26) a. sabəj-xe-**r/*m(ABS)** *refl*(IO) ʁʷənʒe-m
child-PL-**ABS/*OBL** mirror-OBL
Ø- Ø- š'ə- **z-** e- pλə -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(ABS)** *rec*(IO) Ø- **z-** e- pλə -ž'ə -x
child-PL-**ABS/*OBL** 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 (27a). 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 (27b).

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

a. s-jə-pŝaŝe-xe-**m/*r(ERG)** *refl*(ABS) **z-** a- fepa -ʁ
1SG.PR-POSS-girl-PL-**OBL/*ABS** **REFL.ABS-** 3PL.ERG- dress -PST

'My daughters dressed themselves.' **REFL**

b. mə sabəj-xe-**r/*m(ABS)** *rec*(ERG)
this child-PL-**ABS/*OBL**
Ø- tje- **zere-** ʁe- fe -ž'ə -ʁe -x
3ABS- LOC- **REC.ERG-** CAUS- fall -RE -PST -PL

'These children made each other fall over.' **REC**

The reciprocal morpheme cannot be analyzed as a detransitivizer, even though the lexical DP that appears alongside a reciprocal-marked predicate in the above examples (26b) and (27b) is uniformly marked with absolutive case, i.e. the case assigned to the sole argument of an intransitive verb: in cases where neither of the co-indexed arguments is absolutive-marked, the lexical DP surfaces with oblique case, as expected of the corresponding antecedent. Thus, if the ergative agent and applied object are co-indexed, the reciprocal marker appears in the applied object position, while the lexical DP referring to the antecedent must carry oblique case (28a). The same generalization holds for reflexive co-indexation of an ergative agent and applied object as well: the reflexive morpheme appears in place of agreement with the applied object, and a lexical DP referring to the antecedent must carry oblique case, as expected of an ergative DP (28b).

(28) a. (...) a-xe-**me(ERG)** zanč̣'-ew *rec*(IO) zewəže(ABS)
that-PL-**PL.OBL** direct-ADV all
Ø- **ze-** r- a- ʔʷete -ž'ə -š'tə -ʁe
3ABS- **REC.IO-** DAT- 3PL.ERG- tell -RE -IPF -PST

'They certainly told the whole truth to each other.' (R&K1966:274) **REC**

b. ƛ̣ə-ẑə-**m(ERG)** Ø-jə-paʔʷe(ABS) *refl*(IO)
man-old-**OBL** 3SG.PR-POSS-hat
Ø- **zə-** š'- jə- ƛa -ʁ
3ABS- **REFL.IO-** LOC- 3SG.ERG- put.on -PST

'The old man put his hat on himself.' (R&K1966:267) **REFL**

An interpretation of the data wherein the reciprocal allomorph *zere-* in e.g. (27b) acts as a detransitivizer, while *ze-* in e.g. (28a) marks agreement with a reciprocal pronoun is likewise unavailable: the marker *zere-* is used outside of contexts where the absolutive theme is co-indexed with an ergative agent as in (27b). The allomorph *zere-* is also used to mark agreement with the causee of a transitive verb in a synthetic causative construction. This is illustrated below, following some necessary background on causative formation.

The causative prefix *ʁe-* introduces an ergative argument denoting the causer – if the base verb is transitive as in (29a), the formerly ergative causee triggers agreement in the applied object slot (29b).[13]

(29) a. č̣'ale-m(ERG) ʁʷəč̣'ə-r(ABS) Ø- j- e- wəfe
boy-OBL metal-ABS 3ABS- 3SG.ERG- DYN- bend
'The boy is bending metal.'

b. pŝaŝe-m(ERG) č̣'ale-m(OBL) ʁʷəč̣'ə-r(ABS)
girl-OBL boy-OBL metal-ABS
Ø- Ø- r- j- e- **ʁe-** 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 (30) 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.

(30) ṣ̂ʷə tə- **zere-** b- ʁe- λeʁʷə -ʁ
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

[13]For details on the syntactic and semantic properties of the causative prefix see Letuchiy (2009, 2015).

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 (31).[14]

(31) š'aḳʷe-m(ERG) **jež'(IO)** tovarə-r
salesperson-OBL **self** product-ABS
Ø- **ze-** r- jə- š'e -ž'ə -ʁ
3ABS- **REFL.IO-** DAT- 3SG.ERG- sell -RE -PST
'The salesperson sold the product to herself.' **REFL**

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 (32).

(32) çəf-xe-r(ABS) [**zə-m zə-r**]**(ERG)** Ø- **zere-** wəč'ə -ž'ə
person-PL-ABS **one-OBL one-ABS** 3ABS- **REC.ERG-** kill -RE
'People kill each other.' **REC**

The order of case markers within the expression *zəm zər* 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 (33).

(33) [**zə-m zə-r**]**(IO)** ŝʷə- qə- **ze-** de- ŝʷe -ž'ə -š't -a
one-OBL one-ABS 2PL.ABS- DIR- **REC.IO-** COM- dance -RE -FUT -Q
'Will you(pl) 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

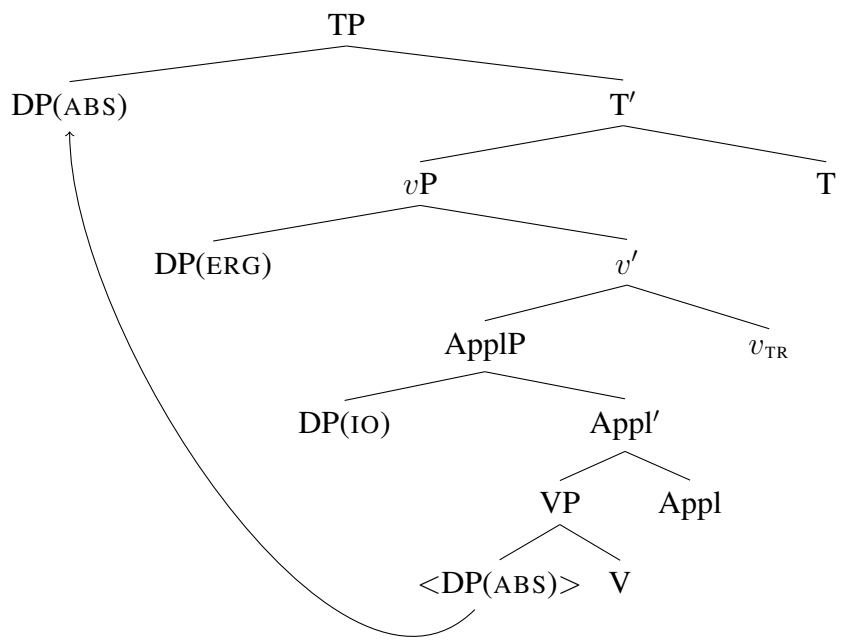
[14]The pronoun *jež'* 'self' has a broad distribution outside of its anaphoric use – in other contexts it triggers regular third person agreement rather than reflexive agreement.

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 ϕ-agreement and the agreement in this case is neutralized for ϕ-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

Now that we have established that the morphological position of the reflexive and reciprocal morphology can be used to diagnose the syntactic position of the bound anaphor, 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)). The proposed structure of a transitive three-place predicate is represented in (34): 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.

(34)



Building on the long-standing intuition which dates back to Vergnaud (2008[1977]); Chomsky (1980, 1981) and is maintained within the Minimalist Program (Chomsky 1995, 2000, 2001) that nominals are required to be syntactically licensed in the course of the derivation I propose to derive this movement through abstract nominal licensing. There has been much discussion recently of the imperfect, yet close, connection between nominal licensing and case and agreement (see e.g. Sigurðsson 2012; Halpert 2015; Preminger 2014; Levin 2015; Sheehan and Van der Wal 2018). This paper is not meant to argue for a particular approach to licensing: for concreteness I have chosen a system that does not directly rely on ϕ-agreement (in contrast with e.g. Kalin 2018) and does not directly influence morphological case (in contrast with e.g. Chomsky 1980, 1981), but the analysis laid out here is perfectly compatible with either of these views.

The system proposed here builds on the idea of feature-driven nominal licensing developed in Minimalist Grammars (Stabler 1997, 2010; Keenan and Stabler 2003; Lecomte and Retoré 1999, 2001, a.o.) In particular, in addition to the regular category feature D, all DPs bear a special *licensee* goal feature +K+ which must be checked in the course of the derivation. The role of this feature is the same as the -k or $\bar{\text{k}}$ features used in Minimalist Grammars, which are likewise used to model a case-like licensing requirement for nominals (Lecomte and Retoré 1999; Keenan and Stabler 2003; Stabler and Keenan 2003). This licensee feature must be checked by entering a Merge or Move operation with a probe bearing a corresponding structure-building feature which

is labeled as •K• following Heck and Müller (2007); Müller (2010).[15] As a result of this operation, both the structure-building feature on the probe and the licensee feature on the goal are checked and deleted. Based on standard assumptions about downward probing and locality conditions on syntactic operations (see e.g. Chomsky 1995, 2000), Move is triggered by a probe which searches for the highest goal bearing the corresponding feature in its c-command domain.

The verbal functional projections responsible for nominal licensing are v_{TR}, Appl^0, and T^0. The ergative agent and applied object are licensed in their base-generated positions by v_{TR} and Appl^0 respectively, while the absolutive argument is licensed through movement to Spec,TP. This is very similar to accounts of ergative case and case on applied objects as inherent, i.e. assigned by v^0 and Appl^0 correspondingly (see e.g. Woolford 2006; Legate 2008 on the former; Pylkkänen 2008 on the latter). Under inherent case accounts, the inherent case-marked nominal is often taken to be inactive for case-related syntactic operations, allowing a lower argument to undergo A-movement to a higher position despite the inherent case-marked nominal being in its path of movement (cf. McGinnis's (1998a) inert case; Legate's (2008) discussion of eligibility for absolutive case assignment to a theme over an ergative external argument, and Kalin and van Urk (2015) for a similar idea regarding ϕ-agreement). The heads that license case on ergative arguments and applied objects in those accounts coincide with the heads that license these arguments under the current analysis. However, this does not necessarily entail that licensing is the result of case assignment, as was proposed e.g. by Chomsky (1980, 1981); as noted in section 2, the two-way case system in West Circassian can be succinctly defined in dependent case terms without recourse to particular functional heads.

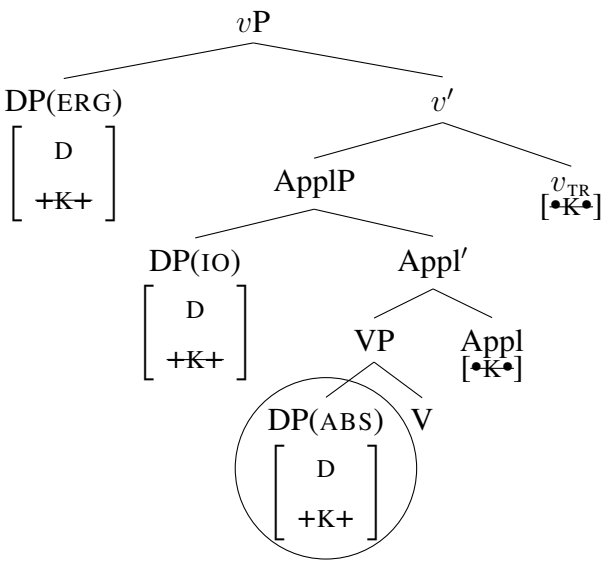
Since both the ergative agent and any applied objects are licensed in-situ and the absolutive DP remains unlicensed until the merging of T^0, the absolutive DP is the only nominal in the c-command domain of T^0 that can satisfy the [•K•] feature on T^0. This ensures that the absolutive argument always undergoes movement to Spec,TP, and that other verbal arguments do not act as interveners in this movement. Thus, if we take a three-place predicate like *jetən* 'give' which requires an ergative agent, dative applied object, and absolutive theme (35), the derivation proceeds as follows.

(35)	te(ERG)	*pro*(IO)	mə txəλə-r(ABS)	Ø-qə-w-e-t-tə-ž'ə-ʁ
	we		this book-ABS	3ABS-DIR-2SG.IO-DAT-1PL.ERG-give-RE-PST
	'We gave this book to you.'			

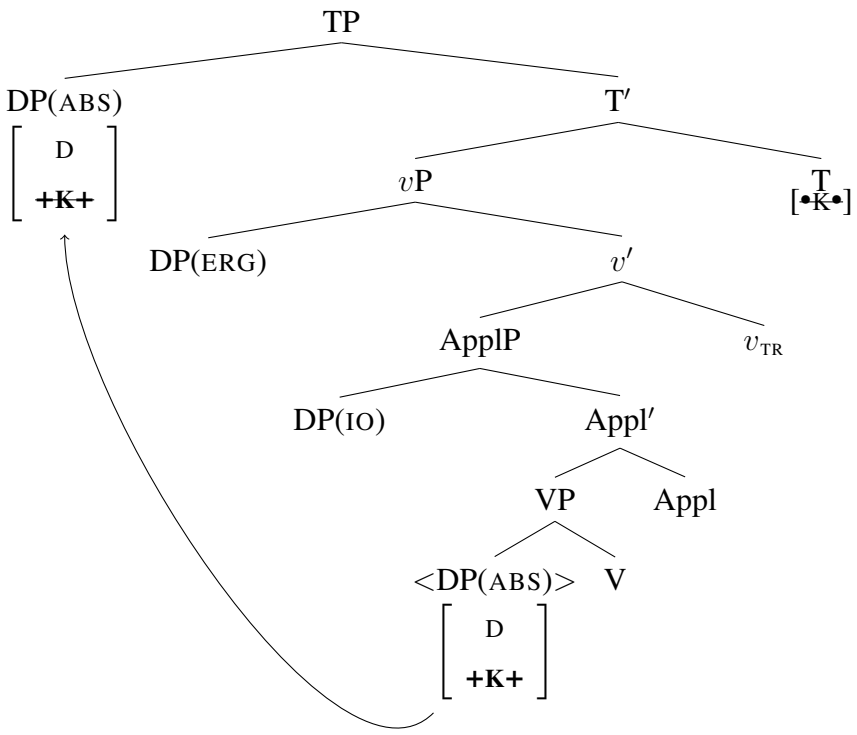
[15]There is a second type of probe feature which triggers Agree without Merge; it is irrelevant to the discussion at hand.

The ergative agent and applied object enter Merge and are thus licensed in-situ with v_{TR} and Appl^0 correspondingly; the absolutive theme, on the other hand, remains unlicensed until the merging of T^0 (36a). T^0 probes for the closest goal bearing the corresponding +K+ feature, and since this feature has already been checked and deleted on both the ergative agent and the applied object, the only eligible goal for this movement is the absolutive theme (36b).

(36) a.



b.



Thus, the high position of the absolutive argument can be derived as a consequence of a licensing requirement on nominals. Ergative agents and applied objects are licensed in-situ by the heads that introduce them, while the absolutive argument undergoes movement to Spec,TP in order to be licensed by T^0. The licensing-based analysis proposed here builds on the idea that ergative and applied object DPs are licensed in-situ by the heads that introduce these arguments, which is very similar to accounts which propose that these nominals are assigned inherent case. The absolutive argument, on the other hand, cannot be licensed by the head that assigns its theta-role, and must be licensed by a higher head – T^0. This is made possible by modeling nominal licensing as mutual checking of a licensing feature on the probe and a licensee feature on the goal. Since the ergative agent and applied object are licensed in situ, they no longer carry a licensee feature and thus do not act as interveners in the licensing relation between the embedded absolutive theme and T^0. Within this system, arguments that are licensed in situ behave as inherent case-marked nominals in regards to locality conditions on movement: they are no longer considered eligible goals for a higher licensing – or, within an inherent case account, case-assigning – probe. Evidence for this structure comes from reciprocal binding configurations, which are discussed in the remainder of this section.

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.

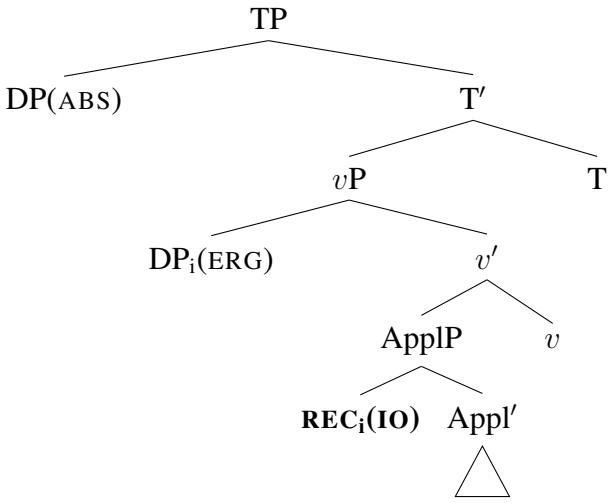
4.1 Reciprocal binding is subject to c-command

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

Thus, 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 (37a). Given the standard assumption 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 (37b).

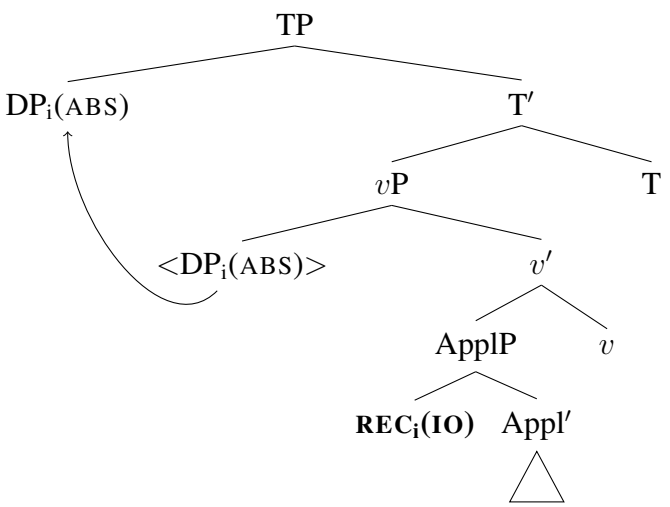
(37) a. te wəne-xe-r Ø- **ze**- fe- t- ṣ̂ə -ž'ə -ʁ
we house-PL-ABS 3ABS- **REC.IO**- BEN- 1PL.ERG- do -RE -PST
'We built houses for each other.' **ERG>IO**

b. 

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 (38a). Once again, this is expected given 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 (38b).

(38) a. tə- qə- **ze**- d- e- ŝ^{w}e
1PL.ABS- DIR- **REC.IO**- COM- DYN- dance
'We are dancing with each other.' **ABS>IO**

b.



To summarize, reciprocals behave as standard anaphors: they are bound by a c-commanding antecedent. 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.

Thus, 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 (39a); the inverse configuration, with the reciprocal marker appearing in place of the agreement with the absolutive theme, is ungrammatical (39b). Given that reciprocal binding is generally established via c-command, we are forced to 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 (39c).

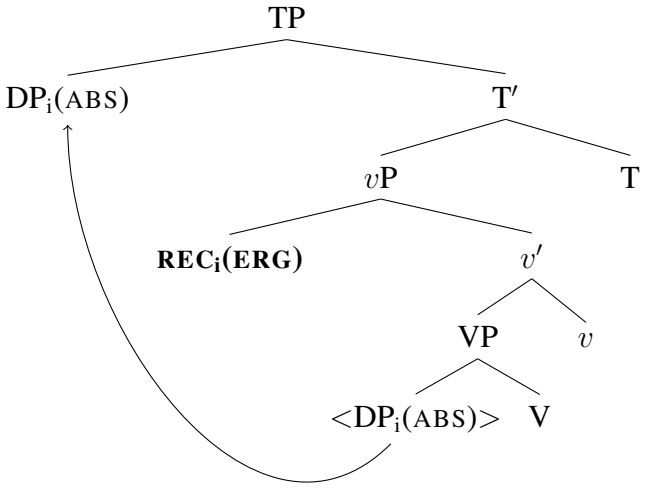
(39) a. **Theme(ABS)**- **Agent(ERG)**-

te-	**zere-**	λeʁ^{w}ə	-ʁ
1PL.ABS-	**REC.ERG-**	see	-PST

b. * **ze(re)**- t- λeʁʷə -ʁ
REC.ABS- 1PL.ERG- see -PST
'We saw each other'

ABS > ERG | *ERG > ABS

c.

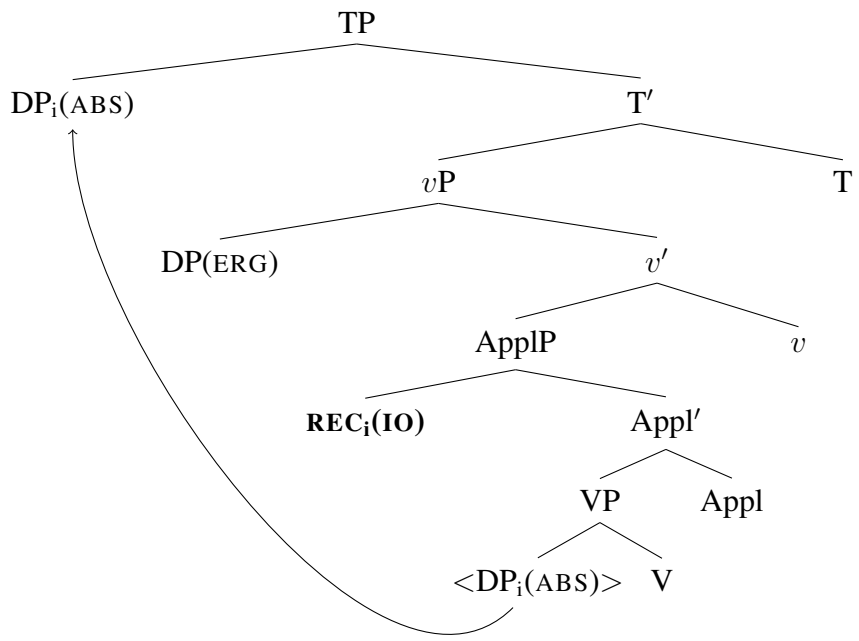


Likewise, in order to co-index an absolutive theme and an applied object of a transitive verb, the reciprocal marker replaces agreement with the applied object (40a), and not the absolutive theme (40b). This is expected if we assume that the absolutive theme raises to Spec,TP – a position c-commanding the applied object in Spec,ApplP; this is illustrated in (40c).

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

b. * **ze**- t- f- jə- š'a -ʁ
REC.ABS- 1PL.IO- BEN- 3SG.ERG- bring -PST
'S/he brought us together (lit. to each other).'

c.



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 vP, uniformly raises to Spec,TP – a position c-commanding other verbal arguments.

This evidence contributes to the discussion of structural sources of syntactic ergativity: while there have been many proposals for analyzing languages displaying syntactic ergativity effects as containing a high position for the absolutive argument within the clause (see e.g. Bittner and Hale 1996; Coon et al. 2014), the types of diagnostics these accounts are based on are generally compatible with the absolutive DP undergoing A′-movement to its high position, rather than A-movement. In order to capture the reciprocal binding facts, however, the high position of the absolutive argument must be derived via A-movement, since A′-movement is not expected to have an effect on binding.

5 Locality conditions on reflexive binding

Given that reciprocal binding patterns provide evidence for a syntactically ergative clause structure, we are now faced with a 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 given that 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 Testelets 2017).

The basic contrast between reflexives and reciprocals is illustrated in (41). 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 (41a). 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 (41b), while the reflexive marker appears in place of agreement with the absolutive argument (41c).

(41)

	Theme(ABS)-	**Agent(ERG)-**			
a.	ŝʷə-	t-	λeʁʷə	-ʁ	**Baseline ERG-ABS**
	2PL.ABS-	1PL.ERG-	see	-PST	'We saw you(pl).'
b.	**zə-**	t-	λeʁʷə	-ʁ	**ABS→REFL**
	REFL.ABS-	1PL.ERG-	see	-PST	'We saw ourselves.'
c.	te-	**zere-**	λeʁʷə	-ʁ	**ERG→REC**
	1PL.ABS-	**REC.ERG-**	see	-PST	'We saw each other.'

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 such a reflexives is reduced to the highest nominal in the theta-domain, i.e. vP. 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 $\text{Voice}_{\text{REFL}}$.

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 system-

atically correspond to the highest position within the θ-domain. In fact, when the highest position within vP 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 (41): 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. My treatment of *zere-* in (41c) 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.

The remainder of this section is structured as follows: subsection 5.1 provides typological background on local subject oriented anaphors and the basics of Ahn's (2015) analysis; subsection 5.2 outlines the evidence for West Circassian reflexives being local subject oriented; subsection 5.3 provides the analysis of local subject orientation; and subsection 5.4 wraps up the section.

5.1 Local subject orientation and Voice$_{\text{REFL}}$

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 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 (42a) illustrates that the reflexive clitic *se* may be bound by a deep subject. On the

other hand, it can be seen in (42b) that a non-subject argument such as a direct object cannot bind *se*, and (42c)-(42d) show that a derived subject such as the theme of a passive verb in (42c) and the raised subject in (42d) likewise cannot serve as an antecedent for the reflexive.

(42) a. Jean$_i$ **se$_i$** présente Pierre
Jean **to-himself** introduces Pierre
'Jean introduces Pierre to himself.'

b. * Jean **se$_i$** présente les enfants$_i$
Jean **to-themselves** introduces the children
Intended: 'Jean introduces the children to themselves.'

c. * Pierre$_i$ **se$_i$** sera présenté (par Jean)
Pierre **to-himself** will-be introduced by Jean
Intended: 'Pierre will be introduced to himself by Jean.'

d. * Jean$_i$ **se$_i$** semble déprimé
Jean **to-himself** seems depressed
Intended: 'Jean seems to himself to be depressed.'

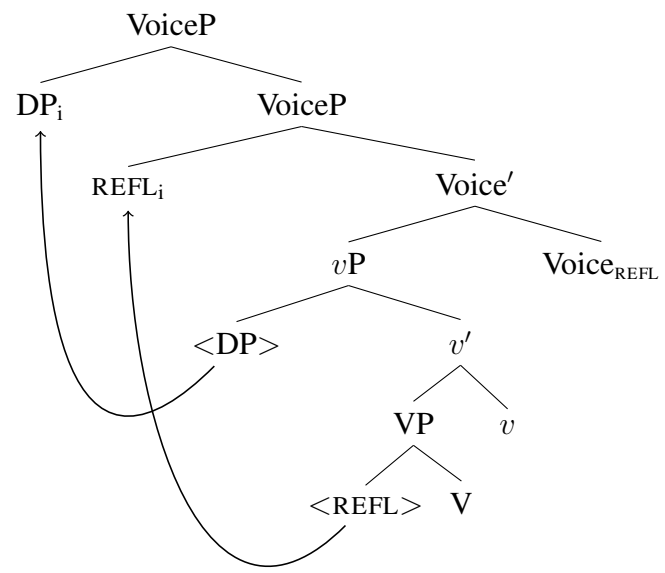
Building on Ahn (2015),[16] I propose that local subject oriented reflexives must be licensed by a specialized reflexive Voice^0 – Voice$_{\text{REFL}}$ (cf. Sportiche's (2014) projection HS). Syntactically, Voice$_{\text{REFL}}$ selects for vP and attracts two arguments to its specifier: (i) the highest DP in vP[17] and (ii) the reflexive pronoun. Semantically, Voice$_{\text{REFL}}$ imposes co-identity on the two arguments in its specifiers. Within this approach, local subject orientation is ensured by standard locality conditions on movement: the first nominal attracted to Spec,VoiceP must be the highest nominal within vP because any lower nominal is not eligible to move to Spec,VoiceP and thus not eligible to serve as an antecedent for the reflexive pronoun.

The syntactic structure of a sentence with Voice$_{\text{REFL}}$ is schematically illustrated in (43): Voice$_{\text{REFL}}$ selects for vP, and two arguments undergo movement to Spec,VoiceP – the highest argument within vP (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.

[16] I adopt Ahn's (2015) movement-based approach to reflexive licensing for concreteness; for an alternative account see Bhatia and Poole's (2016) adaptation of Kratzer's (2009) approach to pronominal binding by functional heads.

[17] In this respect I depart from Ahn's (2015) analysis, where the highest DP in vP 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.

(43)



Under this account, reflexives do not follow a syntactically ergative pattern because they must be locally licensed by Voice$_{REFL}$, which merges above vP prior to the raising of the absolutive DP to 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 vP can function as an antecedent.

5.2 West Circassian reflexives are local subject oriented

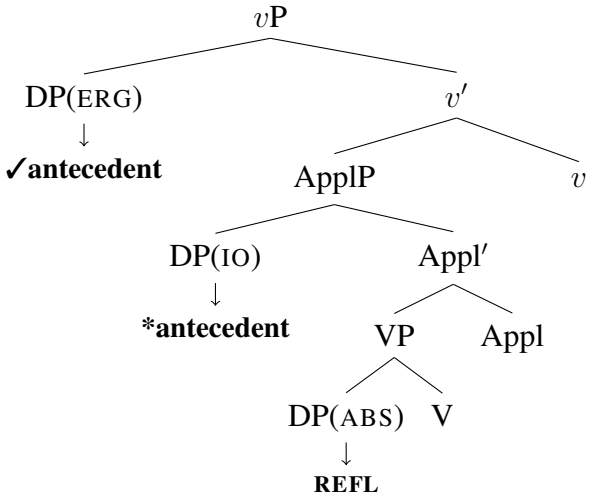
This subsection presents the evidence that West Circassian reflexives are local subject oriented, i.e. may only be bound by the highest nominal within vP. The evidence concerns two configurations involving potential antecedents for reflexives: first, I demonstrate that a DP that is *not* the highest nominal within vP *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 vP *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

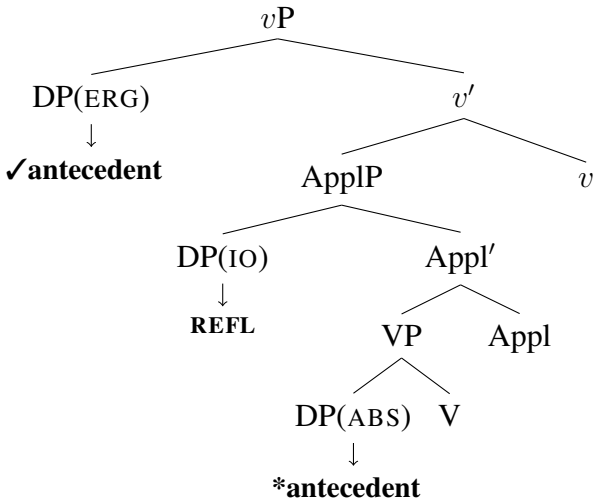
The first generalization regarding the distribution of reflexives is that a nominal that is not the highest argument within vP cannot serve as an antecedent of a reflexive. Thus, if one of the arguments of a ditransitive predicate is a reflexive pronoun, that pronoun may only be bound by the ergative agent, and not by the absolutive theme or applied object. This is illustrated in general terms in (44).

(44) Binding possibilities for a ditransitive predicate:

a. Reflexive in absolutive position: ERG>ABS; *IO>ABS



b. Reflexive in applied object position: ERG>IO; *ABS>IO



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 (45)-(46) takes four

arguments: an ergative agent, an absolutive theme, a locative applied argument (*psəm* 'water'), and a malefactive applied argument. In (45) 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 (45a). The first person malefactive applied object may not serve as an antecedent, which is evinced by the impossibility of the interpretation in (45b). Likewise, if the reflexive agreement marker appears in the position referencing the malefactive applied object, as in (46), the only available interpretation for this expression is one in which the reflexive is co-indexed with the ergative agent (46a), and not the absolutive theme (46b).

(45) pŝaŝe-m(ERG) psə-m(IO) **zə-** s- ʂʷə- Ø- x- jə- ʒe
girl-OBL water-OBL **REFL.ABS-** 1SG.IO- MAL- 3SG.IO- LOC- 3SG.ERG- throw
-ž'ə -ʁ
-RE -PST

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

b. * 'The girl threw me in the water against my will.'

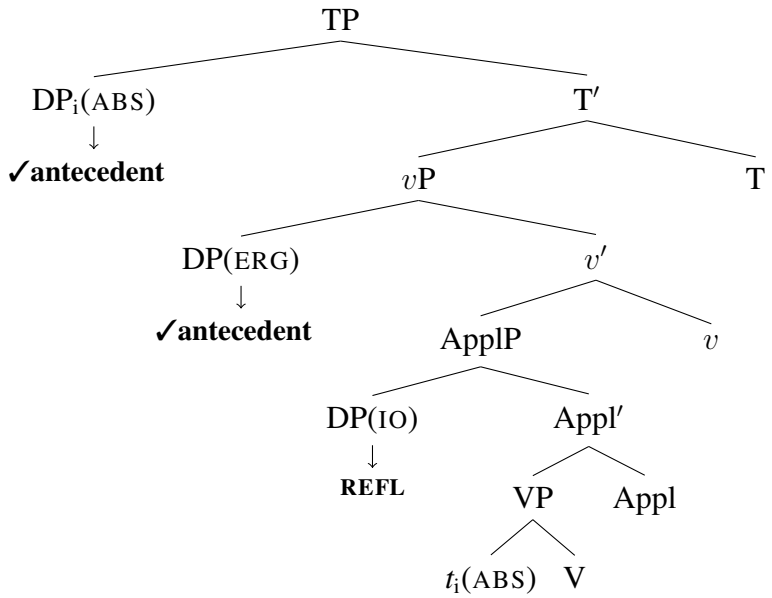
(46) pŝaŝe-m(ERG) psə-m(IO) sə- **zə-** ʂʷə- Ø- x- jə- ʒe
girl-OBL water-OBL 1SG.ABS- **REFL.IO-** MAL- 3SG.IO- LOC- 3SG.ERG- throw
-ž'ə -ʁ
-RE -PST

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

b. * 'The girl threw me in the water against my own will.'

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 (47).

(47) Reciprocal binding posibilities for a three-place predicate:



This can be seen in the following examples. In (23b), repeated below in (48), 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 (49) 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 (46b).

(48) te wəne-xe-r Ø- **ze-** fe- t- ṣ̂ə -ž’ə -ʁ
we house-PL-ABS 3ABS- **REC.IO**- BEN- 1PL.ERG- do -RE -PST
‘We built houses for each other.’ **ERG>IO**

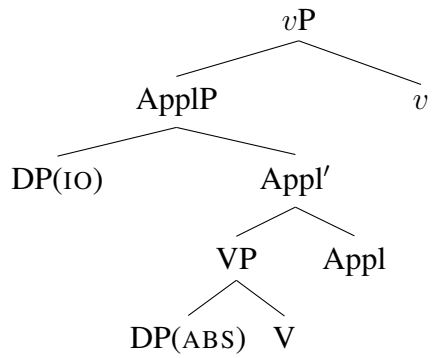
(49) **Theme- IO- Agent-**
tə- **ze-** f- jə- š’a -ʁ
1PL.ABS- **REC.IO**- BEN- 3SG.ERG- bring -PST
‘S/he brought us together (lit. to each other)’ **ABS>IO**

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.

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 Pylkkänen's (2008) analysis of applicatives as a baseline, the thematic structure for such verbs is as in (50): the applied object is introduced above the internal argument by a specialized Appl^0 head and is the highest nominal within vP in the absence of an external argument.

(50)



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. Given 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; Arkadiev et al. 2009:64-65), some of which are transparently decomposable into an unaccusative verb stem and a locative applicative prefix.[18] 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 (51) for the verb *jəʔen* 'have', which can be transparently decomposed into the locative prefix *jə-* and the unaccusative verbal

[18]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-ʁʷəpšen* 'forget', and only the latter of the two may be used with reciprocal morphology. For this reason, the verb *š'ə-ʁʷəpšen* 'forget' is used here to demonstrate the behavior of reflexives and reciprocals within this argument structure frame.

root *ʔe* ‘be’. The non-reflexive use of this verb is shown in (51a): the first person theme triggers absolutive agreement, while the possessor triggers applied object agreement. In (51b) we see the reflexive agreement marker appearing in the absolutive position with the the antecedent triggering applied object agreement, while in (51c) 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.

(51) 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.’

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’əʁʷəpšen* ‘forget’, which is composed of the locative prefix *š’ə-* and the root *ʁʷəpše*, which is not used in the absence of this prefix (glossed in the examples as ‘forget’ for expository reasons). This can be observed in (52). The form in (52a) 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 (52b) the reflexive marker appears in the absolutive position, while in (52c) the same marker appears in the applied object position instead.

(52) A lexicalized example: *š’ə-* ‘LOC’ + *ʁʷəpšen* ‘??’ = *š’ə-ʁʷəpšen* ‘forget’

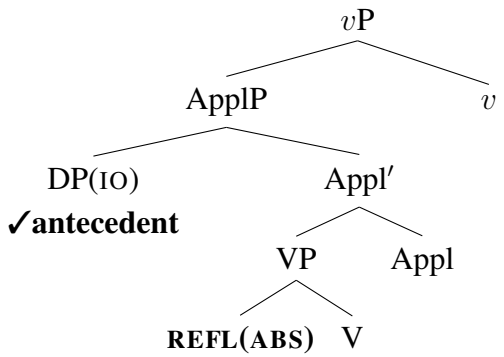
a. **Theme- IO-**
sə- p- š’ə- ʁʷəpša -ʁ
SG.ABS- 2SG.IO- LOC- forget -PST
‘You forgot about me.’

b. **zə-** s- š’ə- ʁʷəpše -ž’ə -ʁ
REFL.ABS- 1SG.IO- LOC- forget -RE -PST

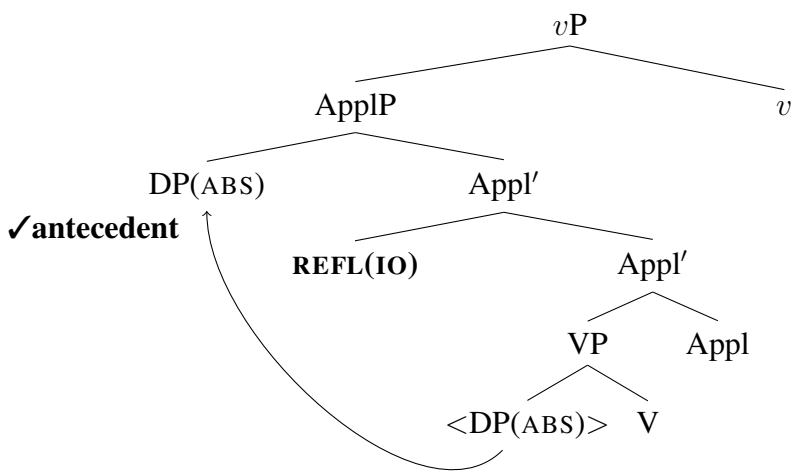
c. sə- **z-** š’ə- ʁʷəpše -ž’ə -ʁ
1SG.ABS- **REFL.IO-** LOC- forget -RE -PST
‘I forgot about myself (e.g. when serving food).’ **ABS>IO|IO>ABS**

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,ApplP, 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 Appl^0, denoted here as [•D•]. 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,ApplP: the baseline structure with the theme in its base-generated position (53a), and the derived structure wherein the theme moves to Spec,ApplP c-commanding the applied object (53b). In the former case, the applied object may bind a reflexive in the absolutive theme position, and in the latter case the absolutive theme may in turn serve as the antecedent for the reflexive in the applied object position.

(53) a.



b.



Crucially, 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 (54a), and the inverse configuration wherein the reciprocal pronoun appears in the absolutive theme position is ungrammatical (54b).

(54) a. tə- **ze**- š'ə- ʁʷəpše -ž'ə -ʁ
1PL.ABS- **REC.IO**- LOC- forget -RE -PST

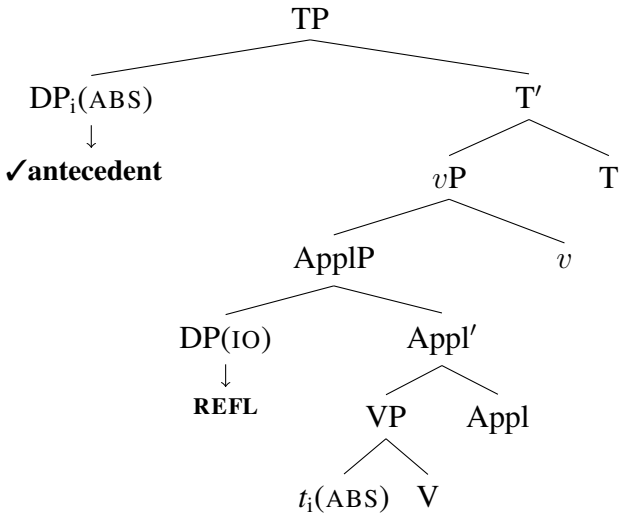
b. * **ze**- t- š'ə- ʁʷəpše -ž'ə -ʁ
REC.ABS- 1PL.IO- LOC- forget -RE -PST
'You(pl) forgot about each other.' **ABS>IO|*IO>ABS**

The data in (54) 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-* prevocalically, 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). Importantly, as can be seen from the example (54b), the reciprocal morpheme *ze-* cannot be used in the absolutive position.

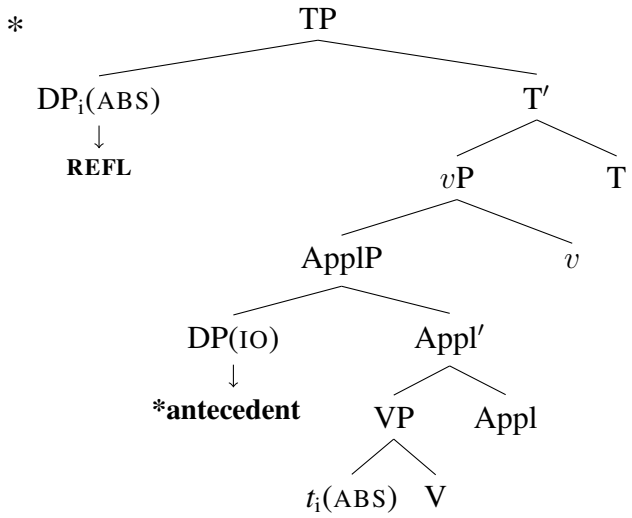
The reason reciprocals diverge in this case from reflexives is that the absolutive theme, regardless of its position within vP, uniformly undergoes A-movement to Spec,TP, from which it may serve as an antecedent for a reciprocal pronoun in the applied object position (55a), but crucially cannot be itself bound by the applied object (55b).

(55) Reciprocal binding with inverse predicates:

a. Absolutive may bind reciprocal in IO position:



b. Applied argument may not bind reciprocal in ABS position:

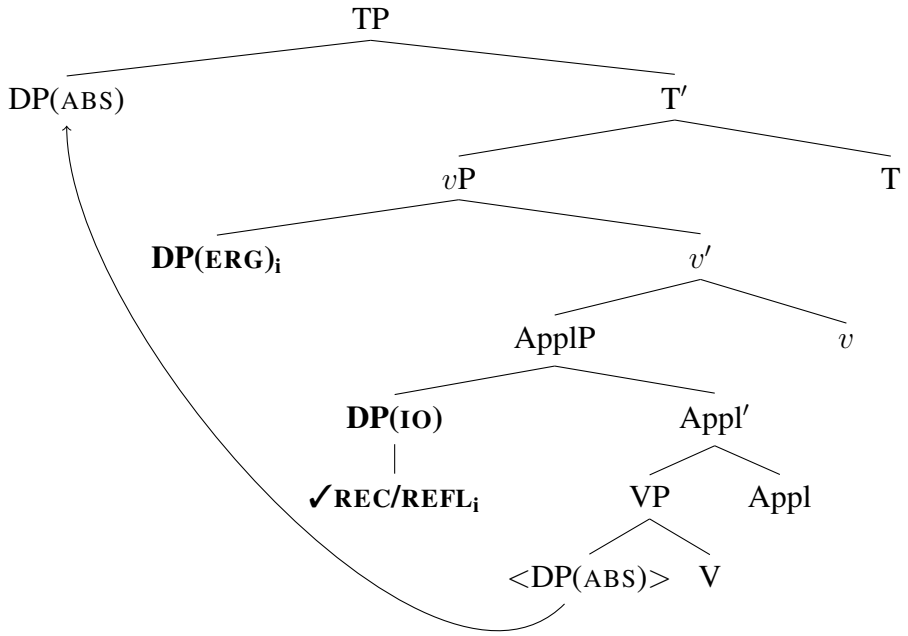


In summary, reflexive pronouns require the highest DP in vP to serve as the antecedent, but that DP need not be the external argument – in the case of inverse verbs, the applied argument or the absolutive theme in Spec,ApplP may serve as the antecedent. Reflexives once again contrast with reciprocals 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.

5.2.3 Where reflexives and reciprocals align

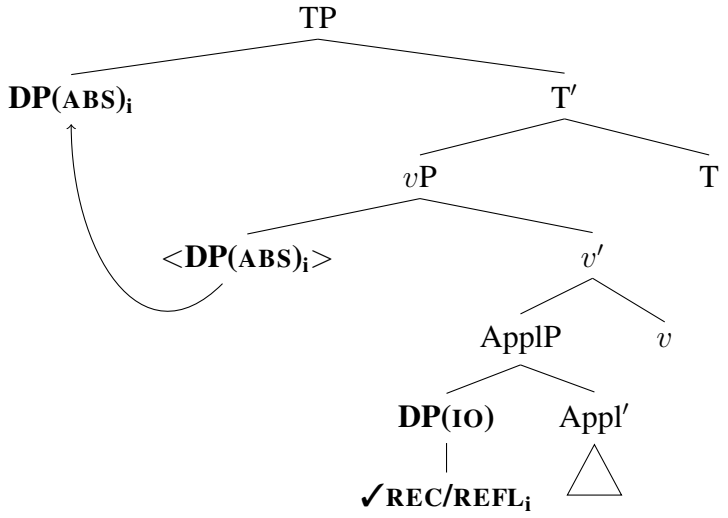
The last generalization regarding the distribution of reflexives concerns contexts in which reflexives and reciprocals behave in the same way. There are two configurations within which these two anaphors do not show any differences in behavior: (i) co-indexation of an ergative agent with an applied object 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 (56), 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 and (ii) it is the highest nominal within vP.

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



Likewise, if we consider the second context in (57), 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.

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



These two argument configurations are illustrated below. In (23) we can see that the ergative agent of the three-place predicate *feṣ̂ən* 'to build for s.o.' may bind a reflexive in the benefactive applied position, as shown in (58a), and the inverse configuration wherein the applied object binds the ergative theme is ungrammatical (58b).

(58) a.

				IO-		**ERG-**		
	we	wəne-r	Ø-	**zə-**	fe-	p-	ṣ̂ə	-ž'ə -ʁ
	you	house-ABS	3ABS-	**REFL.IO-**	BEN-	1SG.ERG-	do	-RE -PST

b. * we wəne-r Ø- p- fe- **zə-** ṣ̂ə -ž'ə -ʁ
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 (59a), and the inverse binding configuration with the applied object serving as the antecedent is once again ungrammatical (59b).

(59) a.

				IO-		**ERG-**		
	te	wəne-xe-r	Ø-	**ze-**	fe-	t-	ṣ̂ə	-ž'ə -ʁ
	we	house-PL-ABS	3ABS-	**REC.IO-**	BEN-	1PL.ERG-	do	-RE -PST

b. * te wəne-xe-r Ø- t- fe- **ze-** ṣ̂ə -ž'ə -ʁ
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 *jeʒen* 'study' may bind a reflexive in the applied object position (60a), and the applied object in turn cannot bind the absolutive external argument (60b).

(60) a. **ABS(S)- IO-**
wə- **zə-** f- je- ʒe -ž'ə -ʁ
2SG.ABS- **REFL.IO**- BEN- DAT- read -RE -PST
'You study for yourself.' **REFL:ABS>IO**

b. * **zə-** p- f- je- ʒe -ž'ə -ʁ
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 *kʷəwen* 'yell' may bind a reciprocal pronoun in the locative applied object position (61a), and the applied object may not bind a reciprocal pronoun in the external argument position (61b).

(61) a. **ABS(S)- IO-**
da ŝʷə- č̣'ə- **ze-** tje- kʷəwe -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-** č̣'ə- ŝʷə- tje- k̟ʷəwe -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 vP – 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.

5.2.4 Summary: reflexives are local subject oriented

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

Given 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 (cf. Caponigro and Polinsky 2011:79; Lander and Testelets 2017:963). In constrast, 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 $\text{Voice}_{\text{REFL}}$, which limits possible antecedents to the highest nominal in the θ-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 Ahn's (2015) locality-based analysis of local subject orientation, which ultimately makes 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 decostructing the notion of subjecthood.

One question which warrants closer investigation, but which I do not address here concerns Conditions B/C of Binding Theory (see e.g. Chomsky 1980, 1981), which are listed in (62).

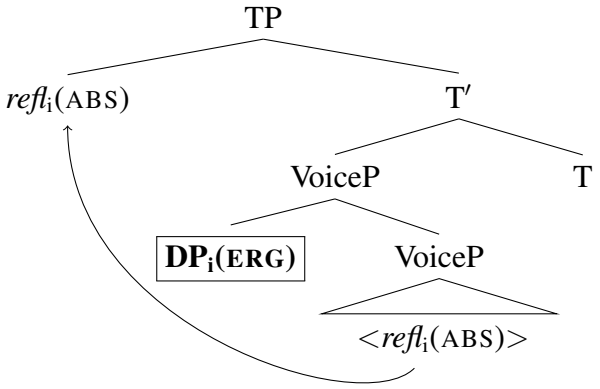
(62) a. *Principle B*: A pronoun must be free in its binding domain.
b. *Principle C*: An R-expression must be free.

While subsequent work on anaphora has largely disposed of the conditions in (62) as constraints that operate within the grammar (see Büring 2005 for a comprehensive overview), they

remain a robust empirical generalization: non-reflexive pronouns and referential expressions may not be c-commanded by a co-indexed nominal.

The behavior of reflexive and reciprocal anaphors in West Circassian present a puzzle regarding this generalization. In particular, after reflexive binding is established between e.g. an ergative agent and an absolutive theme, the bound reflexive pronoun must undergo A-movement to Spec,TP c-commanding the ergative, as shown in (63) – the presence of this movement is evident from the leftmost linear position of the reflexive morpheme within the verbal form. Given that the sentence corresponding to this structure, wherein an ergative agent binds a reflexive theme, is perfectly grammatical, it is unclear why the movement of the reflexive over its antecedent fails to trigger a Condition B/C violation. I leave this question for future research.

(63) A bound reflexive undergoes A-movement over its antecedent:



For simplicity the trees in this subsection do not include VoiceP, which – I will argue in the following subsection – is responsible for reflexive licensing.

5.3 Voice$_{\text{REFL}}$ in West Circassian

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$_{\text{REFL}}$. 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^0 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 choice of Ahn's (2015) movement-based approach to reflexive licensing over Bhatia and Poole's (2016) account of binding in-situ by $\text{Voice}_{\text{REFL}}$ is conceptually motivated: within the feature system developed in this paper, licensing may only be established via movement; however, the in-situ approach to licensing is equally compatible with the West Circassian data.

Syntactically $\text{Voice}_{\text{REFL}}$ selects for vP and attracts two arguments to its specifier: the highest DP in vP and the reflexive pronoun. The interaction of $\text{Voice}_{\text{REFL}}$ with these arguments ensures (i) local subject orientation and (ii) the presence of a syntactically active anaphor in the structure. Semantically, $\text{Voice}_{\text{REFL}}$ imposes co-identity on the two arguments.

In order to correctly capture the distributional properties of $\text{Voice}_{\text{REFL}}$, 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 (64), 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 (65).

(64) [•F• ≫ •G• ≫ •H•]

(65) **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 (66) and (67) 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 (66). The reflexive pronoun carries two category features: D as a DP, and the reflexive-specific licensee feature +REFL+.[19]

[19] As discussed in section 4, all DPs also carry the licensee feature +K+ which is akin to an abstract case requirement;

(66) $\text{Voice}_{\text{REFL}}$: •$v$• ≫ •D• ≫ •REFL•

(67) 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 (68).

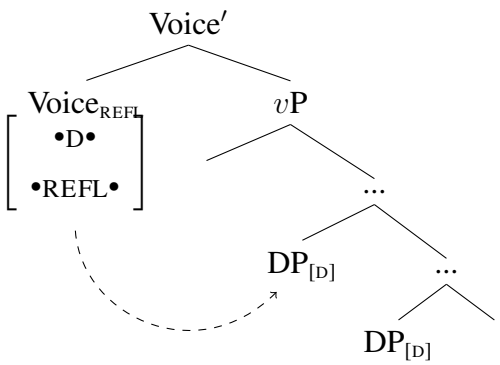
(68) $[\![\text{Voice}_{\text{REFL}}]\!] = \lambda P_{\langle st \rangle} \lambda x_e \lambda y_e \lambda e_s . \text{IDENT}(x, y) \& P(e)$ (adapted from Ahn 2015:223)

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.

[20]

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 (69). 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.

(69)



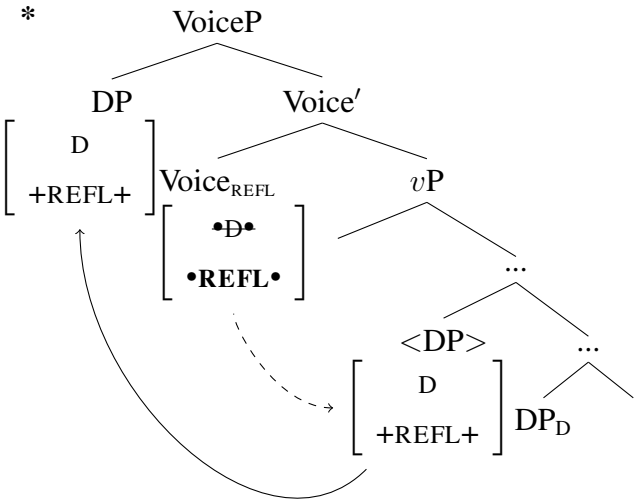
it is omitted throughout this section for simplicity.

[20]Given the semantic properties of the movement to Spec,VoiceP, it does not trigger a violation of Lethal Ambiguity (McGinnis 1998b, 2004), wherein the movement of two co-indexed nominals to the specifier of the same head is expected to be ungrammatical due to the two nominals being equidistant binders for the same movement trace. In particular, because both the co-indexed antecedent and the reflexive pronoun move to saturate an argument of $\text{Voice}_{\text{REFL}}$, neither of them binds a trace in its base generated position.

As seen in (69), 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 $\text{Voice}_{\text{REFL}}$ can function as a reflexive antecedent.

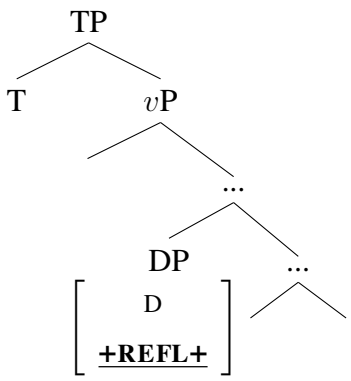
The ordered feature set on $\text{Voice}_{\text{REFL}}$ also accounts for the requirement that the antecedent c-command the reflexive pronoun prior to movement to Spec,VoiceP, ruling out the ungrammatical configuration within which the reflexive pronoun c-commands its antecedent in its base-generated position. If the reflexive pronoun happens to be merged higher than its antecedent, it would check the •D• feature on $\text{Voice}_{\text{REFL}}$, and, unless there is another reflexive pronoun lower in the structure, the •REFL• feature will remain unchecked, rendering ungrammaticality (70).

(70) *



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 $\text{Voice}_{\text{REFL}}$ 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 (71).

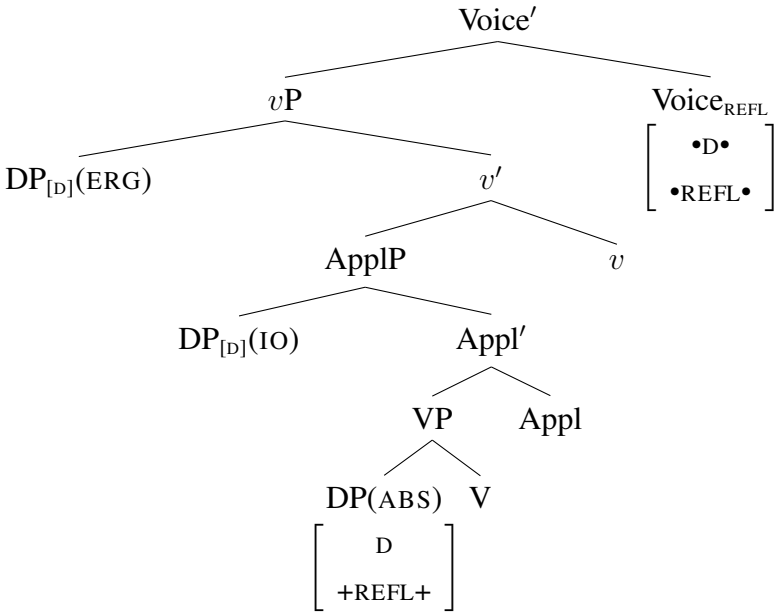
(71) *



Both the reflexive pronoun and its antecedent also carry +K+ licensee 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 general nominal licensing, 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 $Voice^0$, on the other hand, probe with different features: T^0 and v^0 with •K•, and $Voice_{REFL}$ with •D•.

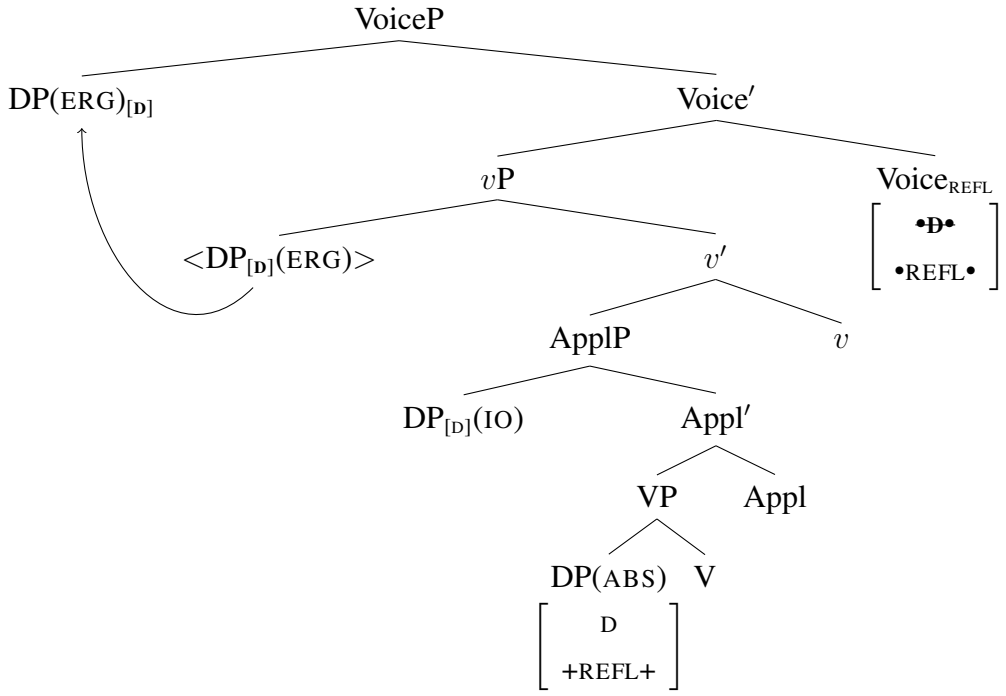
A few sample derivations are presented below. Let us first consider the derivation of a three-place predicate with a reflexive pronoun in the absolutive theme position as in (45). First, $Voice_{REFL}$ selects for vP, which contains an ergative agent in Spec,vP, applied object in Spec,ApplP, and the reflexive pronoun as the complement of the lexical verb (72).

(72) $Voice_{REFL}$ selects for vP:



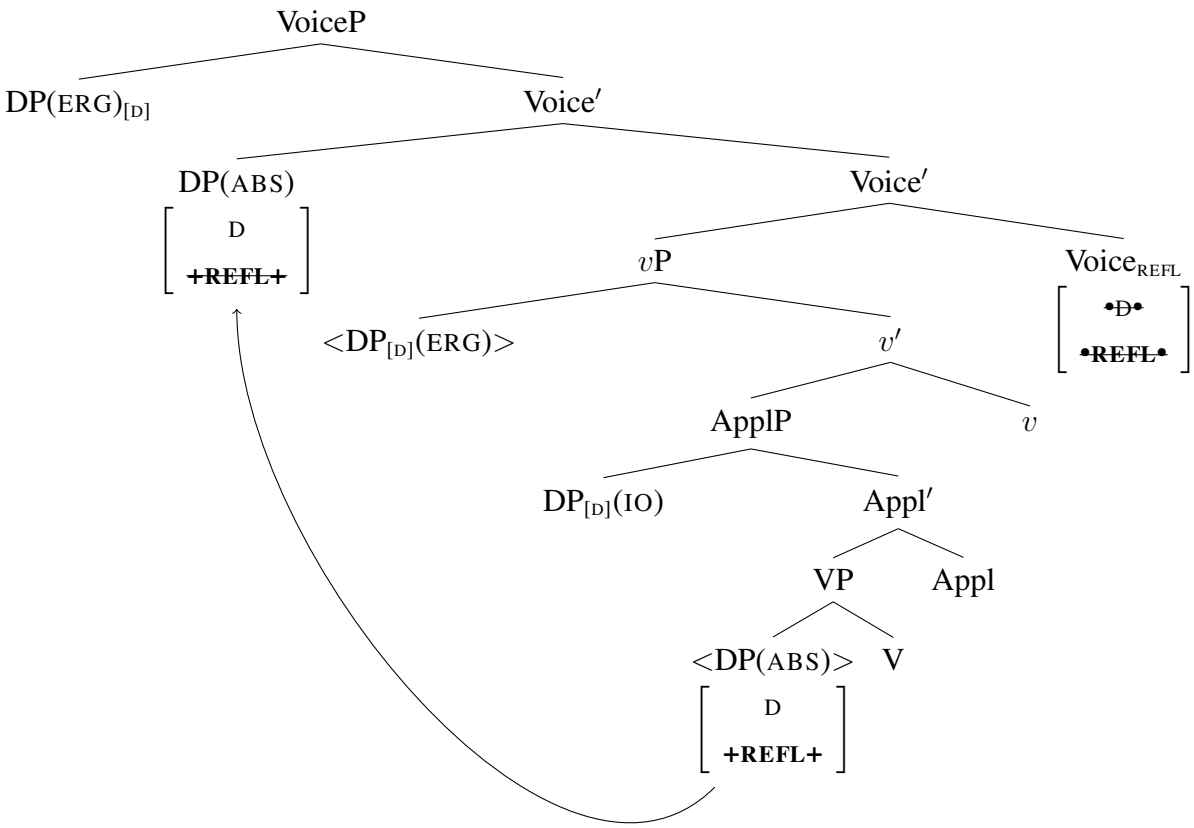
Voice$_{\text{REFL}}$ then probes with •D• and attracts the highest DP within its c-command domain to its specifier – this accounts for why only the ergative DP within this configuration may function as an antecedent to the reflexive, and not the applied object, which remains in situ (73).

(73) DP(ERG) moves to Spec,VoiceP:



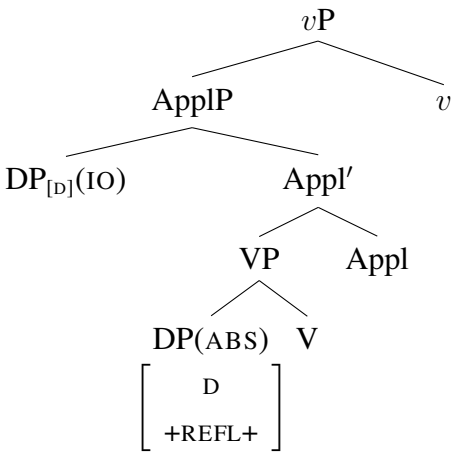
Once the •D• feature is checked off on Voice$_{\text{REFL}}$, it probes with the •REFL• feature and attracts the reflexive pronoun (DP(ABS)) to its specifier (74). I assume that the reflexive pronoun merges below its antecedent via tucking in (Richards 1997), but nothing hinges on this assumption. The merging of the reflexive pronoun checks both •REFL• on Voice$_{\text{REFL}}$ and +REFL+ on the reflexive pronoun.

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



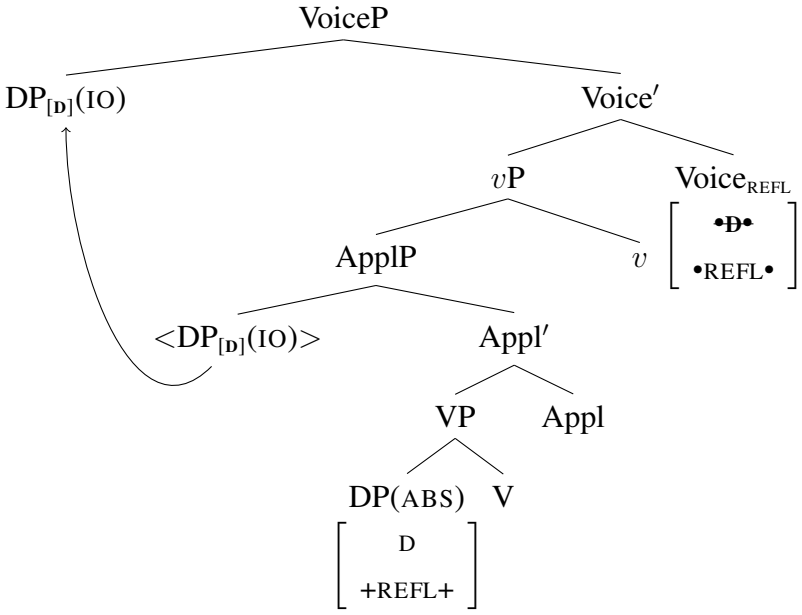
The proposed analysis can similarly account for reflexive binding possibilities for inverse verbs, which combine an unaccusative base with an applied argument c-commanding the absolutive theme. In this case, two binding configurations are available: the applied argument may bind a reflexive in the absolutive theme position, or the absolutive theme may bind a reflexive in the applied argument position. The first binding configuration is derived in the following way. In this case, the internal structure of vP is identical to the structure of a three-place predicate, to the exclusion of an external argument in Spec,vP (75).

(75) Structure of vP for inverse predicate:



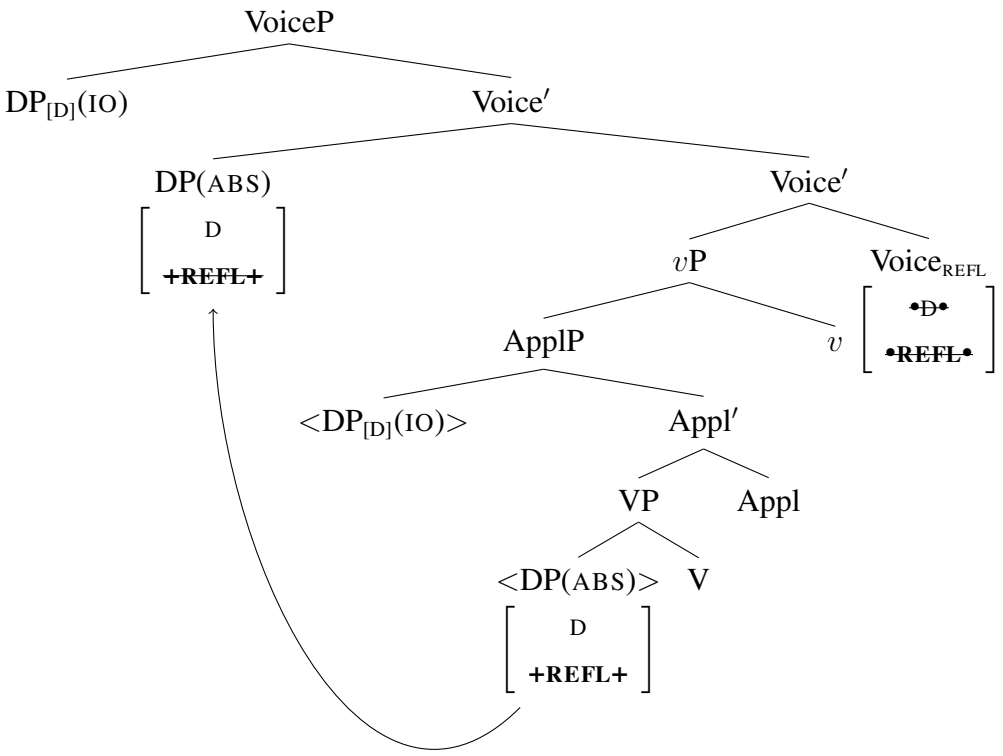
As in the case of the three-place transitive predicate, $\text{Voice}_{\text{REFL}}$ selects for vP and attracts the highest DP in its c-command domain to its specifier via the •D• feature (76). In this case, since there is no external argument in Spec,vP, the applied object moves to Spec,VoiceP instead, correctly predicting that it may serve as an antecedent in this construction.

(76) Applied object moves to Spec,VoiceP:



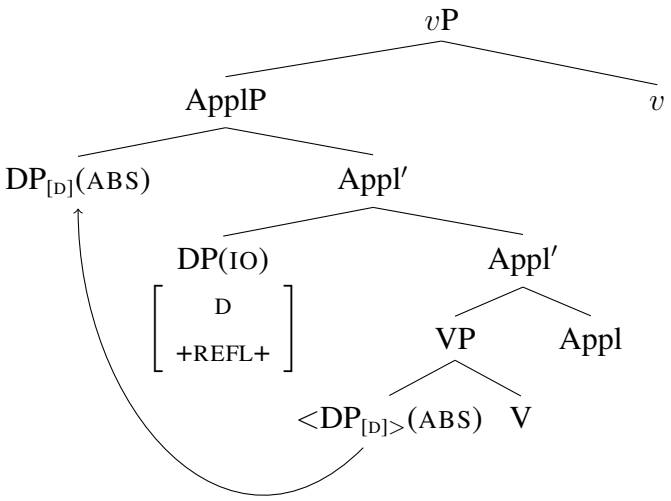
The final step in the derivation involves the movement of the reflexive pronoun to Spec,VoiceP – it merges below the applied object via tucking in (77). This movement checks both •REFL• on $\text{Voice}_{\text{REFL}}$ and +REFL+ on the reflexive pronoun.

(77) Absolutive theme (the reflexive pronoun) moves to Spec,VoiceP:



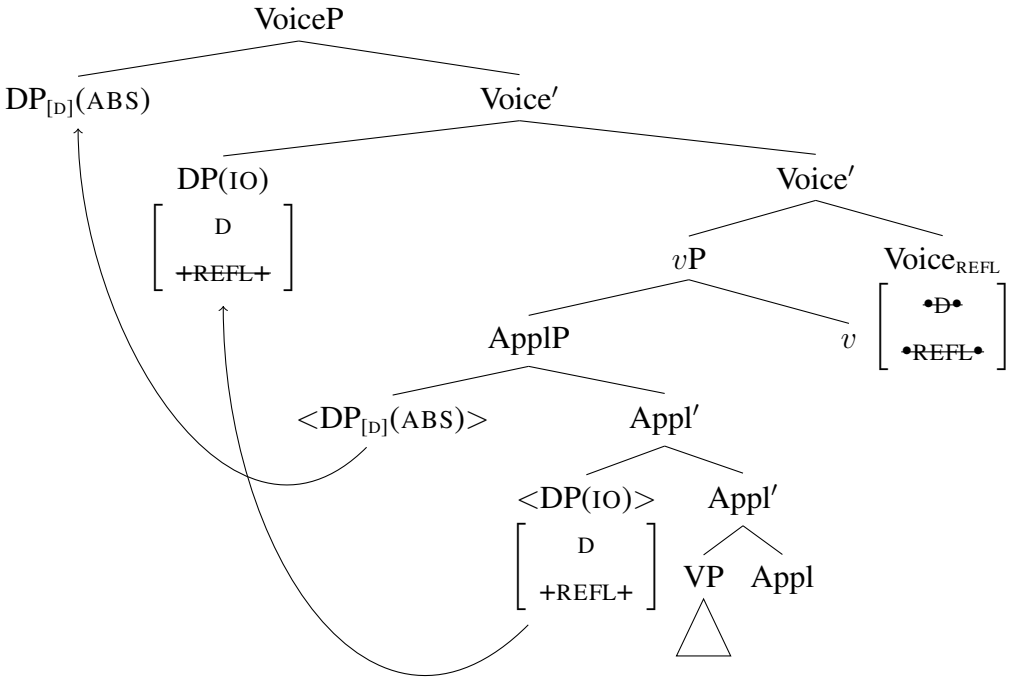
The second binding configuration, with the absolutive theme binding the applied object, is made possible by local scrambling of the absolutive theme to Spec,ApplP, as discussed in subsection 5.2.2. In this case, the structure of vP remains the same, with no external argument in Spec,vP, but the absolutive theme moves to c-command the applied object in Spec,ApplP (78).

(78) Inverse verb with raised absolutive theme:



Since the absolutive theme is now the highest argument in vP, it becomes the closest goal to the [•D•] probe on Voice$_{\text{REFL}}$, with the reflexive pronoun subsequently moving to satisfy the [•REFL•] probe, thus deriving the correct binding configuration with the absolutive theme serving as antecedent (79).

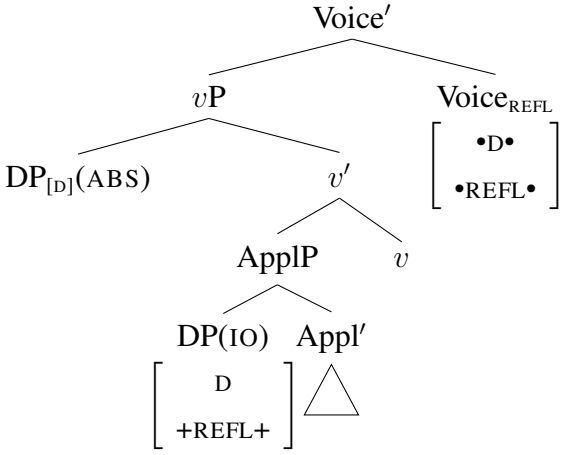
(79) Structure for reflexive binding in inverse verb with raised absolutive theme:



Importantly, the movement of the absolutive theme to Spec,ApplP does not impact binding possibilities for a transitive three-place predicate with an ergative agent in Spec,vP as in e.g. (72), since the ergative agent remains the highest nominal in vP and thus the only eligible goal for the probe on $\text{Voice}_{\text{REFL}}$ even if the absolutive theme raises to c-command the applied object.

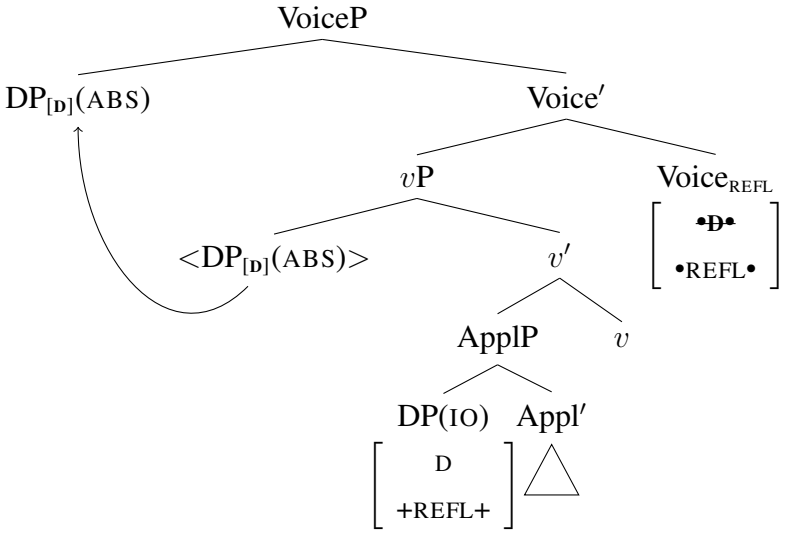
Finally, let us consider the derivation for reflexive co-indexation between the absolutive subject of an unergative verb and the applied object, as in (60a). As in the previous examples, $\text{Voice}_{\text{REFL}}$ selects for vP, which in this case contains the absolutive subject in Spec,vP and an applied object in Spec,ApplP (80).

(80) $\text{Voice}_{\text{REFL}}$ selects for unergative vP:



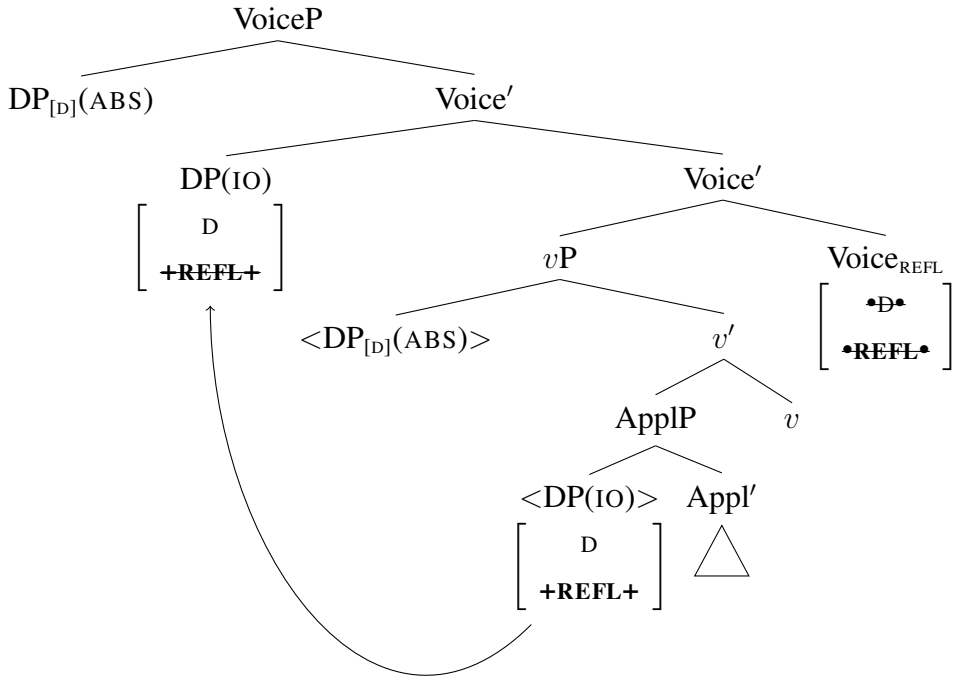
$\text{Voice}_{\text{REFL}}$ then probes with •D• and attracts the highest DP in its c-command domain – the absolutive external argument in Spec,vP – to its specifier (81).

(81) Absolutive external argument moves to Spec,VoiceP:



The final step involves the movement of the reflexive pronoun from Spec,ApplP to Spec,VoiceP in order to satisfy the •REFL• feature on $\text{Voice}_{\text{REFL}}$ and the +REFL+ feature on the reflexive pronoun (82).

(82) Applied object (the reflexive pronoun) moves to Spec,VoiceP and tucks in:



To conclude this subsection, local subject orientation is derived from the syntactic properties of $\text{Voice}_{\text{REFL}}$ 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 $\text{Voice}_{\text{REFL}}$, i.e. the highest DP in vP.

5.4 Conclusion: locality conditions on reflexive binding

To conclude this section, reflexives are licensed by $\text{Voice}_{\text{REFL}}$, which selects for vP 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 vP, for example, applied objects of unaccusative verbs. West Circassian thus presents novel evidence that subjecthood does not play a role in anaphor binding.

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. Given that 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 in fact be systematically 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 within this framework, and the various subjecthood properties can be derived from independent structural factors, such as c-command and locality conditions on syntactic operations.

The proposed analysis confirms the idea that syntactic ergativity is derived: the absolutive argument is merged low and subsequently undergoes movement to a higher position. Unlike previous proposals for a high absolutive (Bittner and Hale 1996; Aldridge 2008; Coon et al. 2014; Yuan 2018, a.o.), which rely on diagnostics such as scope and extraction asymmetries and are thus compatible with an A′-movement analysis of the high absolutive, 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 2019a). 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 occuppying the surface subject position. This provides support for a locality-based theory of local subject orientation, such as Ahn (2015), 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 vP, e.g. an applied object, may serve as an antecedent.

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 subject to additional constraints that interfere with their applicability at the clausal level. In regards to anaphor binding, 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, given that 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.

References

Ahn, Byron. 2015. Giving reflexivity a voice: Twin reflexives in English. PhD diss, UCLA.

Aldridge, Edith. 2008. Generative approaches to syntactic ergativity. *Language and Linguistics Compass: Syntax and Morphology* 2.5: 966–995.

Anderson, Stephen R. 1976. On the notion of subject in ergative languages. In *Subject and topic*, eds. S. Thompson and C. Li, 1–23. Academic Press.

Arkadiev, Peter. 2017. Circassian directional markers and the typology of inverse. Paper presented at "Typology of Morphosyntactic Parameters", Moscow, 25-27 October.

Arkadiev, Peter. 2018a. Non-canonical inverse in Circassian languages. Ms. https://www.academia.edu/37779136/NON-CANONICAL_INVERSE_IN_CIRCASSIAN_LANGUAGES.

Arkadiev, Peter. 2018b. Non-canonical inverse in Circassian languages. Paper presented at 51st Annual Meeting of the Societas Linguistica Europaea, Tallinn, August 29 - September 1.

Arkadiev, Peter M., and Yakov G. Testelets. to appear. Differential nominal marking in Circassian. *Studies in Language*.

Arkadiev, P. M., and Ya. G. Testelets. 2009. O trex čeredovanijax v adygejskom jazyke [On three alternations in Adyghe]. In *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka [Aspects of polysynthesis: Sketches on the grammar of Adyghe]*, ed. Ya. G. Testelets, 121–145. Moscow: RGGU.

Arkadiev, P. M., Yu. A. Lander, A. B. Letuchiy, N. R. Sumbatova, and Ya. G. Testelets. 2009. Vvedenije. Osnovnyje svedenija ob adygejskom jazyke [Introduction: Basic information on Adyghe]. In *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka*, ed. Ya. G. Testelets, 17–120. Moscow: RGGU.

Baker, Mark. 2015. *Case: Its principles and parameters*. Cambridge University Press.

Baker, Mark C. 1988. Theta theory and the syntax of applicatives in Chichewa. *Natural Language and Linguistic Theory* 6: 353–389.

Baker, Mark C. 1997. Thematic roles and syntactic structure. In *Elements of grammar: Handbook in generative syntax*, ed. Liliane Haegeman, 73–137. Springer.

Bhatia, Sakshi, and Ethan Poole. 2016. Deriving subject and antisubject orientation. In *Proceedings of FASAL 6*, eds. Mythili Menon and Saurov Syed.

Bittner, Maria, and Kenneth Hale. 1996. The structural determination of case and agreement. *Linguistic Inquiry* 27: 1–68.

Bobaljik, Jonathan David, and Dianne Jonas. 1996. Subject positions and the roles of tp. *Linguistic Inquiry* 27 (2): 195–236.

Bruening, Benjamin. 2004. Two types of wh-scope marking in Passamaquoddy. *NLLT* 22: 229–305.

Büring, Daniel. 2005. *Binding theory*. Cambridge University Press.

Caponigro, Ivano, and Maria Polinsky. 2011. Relative embeddings: A Circassian puzzle for the syntax/semantics interface. *NLLT* 29(1): 71–122.

Chirikba, Vyacheslav. 1996. *Common West Caucasian: The reconstruction of its phonological system and parts of its lexicon and morphology*. Research School CNWS.

Chomsky, Noam. 1980. On binding. *Linguistic Inquiry* 11 (1): 1–46.

Chomsky, Noam. 1981. *Lectures on government and binding*. Foris Publications.

Chomsky, Noam. 1995. *The Minimalist Program*. MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: the framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, eds. Roger Martin, David Michaels, and Juan Uriagereka, 89–155. MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz. MIT Press.

Coon, Jessica, Mateo Mateo Pedro, and Omer Preminger. 2014. The role of case in A-bar extraction asymmetries: Evidence from Mayan. *Linguistic Variation* 14(2): 179–242.

Daniel, Michael, and Yury Lander. 2011. The Caucasian languages. In *The languages and linguistics of Europe: a comprehensive guide*, eds. J. van der Auwera and B. Kortmann. Vol. 1 of *The world of linguistics*, 125–157. Mouton de Gruyter.

Deal, Amy Rose. 2017. Syntactic ergativity as case discrimination. In *Proceedings of the 34th West Coast Conference on Formal Linguistics*, eds. Aaron Kaplan, Abby Kaplan, Miranda K. McCarvel, and Edward J. Rubin, 141–150. Cascadilla Proceedings Project.

Ershova, Ksenia. 2018. West Circassian polysynthesis at the morphology-syntax interface. *Proceedings of the Linguistic Society of America* 3: 39–115.

Ershova, Ksenia. 2019a. Diagnosing clause structure in a polysynthetic language: Wh-agreement and parasitic gaps in West Circassian. *Linguistic Inquiry* Just accepted. doi:10.1162/ling$_{a0}$0371.

Ershova, Ksenia. 2019b. Two paths to polysynthesis: Evidence from West Circassian nominalizations. Ms. `https://ling.auf.net/lingbuzz/004118`.

Ershova, Ksenia. 2019c. Two paths to polysynthesis: Evidence from West Circassian nominalizations. *Natural Language and Lingustic Theory*. doi:10.1007/s11049-019-09455-w.

Georgi, Doreen, and Gereon Müller. 2010. Noun phrase structure by reprojection. *Syntax* 13: 1–36.

Guilfoyle, Eithne, Henrietta Hung, and Lisa Travis. 1992. Spec of IP and spec of VP: Two subjects in Austronesian languages. *NLLT* 10 (3): 375–414.

Halpert, Claire. 2015. *Argument licensing and agreement*. Oxford University Press.

Harley, Heidi. 1995. Subjects, events and licensing. PhD diss, MIT.

Heck, Fabian, and Gereon Müller. 2007. Extremely local optimization. In *Proceedings of WECOL34*, eds. Erin Bainbridge and Brian Agbayani, 170–182.

Hewitt, George. 2004. *Introduction to the study of the languages of the Caucasus*. Lincom Europa.

Kalin, Laura. 2018. Licensing and differential object marking: The view from Neo-Aramaic. *Syntax* 21 (2): 112–159.

Kalin, Laura, and Coppe van Urk. 2015. Aspect splits without ergativity: Agreement asymmetries in Neo-Aramaic. *Natural Language and Linguistic Theory* 33: 659–702.

Keenan, Edward L., and Edward Stabler. 2003. *Bare grammar: A study of language invariants*. CSLI Publications.

Korotkova, Natalia, and Yury Lander. 2010. Deriving affix ordering in polysynthesis: Evidence from Adyghe. *Morphology* 20: 299–319.

Kratzer, Angelika. 2009. Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40 (2): 187–237.

Kumakhov, M. A. 1964. *Morfologija adygskix jazykov: sinxronno-diaxronnaja xarakteristika [Morphology of Circassian languages: synchronic and diachronic description]*. Kabardino-Balkarskoe knižnoe izdatelstvo.

Kumakhov, M. A. 1981. *Sravnitel'no-istoričeskaja fonetika adygskix (čerkesskix) jazykov [Historical phonetics of the Circassian languages]*. Nauka.

Kumakhov, Mukhadin, and Karina Vamling. 2009. Circassian clause structure. In *Caucasus studies 1. School of International Migration and Ethnic Relations*. Malmö University.

Kumakhov, Muxadin A., and Karina Vamling. 2006. *Ėrgativnost' v čerkesskix jazykax [Ergativity in Circassian languages]*. Malmö University.

Labelle, Marie. 2008. The French reflexive and reciprocal *se*. *NLLT* 26: 833–876.

Lander, Yury. 2009. Subject properties of the Adyghe absolutive: Evidence from relatives. Ms..

Lander, Yury. 2012. Reljativizacija v polisintetičeskom jazyke: adygejskie otnositel'nye konstrukcii v tipologičeskoj perspektive. PhD diss, Russian State University for the Humanities.

Lander, Yury. 2017. Nominal complex in West Circassian: Between morphology and syntax. *Studies in Language* 41 (1): 76–98.

Lander, Yury, and Alexander Letuchiy. 2010. Kinds of recursion in Adyghe morphology. In *Recursion and Human Language*, ed. Harry van der Hulst, 263–284. De Gruyter Mouton.

Lander, Yury A., and Yakov G. Testelets. 2017. Adyghe (Northwest Caucasian). In *The Oxford handbook of polysynthesis*, eds. Michael Fortescue, Marianne Mithun, and Nicholas Evans, 948–970. Oxford University Press.

Lecomte, A., and C. Retoré. 1999. Towards a minimal logic for minimalist grammars: a transformational use of Lambek calculus. In *Proceedings of Formal Grammar*, eds. Geert-Jan M. Kruijff and Richard T. Oehrle, 83–92. Chap. 8.

Lecomte, A., and C. Retoré. 2001. Extending Lambek grammars: a logical account of minimalist grammars. In *Proceedings of the 39th Meeting of the Association for Computational Linguistics*, 354–361. ACL.

Legate, Julie Anne. 2008. Morphological and abstract case. *Linguistic Inquiry* 39(1): 55–101. doi:10.1162/ling.2008.39.1.55.

Letuchiy, Alexander. 2009. Affiksy benefaktiva i malefaktiva: sintaksičeskie osobennosti i krug upotreblenija [Benefactive and malefactive affixes: syntactic features and range of usage]. In *Aspekty polisintetizma: Očerki po grammatike adygejskogo jazyka [Aspects of polysynthesis: Sketches on the grammar of Adyghe]*, ed. Ya. G. Testelets, 329–371. Moscow: RGGU.

Letuchiy, Alexander. 2010. Ergativity in the Adyghe system of valency-changing derivations. In *Ergativity, Valency and Voice*, eds. Gilles Authier and Katharina Haude, 323–353. De Gruyter.

Letuchiy, Alexander. 2015. Scope versus ordering of operations: causativization and ordering of valency-changing operations in Adyghe. In *Affix ordering across languages and frameworks*, ed. Stela Manova. Oxford University Press.

Levin, Theodore Frank. 2015. Licensing without case. PhD diss, MIT.

Lidz, Jeffrey. 1996. Dimensions of reflexivity. PhD diss, University of Delaware.

Lidz, Jeffrey. 2001. The argument structure of verbal reflexives. *NLLT* 19: 311–353.

Manning, Christopher D. 1996. *Ergativity: Argument structure and grammatical relations*. Cambridge University Press.

Marantz, Alec. 1991. Case and licensing. In *ESCOL '91: Proceedings of the Eighth Eastern States Conference on Linguistics*, 234–253.

Martinović, Martina. 2015. Feature geometry and head-splitting: Evidence from the Wolof clausal periphery. PhD diss, University of Chicago.

Maslova, Elena. 2008. Reflexive encoding of reciprocity: Cross-linguistic and language-internal variation. In *Reciprocals and reflexives: Theoretical and typological explorations*, eds. Ekkehard König and Volker Gast, 225–258. Mouton de Gruyter.

McCloskey, Jim. 1997. Subjecthood and subject positions. In *Elements of grammar: Handbook in generative syntax*, ed. Liliane Haegeman, 197–235. Springer.

McFadden, Thomas. 2004. The position of morphological case in the derivation: A study on the syntax-morphology interface. PhD diss, University of Pennsylvania.

McGinnis, Martha. 1998a. Locality and inert case. In *Proceedings of NELS 28*, eds. P. Tamanji and K. Kusumoto. GLSA.

McGinnis, Martha. 1998b. Locality in A-movement. PhD diss, MIT.

McGinnis, Martha. 2000. Phases and the syntax of applicatives. In *NELS 31*, eds. Min-Joo Kim and Uri Strauss, 333–349. GLSA.

McGinnis, Martha. 2001. Variation in the phase structure of applicatives. *Linguistic Variation Yearbook* 1: 105–146.

McGinnis, Martha. 2004. Lethal ambiguity. *Linguistic Inquiry 35(1)*.

Müller, Gereon. 2010. On deriving CED effects from the PIC. *Linguistic Inquiry* 41 (1): 35–82.

Pesetsky, David. 1995. *Zero syntax: Experiencers and cascades*. MIT Press.

Polinsky, Maria. 2016. *Deconstructing ergativity: Two types of ergative languages and their features*. Oxford University Press.

Preminger, Omer. 2014. *Agreement and its failures*. MIT Press.

Pylkkänen, Liina. 2008. *Introducing Arguments*. Vol. 49 of *Linguistic Inquiry Monographs*. MIT Press. doi:10.7551/mitpress/9780262162548.001.0001.

Reinhart, Tanya, and Tal Siloni. 2005. The lexicon-syntax parameter: Reflexivization and other arity operations. *Linguistic Inquiry* 36 (3): 389–436.

Richards, Norvin. 1997. What moves where when in which language? PhD diss, MIT.

Rizzi, Luigi. 1986. On chain formation. In *The syntax of pronominal clitics*, ed. Hagit Borer, 65–95. Academic Press.

Rizzi, Luigi. 1990. On the anaphor-agreement effect. *Rivista di Linguistica* 2: 27–42.

Rogava, G. V., and Z. I. Keraševa. 1966. *Grammatika adygejskogo jazyka [The grammar of Adyghe]*. Krasnodarskoe knižnoe isdatelstvo.

Schachter, Paul. 1976. The subject in Philippine languages: Topic, actor, actor-topic, or none of the above. In *Subject and topic*, ed. C. N. Li, 493–518. Academic Press.

Schachter, Paul. 1977. Reference-related and role-related properties of subjects. In *Grammatical relations*, eds. Peter Cole and Jerrold M. Sadock. Vol. 8 of *Syntax and semantics*, 279–306. Academic Press.

Schäfer, Florian. 2008. *The syntax of (anti-)causatives: External arguments in change-of-state contexts*. John Benjamins.

Sheehan, Michelle, and Jenneke Van der Wal. 2018. Nominal licensing in caseless languages. 54 (3): 527–589.

Sigurðsson, Halldór Ármann. 2012. Minimalist C/case. *Linguistic Inquiry* 43: 191–227.

Smeets, Henricus Joannes. 1984. *Studies in West Circassian phonology and morphology*. LINCOM Europa.

Smeets, Henricus Joannes. 1992. On valencies, actants and actant coding in circassian. In *Caucasian perspectives*, ed. George Hewitt, 98–144. LINCOM EUROPA.

Sportiche, Dominique. 2014. French reflexive se: Binding and merge locality. In *Locality*, eds. Enoch Olad'e Aboh, Maria Teresa Guasti, and Ian Roberts, 104–137. OUP.

Stabler, Edward. 1997. Derivational minimalism. In *Logical aspects of computational linguistics*, ed. C. Retoré, 68–95. Springer.

Stabler, Edward. 2010. After Government and Binding theory. In *Handbook of logic and language*, eds. J. van Benthem and A. ter Meulen, 395–414.

Stabler, Edward P., and Edward L. Keenan. 2003. Structural similarity within and among languages, Vol. 293, 345–363.

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

Vergnaud, Jean-Roger. 2008[1977]. Letter to Noam Chomsky and Howard Lasnik on "Filters and control". In *Foundational issues in linguistic theory*, eds. Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta. MIT Press. April 17, 1977.

Woolford, Ellen. 1999. More on the anaphor agreement effect. *Linguistic Inquiry* 30 (2): 257–287.

Woolford, Ellen. 2006. Lexical case, inherent case, and argument structure. *Linguistic Inquiry* 37/1: 111–130. doi:10.1162/002438906775321175.

Yuan, Michelle. 2018. Dimensions of ergativity in Inuit: Theory and microvariation. PhD diss, MIT.

Yuan, Michelle, and Ksenia Ershova. 2020. Dependent case in syntactically ergative languages: Evidence from Inuit and West Circassian. Presented at LSA 2020 Annual Meeting.