Direction towards Person: Canonical inverse and reverse PCC in Adyghe

Imke Driemel Ahmet Bilal Özdemir Marie-Luise Popp

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Abstract

Shapsug Adyghe (Northwest Caucasian) displays a morpheme that signals direction towards deictic center, which additionally indicates inverse contexts as well as violations of an ultrastrong reverse Person-Case Constraint (PCC). In the absence of a canonical PCC pattern, Adyghe challenges the STANDARD-INVERSE generalization, recently put forth by Stegovec (2017, 2020). We show how the phenomenon is problematic for a variety of approaches to PCC effects that rely on salience hierarchies or the notion of a syntactic intervener, concluding that multivaluation accounts along the lines of Béjar and Rezac (2009), Deal (2020) predict the patterns without further ado. In analyzing the directional marker as an abstract person licenser, we provide new evidence for the *Person Licensing Condition* as well as the syntactic projection of implicit arguments (Landau 2010a, Legate 2014). The data come from elicitation with 3 native speakers of Shapsug Adyghe and an online survey.

1 Introduction

The Person-Case Constraint (PCC) is a restriction on the person features of certain object combinations, attested within a large number of widely divergent languages (Perlmutter 1968, Bonet 1991, Haspelmath 2004). An example from Greek for the strong PCC is given in (1) where the direct object must be 3rd person in the presence of an indirect object, if each object is realized by a weak element, in this case a clitic.[1]

(1) *Strong PCC in Greek* (Anagnostopoulou 2003: 252)

a. Tha mu to stilune.
FUT 1SG.GEN 3SG.ACC send.3PL
'They will send it to me.' IO: 1SG, DO: 3SG

b. Tha su ton stilune.
FUT 2SG.GEN 3SG.ACC send.3PL
'They will send him to you.' IO: 2SG, DO: 3SG

[1] 1 = first person; 2 = second person; 3 = third person; ABS = absolutive; ACC = accusative; AG = agent; AOR = aorist; APPL = applicative; AUTH = author; BEN = benefactive / beneficiary; CAUS = causative; CIS = cislocative; COM = comitative; DAT = dative; DEM = demonstrative; DO = direct object; DIR = directional; DYN = dynamic; ERG = ergative; EXP = experiencer; FUT = future; GEN = genitive; IMP = imperative; INV = inverse; IO = indirect object; OBL = oblique; OBV = obviative;SG = singular; SU = subject; PART = participant; PAT = patient; PL = plural; POSS = possessive; PROX = proximate;PST = past; RE = refactive; REC = recipient; REFL = reflexive; STIM = stimulus.

c. *Tha tu me stilune.
FUT 3SG.GEN 1SG.ACC send.3PL
'They will send me to you.' IO: 3SG, DO: 2SG

d. *Tha mu se stilune.
FUT 1SG.GEN 2SG.ACC send.3PL
'They will send you to me.' IO: 1SG, DO: 2SG

Recent observations with regard to the PCC reveal that languages in which the clitic order is flexible, can show a *reverse* PCC effect (Stegovec 2017), in addition to a canonical PCC effect, depending on the order of clitics. In (2), we exemplify both patterns with Slovenian: A canonical PCC pattern is presented in (2-a) and (2-b) where the indirect object has to outrank the direct object in its person features. In (2-c) and (2-d), however, the order of clitics is reversed, and so is the ranking requirement between indirect and direct object. Reverse PCC effects have also been found for Zürich German (Werner 1999) and Czech (Sturgeon et al. 2012).

(2) *Canonical and reverse PCC in Slovenian* (Stegovec 2020: 264)

a. Mama mi ga bo predstavila.
mom 1.DAT 3M.ACC will.3 introduce
'Mom will introduce him to me.' IO: 1SG ≻ DO: 3SG

b. *Mama mu me bo predstavila.
mom 3M.DAT 1.ACC will.3 introduce
'Mom will introduce me to him.' IO: 3SG ≻ DO: 1SG

c. Mama me mu bo predstavila.
mom 1.ACC 3M.DAT will.3 introduce
'Mom will introduce me to him.' DO: 1SG ≻ IO: 3SG

d. *Mama ga mi bo predstavila.
mom 3M.ACC 1.DAT will.3 introduce
'Mom will introduce him to me.' DO: 3SG ≻ IO: 1SG

Person hierarchy effects have also been documented between subjects and objects within direct-inverse alignment systems, see Jacques and Antonov (2014) and Bliss et al. (2020) for recent overviews. Instead of ineffability, an additional exponent emerges in configurations where the object's person feature outranks the subject's person feature. This is shown with an example from Japhug Rgyalrong, where *wɤ-* is added in (3-b).

(3) *Inverse system in Japhug Rgyalrong* (Jacques 2010: 129)

a. Pɯ-mtó-t-a.
AOR-see-PST-1SG
'I saw him/her/it.' SU: 1SG, DO: 3SG

b. Pɯ́-wɤ-mto-a.
AOR-INV-see-1SG
'He/She/It saw me.' SU: 3SG, DO: 1SG

The focus of this paper are PCC and inverse patterns from the Circassian language Adyghe (Northwest Caucasian), a highly agglutinating language spoken by ca. 500,000 speakers in Russia and Turkey (Eberhard et al. 2020). The data in this paper come from fieldwork with 3 native speakers of Shapsug Adyghe and an online survey with 37-43 native speakers with a focus on dialects spoken in Turkey.[2] We report on the distribution

[2]The online survey comprised a translation experiment, where the participants were given a Turkish

and interpretation of the cislocative marker q^{w}ə- in Adghe, which introduces a directional component in intransitive structures, but acts as a canonical inverse marker when an applied argument is added (Arkadiev 2020). Our investigation for the Shapsug dialect of Adyghe extends to ditransitive structures and reveals three important insights. First, the cislocative marks reverse PCC effects between the indirect and the direct object. Second, canonical PCC effects are absent. Third, ergative marked arguments are excluded from the interaction in inverse and PCC scenarios. The last point explains why it is the subject and the applied object that interact for direct-inverse alignment, whereas it is the direct object and the applied object that interact for reverse PCC effects. We provide an analysis, following the theory proposed in Béjar and Rezac (2009), which accounts for the distribution of the cislocative marker across inverse and reverse PCC scenarios, the absence of canonical PCC effects as well as the directional meaning of the cislocative in intransitives. Moreover, we provide an account for the order of person referencing prefixes and show that the invisibility of the ergative argument arises from the fact that the argument is indexed by ϕ-agreement rather than clitic doubling. We discuss the compatibility of other PCC approaches with the patterns found in Adyghe showing that functional (Aissen 1999, Haspelmath 2004, 2020) and case-based approaches (Béjar and Rezac 2003, Anagnostopoulou 2003, 2005, Adger and Harbour 2007) fail to predict the reverse PCC patterns, while other accounts need additional assumptions (Nevins 2007, 2011). We present the data set in section 2, provide an analysis for the relevant paradigms in section 4, discuss PCC accounts for which the Adyghe patterns pose a challenge in section 5, and extend the empirical picture in section 6, before concluding in section 7.

2 The distribution of the cislocative marker

Adyghe is a polysynthetic language with an ergative case alignment system (Arkadiev and Letuchiy 2011, Letuchiy 2012, Lander and Testelets 2017), shown in (4). Both the theme of the transitive verb in (4-b) as well as the agent of the intransitive verb in (4-a) are assigned absolutive case, marked as *-r*, while the agent of the transitive predicate in (4-b) is assigned ergative case, marked as *-m*, and syncretic with the oblique case marker for applied objects. We will gloss ergative and oblique case marking as OBL throughout the paper.

(4) *Ergative-absolutive case alignment* (Letuchiy 2012: 328)

a. Ps'as'e-r ∅-ma-k̩^{w}e.
girl-ABS 3SG.ABS-DYN-go
'The girl goes.'

b. Č'ale-m ps'as'e-r ∅-ə-λeʁ^{w}ə-ʁ.
boy-OBL girl-ABS 3SG.ABS-3SG.ERG-see-PST
'The boy saw the girl.'

While suffixes in Adyghe encode tense, mood and aspect, prefixes express argument-related information such as ϕ-features, applicative and causative morphology as well as the cislocative marker which originates from a directionality marker that encodes

sentence and several translation options in Adyghe, written in the transcript suggested by the Adyghe Language Association, which is based on the Turkish alphabet. Thus, it can be controlled that the participants are based in Turkey.

orientation towards the deictic center (Smeets 1984), as shown in (5-b).[3]

(5) *Cislocative as a directional marker* (Arkadiev 2020: 88)

a. če!
run.IMP
'Run (away)!'

b. qa-če!
CIS-run.IMP
'Run here!'

In the next section, we will present the main paradigms for the inverse and the PCC scenarios in the Shapsug variety of Adyghe.

2.1 The cislocative in Shapsug Adyghe

The cislocative marker appears between two argument-referencing prefixes in certain argument combinations. A full paradigm of an intransitive verb with an indirect object is presented in (6).[4] In such cases, the affix that references the indirect object appears closer to the root than the affix that references the subject, as seen in (6-a) and (6-b). The combinations in (6-b), (6-d), and (6-f) illustrate scenarios where the applied object outranks the subject on the person scale *1 > 2 > 3* (Silverstein 1976), triggering the obligatory occurrence of a cislocative marker q^{w}ə- between the verbal prefixes cross-referencing subject and applied object. Both (6-d) and (6-f) show that exponents do not have to be overt for the cislocative marker to occur, as 3SG subjects are not cross-referenced on the verb, while q^{w}ə- still appears.[5,6,7]

[3] Smeets (1984: 436) originally notes the presence of directional markers only for the Shapsug dialect of Adyghe. It has since then also been reported for other dialects. The example in (5) is based on elicitation with speakers from the Temirgoy dialect (Arkadiev 2020: 85).

[4] The verb *wo* seems to indicate an abstract motion directed towards a goal, resulting in a translation as "beat". In contrast to many other languages, applicative intransitives are very productive in Adyghe and often semantically close to transitives, see Kumakhov and Vamling (2009: 33) for a list and Caponigro and Polinsky (2011: 80), Potsdam and Polinsky (2012: 77) and Arkadiev (2020: 87) for discussion. Moreover, Arkadiev notes that the class of applicative intransitives is heterogeneous and does not seem to follow semantic classifications. Although the applicative marker is morphologically covert in (6), applicative intransitives can be distinguished from regular ERG-ABS transitives by the order of prefixes on the verb as well as overt case morphology on the arguments. We will focus on the more commonly known transitive ERG-ABS predicates separately in section 6.3.

[5] In sentences with two 3rd person arguments, Adyghe differentiates between proximate and obviative arguments leading to the emergence of the cislocative in combinations of a proximate direct object and an obviative subject (Arkadiev 2020). We present direct scenarios in this section and address the proximate/obviative distinction in section 4.4.

[6] Although Adyghe is a *pro*-drop language, we will provide spelled out arguments throughout the paradigms in this section. Note also that 1st and 2nd person pronouns cannot be marked for case overtly. It should be noted that all the fieldwork data reported in this paper are based on IPA, while the Adyghe data cited from other papers are based on a different alphabet that is common in Caucasological studies. See Korotkova and Lander (2010: 317) for a conversion table.

[7] Adyghe verbs exhibit a stative/dynamic distinction. Concretely, all transitive verbs are dynamic whereas most intransitive verbs vary between both stative and dynamic forms (Smeets 1984, Kumakhov and Vamling 2009). In the present tense, dynamic verbs are preceded by the dynamic marker *o-* after 1st and 2nd person markers.

SU \ IO	1SG	2SG	3SG
1SG		✗, (6-a)	✗, (6-c)
2SG	✓, (6-b)		✗, (6-e)
3SG	✓, (6-d)	✓, (6-f)	✗, (6-g)

Table 1: Distribution of CIS in applicative intransitives

(6) *Cislocative as an inverse marker in applicative intransitives*

a. se wo sə-w-o-wo.
I you 1SG-2SG-DYN-beat
'I am beating you.' AG: 1SG, GOAL: 2SG, ✗ CIS

b. wo se wə-q^{w}ə-s-o-wo.
you I 2SG-CIS-1SG-DYN-beat
'You are beating me.' AG: 2SG, GOAL: 1SG, ✓ CIS

c. se a-ʃ s-o-wo.
I 3-OBL 1SG-DYN-beat
'I am beating him.' AG: 1SG, GOAL: 3SG, ✗ CIS

d. a-r se q^{w}ə-s-o-wo.
3-ABS I CIS-1SG-DYN-beat
'He is beating me.' AG: 3SG, GOAL: 1SG, ✓ CIS

e. wo a-ʃ w-o-wo.
you 3-OBL 2SG-DYN-beat
'You are beating him.' AG: 2SG, GOAL: 3SG, ✗ CIS

f. a-r wo q^{w}ə-w-o-wo.
3-ABS you CIS-2SG-DYN-beat
'He is beating you.' AG: 3SG, GOAL: 2SG, ✓ CIS

g. Mehmet-ɯr tʃále-gore-m jə-wo.
Mehmet-ABS boy-some-OBL 3SG-beat
'Mehmet is beating some boy.' AG: 3SG, GOAL: 3SG, ✗ CIS

Table 1 summarizes the distribution of the cislocative marker with applicative intransitive verbs, showing that the cislocative marker in Adyghe behaves like a canonical inverse marker, in that it appears whenever an argument low in the syntactic hierarchy outranks a higher argument on the person scale, thus repairing a marked combination of arguments.

With a ditransitive verb like *t*ə 'give', the cislocative remains strictly between the markers cross-referencing the direct object and the indirect object. Concretely, it emerges obligatorily whenever the indirect object outranks the direct object, as shown in (7-e), (7-c), and (7-a), showcasing an *ultra-strong* (sometimes labeled *strictly descending*) repair pattern, summarized in Table 2. Crucially, the emergence of the cislocative marker in ditransitive paradigms depends only on the interaction of direct object and indirect object, while the subject does not interfere. This is shown in (7-b) where the cislocative marker does not occur, even though both direct object and indirect object outrank the subject. Note also that in contrast to the paradigm in (6), the subject prefix in (7) appears closest to the stem.

IO \ DO	1SG	2SG	3SG
1SG		✓, (7-a)	✓, (7-c)
2SG	✗, (7-b)		✓, (7-e)
3SG	✗, (7-d)	✗, (7-f)	✗, (7-g)

Table 2: Distribution of CIS in ditransitives

(7) *Cislocative as a PCC repair in ditransitives*

a. Sine-m wo se wə-q^{w}ə-sə-rə-tə.
Sine-OBL 2SG 1SG 2SG-CIS-1SG-3SG-give
'Sine gives you to me.' REC: 1SG, PAT: 2SG, ✓ CIS

b. Sine-m se wo sə-wə-rə-tə.
Sine-OBL 1SG 2SG 1SG-2SG-3SG-give
'Sine gives me to you.' REC: 2SG, PAT: 1SG, ✗ CIS

c. wo Ali-jər se q^{w}ə-sə-w-o-tə.
2SG Ali-ABS 1SG CIS-1SG-2SG-DYN-give
'You give Ali to me.' REC: 1SG, PAT: 3SG, ✓ CIS

d. wo se Ali-jəm sə-w-o-tə.
2SG 1SG Ali-OBL 1SG-2SG-DYN-give
'You give me to Ali.' REC: 3SG, PAT: 1SG, ✗ CIS

e. se Ali-jər wo q^{w}ə-wə-s-o-tə.
1SG Ali-ABS 2SG CIS-2SG-1SG-DYN-give
'I give Ali to you.' REC: 2SG, PAT: 3SG, ✓ CIS

f. se wo Ali-jəm wə-s-o-tə.
1SG 2SG Ali-OBL 2SG-1SG-DYN-give
'I give you to Ali.' REC: 3SG, PAT: 2SG, ✗ CIS

g. se Mehmet-ɯr tʃ'ale-gore-m jə-s-o-tə.
1SG Mehmet-ABS boy-some-OBL 3SG-1SG-DYN-give
'I am giving Mehmet to some boy.' REC: 3SG, PAT: 3SG, ✗ CIS

Whereas the cislocative marker acts as a regular inverse marker in applicative intransitives, ditransitive scenarios require the cislocative when a syntactically higher argument outranks an argument low in the syntactic derivation. This way, the contexts for the cislocative marker contrast sharply with the contexts where regular PCC effects take place (Bonet 1991, Aissen 1999, Béjar and Rezac 2003, Anagnostopoulou 2003, Haspelmath 2004, Nevins 2007). Therefore, the Adyghe cislocative marker can be considered a *reverse PCC marker*, cf. Stegovec (2017, 2020).

The ditransitive pattern can be replicated for transitives with applied beneficiaries, signaled by an applicative benefactive prefix *f*ə-. In (8), the cislocative emerges obligatorily whenever the beneficiary outranks the direct object on the person scale, see (8-a), (8-c), and (8-e). In parallel to the ditransitive paradigm in (7), the person feature specification of the subject does not interact with the distribution of the cislocative, while its coreferencing prefix on the verb occurs closest to the stem.

BEN \ DO	1SG	2SG	3SG
1SG		✓, (8-a)	✓, (8-c)
2SG	✗, (8-b)		✓, (8-e)
3SG	✗, (8-d)	✗, (8-f)	✗, (8-g)

Table 3: Distribution of CIS in benefactives

(8) *Cislocative as a PCC repair in benefactives*

a. Sine-m wo se wə-q^{w}ə-s-fə-r-ʃ' efə-ʁ
Sine-OBL you I 2SG-CIS-1SG-BEN-3SG-buy-PST
'Sine bought you for me.' BEN: 1SG, PAT: 2SG, ✓ CIS

b. Sine-m se wo sə-p-fə-r-ʃ' efə-ʁ
Sine-OBL I you 1SG-2SG-BEN-3SG-buy-PST
'Sine bought me for you.' BEN: 2SG, PAT: 1SG, ✗ CIS

c. Sine-m Ali-jər se q^{w}ə-s-fə-r-ʃ' efə-ʁ
Sine-OBL Ali-ABS I CIS-1SG-BEN-3SG-buy-PST
'Sine bought Ali for me.' BEN: 1SG, PAT: 3SG, ✓ CIS

d. Sine-m se Ali-jəm sə-fə-r-ʃ'efə-ʁ
Sine-OBL I Ali-OBL 1SG-BEN-3SG-buy-PST
'Sine bought me for Ali.' BEN: 3SG, PAT: 1SG, ✗ CIS

e. Sine-m Ali-jər wo q^{w}ə-p-fə-r-ʃ'efə-ʁ
Sine-OBL Ali-ABS you CIS-2SG-BEN-3SG-buy-PST
'Sine bought Ali for you.' BEN: 2SG, PAT: 3SG, ✓ CIS

f. Sine-m wo Ali-jəm wə-fə-r-ʃ'efə-ʁ
Sine-OBL you Ali-OBL 2SG-BEN-3SG-buy-PST
'Sine bought you for Ali.' BEN: 3SG, PAT: 2SG, ✗ CIS

g. Sine-m Ali-jər tʃ'ale-gore-m fə-r-ʃ'efə-ʁ
Sine-OBL Ali-ABS boy-some-OBL BEN-3SG-buy-PST
'Sine bought Ali for some boy.' BEN: 3SG, PAT: 3SG, ✗ CIS

As with ditransitives, the pattern in benefactive constructions reveals a reverse PCC effect since the marker appears, if a syntactically higher argument outranks a lower argument on the person scale, summarized in Table 3.
The data presented in this section demonstrates that the cislocative marker acts as a regular inverse marker in applicative intransitive constructions but as a reverse PCC marker in ditransitive/benefactive constructions. Each scenario reveals an ultra-strong repair pattern.

2.2 A note on dialectal variation

Circassian forms one branch of the North West Caucasian languages and can be split into West Circassian, also known as Adyghe, and East Circassian, also know as Karbadian. While the current study focuses on Shapsug Adyghe, the obligatory use of the cislocative to mark unexpected argument alignment has also been observed for other Circassian varieties beyond the Shapsug dialect (Rogava and Keraševa 1966: 112-114, Kumakhov 1971: 253-254, Kumakhov and Vamling 2009: 111, Matasović 2010: 88, Lander 2016: 3518). The most detailed study of the cislocative comes from Arkadiev (2020),

who investigates its distribution within applicative intransitives, ditransitives, and transitives for two Karbadian dialects and for Temirgoy Adyghe. His findings overlap significantly with our findings for Shapsug but differ in two aspects: (i) the interaction relevant for ditransitives is between the ergative subject and the indirect object, and (ii) the cislocative occurs optionally with a 2nd person recipient and a 1st person agent. The first generalization leads Arkadiev to propose that the cislocative acts as a canonical inverse marker throughout since his data suggest that the distribution does not differ between applicative intransitives and ditransitives. While it is easy to see how the second generalization does not hold for Shapsug, a closer look is needed for the first generalization. The data points in (7-b)/(8-b) and (7-e) exemplify why (i) cannot be extended to the Shapsug dialect. We repeat the relevant data for the 'give' paradigm in (9). As discussed in the previous section, the examples in (9-a) and (9-b) are in line with the hypothesis that the cislocative marker appears whenever the indirect object outranks the direct object on the person scale. Crucially, (9-a) and (9-b) also allow us to discard the hypothesis that the cislocative acts as an inverse marker between the subject and IO in ditransitives/benefactives. The 1st person subject outranks the 2nd person IO in (9-a), while the 3rd person subject is outranked by the 2nd IO in (9-b). If the relevant alignment were between the subject and the IO, the cislocative would emerge as a canonical inverse marker in (9-b) but not in (9-a), contrary to fact. Since neither prediction is borne out in (9), a reverse PCC pattern remains the only conceivable generalization for the pattern in Shapsug Adyghe.

(9) *Evidence against an interaction between subject and IO*

a. Se Ali-jər wo q^{w}ə-wə-s-o-tə.
1SG Ali-ABS 2SG CIS-2SG-1SG-DYN-give
'I give Ali to you.' REC: 2SG, PAT: 3SG, ✓ CIS

b. Sine-m se wo sə-wə-rə-tə.
Sine-OBL 1SG 2SG 1SG-2SG-3SG-give
'Sine gives me to you.' REC: 2SG, PAT: 1SG, ✗ CIS

We believe that the discrepancy between our data and the data in Arkadiev (2020) arises from dialectal variation. Viewing the so far attested patterns as dialectal differences is likely to be true insofar as West Circassian dialects in particular are known to show dialectal variation (Paris 1974, 1984, Smeets 1984, Kumakhov and Vamling 2009). Additionally, there is a geographical distance to consider: Of the four main Adyghe dialects, only a fraction of Temirgoy speakers are based in Turkey, compared to the overwhelmingly represented Shapsug, Abadzekh, Bzhedug speakers (Andrews 1989, Höhlig 1997). Consequently, the data in Arkadiev (2020) come from textual examples as well as fieldwork in the villages Hakurinohabl and Pshicho for Temirgoy, the village Ulyap for Besleney Kabardian, and the villages Blechepsin and Xodz for Kuban Kabardian – all situated in the Republic of Adygheya in Russia (Peter Arkadiav, p.c.). In contrast, our 3 main consultants, who are bilingual Adyghe and Turkish speakers, were born and raised in the village İlkkurşun in Izmir, Turkey.

Dialectal and idiolectal differences are very common amongst PCC languages, see Deal (2020) for an overview. For instance, strong PCC patterns co-exist with weak PCC patterns due to idiolectal variation in Italian (Bianchi 2006) and Slovenian (Stegovec 2020). Ultrastrong, strong, and weak PCC patterns have also been reported to coexist in Catalan (Bonet 1991, Walkow 2013) and Spanish varieties (Pancheva and Zubizarreta 2018). Additionally, the presence of a PCC pattern is not consistently reported for all speakers

of one language: The description in Riedel (2009) for the Bantu language Haya reports PCC effects in contrast to the description in Duranti (1979), presumably due to idiolectal differences. A recent study by Pankau (2019) finds a PCC pattern exclusively for the North East Berlin variety of German. Thus, variation of PCC effects within Circassian dialects, that is between Temirgoy and Karbadian on the one hand and Shapsug on the other, is fully expected, given what we know about the phenomenon in general and the dialects in particular.[8,9]

3 Interim summary

The distribution of the cislocative marker in Shapsug Adyghe is illustrated again in the table in (10) and (11). With this peculiar distribution, the Adyghe pattern is radically different from canonical inverse languages, canonical PCC languages, and the reverse PCC pattern in Slovenian.

(10) CIS in APPL intransitives

SU \ IO	1SG	2SG	3SG
1SG		✗	✗
2SG	✓		✗
3SG	✓	✓	✗

(11) CIS in ditransitives

IO \ DO	1SG	2SG	3SG
1SG		✓	✓
2SG	✗		✓
3SG	✗	✗	✗

In applicative intransitives, the contexts in which the cislocative marker appears are comparable to those of canonical inverse markers, in the sense that the marker shows up whenever the patient outranks the agent on the person scale. As already pointed out by Arkadiev (2020), however, the Adyghe pattern differs from canonical inverse marker in that the cislocative marker in Adyghe is fully redundant.

In ditransitives and benefactives, the very same marker appears whenever the indirect object outranks the direct object on the person scale. This pattern is crosslinguistically rare in three respects: first, PCC effects in canonical PCC languages take place when the direct object outranks the indirect object on the person scale. In other words, repair mechanisms arise in the reverse scenario, i.e. whenever the direct object is more salient than the indirect object. In Adyghe, however, the cislocative is inserted in the opposite scenario, thus disproving universal argument hierarchies, which are often made use of in functional approaches (Farkas and Kazazis 1980, Rosen 1990, Aissen 1999, Gerlach 2002, Haspelmath 2004, 2020, Sturgeon et al. 2012, Doliana 2014). As discussed above

[8]It is worth pointing out that the 'give' paradigms provided by the reference grammar for Adyghe (Rogava and Keraševa 1966: 159-160) as well as all ditransitive data points in Arkadiev (2020) are compatible with either account, that is a reverse PCC effect between IO and DO as well as a canonical inverse effect between subject and IO. Since neither Arkadiev (2020) nor Rogava and Keraševa (1966) provide decisive examples for scenarios such as the ones in (9), we refrain from extending our account to other dialects of Adyghe.

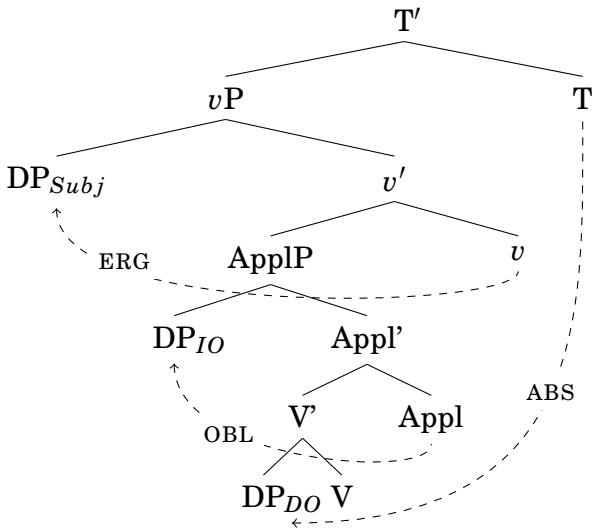
[9]Apart from the dialectal variation in the distribution of the cislocative marker, Höhlig (1997: 152f.) also discusses phonological, morphological and syntactic differences between the dialects based in the Republic of Adygea, which are influenced by language contact to Russian, and the dialects spoken in Turkey, e.g. the latter dialects have adopted many Turkish phonemes including /ɪ/ and the round vowels /u/, /y/, /o/ and /ø/.

in the introduction, reverse PCC effects have previously been obversed for Slovenian by Stegovec (2017, 2020). In contrast to Slovenian, however, Adyghe does not exhibit regular PCC effects along reverse PCC patterns. Second, Adyghe displays a different type of repair than canonical PCC languages. In Romance languages, for example, certain clitic combinations cannot be realized such that one of the object arguments has to be licensed by a PP. In Adyghe, however, a marker is inserted on the verb. A third peculiarity of the Adyghe cislocative in ditransitive relates to the arguments involved. More specifically, inverse morphology in ditransitive verbs is typically determined by an interaction of subject and indirect object (Bliss et al. 2020), as shown by Klaiman (1992) for Arizona Tewa (Kiowa-Tanoan); DeLancey (2013) for Bawn (Sino-Tibetan); Rhodes (1994), Valentine (2001), Zúñiga (2002), Wunderlich (2005), Lochbihler (2008) for Algonquian languages; and Rude (2009) for Sahaptin.

4 Analysis and discussion

For reason that will become clear in section 4.2, we follow Ershova (2020b, 2021) and assume that case is assigned via functional heads (Chomsky 1995, 2000, Legate 2008).

(12) *Clause structure and case*



The structure in (12) presents the basic clause structure where applied objects are introduced by an applicative head (Marantz 1993) and the external argument is introduced by v. As Caponigro and Polinsky (2011) proposed for the Adyghe case system, both ergative and oblique is spelled out by *-m*, resulting from case assignment by v in the former and Appl in the latter case. Absolutive case, however, is uniformly assigned by T – to the internal object in (12) and to the external object within applicative intransitive structures, see also Ershova (2020b: 435-436).[10]

[10]Three-place predicates cannot be decomposed into a causative v and a P-*have* projection introducing a having relation, see (i). This structure was proposed by Pesetsky (1995) and Harley (1997, 2002), partially based on the so called *Oehrle effects* (Oehrle 1976).

4.1 Clitic doubling vs. ϕ-agreement

This section addresses the selection of arguments affecting the distribution of the cislocative marker. Crucially, the arguments involved are not identical in every type of argument structure. Whereas subject and applied object interact within applicative intransitives, ditransitive/benefactive scenarios restrict the interaction to the two object arguments, while the subject never intervenes. We relate the invisibility of subjects in ditransitives/benefactives to the assumption that subject prefixes result from ϕ-agreement, while object-referencing prefixes instantiate clitics. Evidence for this claim comes from two observations which will present in turn.

The first observation considers zero alternations for the 3rd person marker. A prefix indexing a 3SG argument is generally not pronounced, shown for a variety of contexts in (13).

(13) *Zero 3rd person prefix*

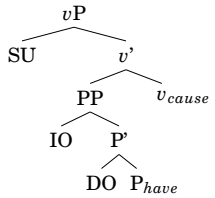
a. A-r wo **Ø**-q^{w}ə-w-o-wo.
3-ABS you **3SG**-CIS-2SG-DYN-beat
'He is beating you.'

b. Se a-ʃ sə-**Ø**-o-wo.
I 3-OBL 1SG-**3SG**-DYN-beat
'I am beating him.'

c. se Ali-jəm sə-**Ø**-fə-laʒə
I Ali-OBL 1SG-**3SG**-BEN-study
'I study for Ali.'

d. Ali-jər se **Ø**-q^{w}ə-s-fə-laʒə
Ali-ABS I **3SG**-CIS-1SG-BEN-study
'Ali studies for me.'

(i) Ditransitives with P$_{have}$:



Harley (1997, 2002) assumes that there is real *having*-relation between patient and recipient/beneficiary. Thus, the IO should be animate, existent and receiving. As shown in (ii)-(iv), beneficiaries/recipients can be non-existent, non-receiving, and inanimate.

(ii) Ali-jəm jɪ-ʃfyzə pasta fə-r-ʃ'efə-ʁ.
Ali-OBL POSS-wife cake BEN-3SG-buy-PST
'Ali bought a cake for his wife (but he is actually not married.)'

(iii) Ali-jəm jɪ-ʃfyzə pasta fə-r-ʃ'efə-ʁ.
Ali-OBL POSS-wife cake BEN-3SG-buy-PST
'Ali bought a cake for his wife (but he gave it to his mother.)'

(iv) a. txaq'ə-m txəɬə-r aɬmãnjã-m jə-tə-ʁ
author-OBL book-ABS Germany-OBL 3SG-give-PST
'The author gave the book to Germany.'

b. txaq'ə-m txəɬə-r Ali-jəm rə-tə-ʁ
author-OBL book-ABS Ali-OBL 3SG-give-PST
'The author gave the book to Ali.'

e. Ps'as'e-r jeʒ'-ər Ø-zə-χonə.
girl-ABS self.3SG-ABS **3sg**-REFL-curse
'The girl curses herself.'

f. wo se Ali-jəm sə-Ø-w-o-tə.
2SG 1SG Ali-OBL 1SG-**3SG**-2SG-DYN-give
'You give me to Ali.'

If a 3rd person prefix is co-indexed with the subject of a ditransitive/benefactive, however, it is overtly expressed by *r(ə)-*, see (14).[11]

(14) *3rd person subject prefix in ditransitives / benefactives*

a. Hasan-əm wo se wə-q^{w}ə-sə-**r**ə-tə.
Hasan-OBL 2SG 1SG 2SG-CIS-1SG-**3SG**-give
'Hasan gives you to me.'

b. Sine-m wo se wə-q^{w}ə-s-fə-**r**-ʃ'efə-ʁ
Sine-OBL you I 2SG-CIS-1SG-BEN-**3SG**-buy-PST
'Sine bought you for me.'

Note further that 3SG applied objects can be co-indexed with *jə-* instead of ∅-, when cross-referencing an indefinite object, as in (7-g) for example. This observation parallels the *je-/ze-* alternation of object prefixes in Karbadian which is argued to depend on the definiteness/specificity properties of the co-indexed object (Kumakhov and Vamling 2009: 43). These effects are not entirely surprising given that *Differential Object Marking* on nouns is well documented for Circassian dialects (Kumakhov et al. 1996, Lander and Testelets 2006, Kumakhov and Vamling 2009, Arkadiev and Testelets 2019). We take the ∅-/*jə-* allomorphy to serve as a potential argument for clitichood, under the assumption that Preminger's *coarseness property of clitic doubling* (2014: 15) can be extended to definiteness features. The interaction of DOM and clitic doubling is widely attested, see e.g. Leonetti (2008) and Ordóñez and Roca (2019) for Spanish varieties and Romanian.[12] The second argument relates to the observation that the dative and the absolutive markers form a natural phonological class to the exclusion of ergative agreement prefixes. Evidence for this generalization comes from two different contexts, in which the very same underlying phonological structure maps onto two different surface forms depending on the argument indexed by the pronominal markers involved. This differential phonological behaviour of dative and absolutive markers on the one hand and ergative markers on the other hand allows implications about the underlying syntactic structure of the word. Specifically, Smeets (1984) assumes that all agreement markers, independent of the semantic role they index, start out with the same underlying forms, but end up in different

[11] This generalization does not carry over to plural contexts, as 3PL applied objects and ergative subjects are overtly expressed by the prefix *a-*, while 3PL absolutive arguments are optionally expressed by the suffix -χə (Arkadiev et al. 2009: 42-45). We refrain from providing an account for plural contexts, as there are a number of pecularities concerning number morphology and interpretation in Adyghe, the prefix/suffix split being one of them. Further puzzling properties can be found in different variants of plural nominal marking including multiple exponence (Kumakhov et al. 1996: 4, Harris 2017: 237-238) as well as an attested number neutral interpretation of unmarked nouns for a subset of Adyghe speakers (Arkadiev and Testelets 2019: 730).

[12] A reviewer remarks that most modern researchers analyze *jə-* (*je-* in Temirgoy) either as specialized dative applicative morpheme or alternatively as the segmented string *j-e-*, where *j-* is 3sg, and *e-* is the dative applicative marker. This assumption does not contradict our generalization, since the homophony of dative and DOM markers is well known across languages, most prominently discussed for Spanish (Torrego 1998, Leonetti 2004) and Hindi (Bhatt and Agnostopoulou 1996), see Bárány (2018) for an overview.

shapes on the surface, since they undergo different phonological processes depending on their relative distance to the verb. The first context where this becomes visible are structures in which voiceless obstruents precede nasals, as illustrated in (15). The example in (15-a) shows the underlying form of a word in which the 1SG ergative marker /*s*/ indexing the agent argument precedes a root starting with /*n*/, thus resulting in a consonant cluster /*sn*/. In (15-b), this consonant cluster is resolved by epenthesis of an epenthetic vowel ə. In (15-c), the 1SG dative marker /*s*/ indexes an applicative argument and attaches to the left of a locative applicative /*ne-*/, resulting in the very same consonant cluster /*sn*/. In (15-d), the consonant cluster is not resolved, but the agreement marker undergoes voicing assimilation with the nasal. In sum, the same marked underlying phonological structure of a voiceless obstruent followed by a nasal in (15-a) and (15-c) is resolved for the ergative case through epenthesis (15-b) and for the object case through assimilation (15-d).

(15) *Differential resolution of obstruent-nasal clusters* (Smeets 1984: 193f.)

a. /xə̂-**s-ne**-št/
b. [xə̂-**s**ə-**ne**-št]
LOC-1SG-leave-FUT
'I will leave it in it.'
c. /qə-**s-ne**-sə-ʁ/
d. [qə-**z-ne**-sə-ʁ]
INV-1SG-LOC-arrive-PST
'He arrived at my place.'

The second context which reveals differential phonological behaviour of ergative markers as opposed to object markers are structures in which the voiced labiovelar /w/ precedes voiceless obstruents. If /w/ is an ergative marker indexing an agent argument, it undergoes voicing assimilation to the following obstruent. This is shown in (16-a) and (16-b), which illustrate a context where the pronominal marker /w-/ indexing an agent argument immediately precedes the verb root, which starts with a voiceless obstruent /t/. In that context, the input cluster /w-t/ in (16-a) triggers voicing assimilation of the labiovelar, thus resulting in the surface form /p-t/ in (16-b). In the examples in (16-c) and (16-d), in contrast, the person marker indexes an absolutive argument, since the predicate ɕtɛ 'to fear' is an applicative intransitive, as discussed in more detail in section 6.1. The underlying consonant cluster in (16-c) is /w-ɕ/ with the labiovelar immediately preceding a voiceless obstruent, similarly to the underlying cluster in (16-a).[13]

(16) *Differential resolution of w-obstruent clusters*

a. /qʷə-se-**w-t**ə-ʁ/
b. [qʷə-se-**p-t**ə-ʁ]
CIS-1SG-2SG-give-PST
'You gave him to me.'
c. /**w**-ɕtɛ-ʁ/

[13]This phonological process is only visible in past contexts, since the verb stem is typically preceded by the dynamic marker /e-/ in present tense contexts- Consequently, assimilation never applies in present tense, since there is no consonant cluster to begin with. This is reminiscent of the assumption by Nevins (2011) that only agreement affixes vary with tense, while clitics are tense-invariant. In the case of Adyghe, this allomorphy is entirely phonologically conditioned, while Nevins (2011) remains agnostic about the exact trigger of the allomorphy.

d. [**w**ə-ɕtɛ-ʁ]
2SG-fear-PST
'You were afraid.'

The fact that the same marked underlying structure maps onto two different phonological structures on the surface depending on the relative distance of this marked structure to the verbal stem suggests that dative and absolutive markers belong to a different morphophonological domain than ergative markers. This separation suggests a layered structure of the morphophonological word with the inner layer facing a different phonological grammar than the outer layer. Recent work by Kiparsky (2000), Bermúdez-Otero (2011, 2016) and Newell and Piggott (2014) assumes that these phonological domains correspond to underlying morphosyntactic constituents. Under these assumptions, it follows that the ergative markers enters the syntactic structure earlier than the dative and the absolutive markers. It is commonly assumed that clitics attach at a later level (often, a post-lexical level) than agreement affixes (Kaisse 1985, 1990, Clark 1990, McHugh 1990, Rubach 2011, 2016, Jones 2014, Gjersøe 2016, Jaker and Kiparsky 2020). Consequently, the ergative affixes cannot be considered clitics, while the object markers can. This conclusion is also in line with the observation by Bermúdez-Otero and Luís (2009), who illustrate that proclitics in Portuguese undergo different and crucially, less invasive phonological processes than prefixes. We take this differential phonological behaviour of ergative prefixes on the one hand and dative and absolutive markers on the other hand to be evidence that ergative markers cannot be clitics while dative and absolutive markers can.
Our analysis for the remainder of section 4 will follow the intuitions by Arregi and Nevins (2008) and Nevins (2011) that person hierarchy effects emerge only with clitic doubling.[14] This will eventually derive the fact that subjects of ditransitives/benefactives never enter the valuation for PCC effects, in contrast to subjects of applicative intransitives.We hypothesize that the status of clitic doubling vs. pure ϕ-Agree is linked to case assignment since the latter correlates with ergative case. With our analysis, we will depart from previous work on the verbal morphology of Adyghe, specifically the most recent proposals by Ershova (2019, 2020a). A system where each person prefix results from Agree with a dedicated functional head – either via Agr projections (Ershova 2019: 39-42) or spec-head Agree (Ershova 2020a: 12) – will not be able to derive interactions between person features. Instead, we propose v to be the locus of all ϕ-feature licensing. Not only will this enable multi-valuation PCC/inverse theories to derive the desired effects, it also provides a natural explanation for the prefix order.

4.2 Deriving inverse and reverse PCC effects

In this section, we capitalize on the observations made in the previous section and relate them to the inverse and reverse PCC patterns found in Adyghe. In line with many accounts on cliticization (Anagnostopoulou 2003, Rezac 2008a, Preminger 2019, Coon and Keine 2020), we distinguish ϕ-agreement, which is achieved by pure copying of ϕ-features from goal to probe, from clitic doubling as the result of ϕ-Agree followed by some form of pronominalization. Since clitic doubling must also take place in spec-head configurations, we refrain from implementing pronominalization as head movement

[14] This assumption is at odds with the PCC analysis of the person restrictions found on agreeing nominative object pronouns in quirky subject constructions in Icelandic (Anagnostopoulou 2003, 2005, 2017).

(Uriagereka 1998, Cecchetto 2000, Belletti 2005, Preminger 2019, among many others). Instead, we follow Preminger (2014) in analyzing clitic doubling as an Agree operation that leads to copying of ϕ-features to a head-adjoining pronominal clitic.
The presence of ϕ-agreement is tied to the assignment of ergative case. Specifically, we argue that ϕ-agreement between a subject and v can be a reflex of ergative case assignment. This type of *Parasitic Agree* finds many predecessors, e.g. Chomsky (2001), Rezac (2004), Heck and Richards (2010), Danon (2011), Kotek (2014), Stegovec (2020), among many others. For concreteness, we adopt the definition in (17). The relevant operations for the ditransitive/benefactive structures are shown in (18) where the notation indicates that features come in *stacks* (Stabler 1997, Müller 2009), that is syntactic operations are ordered and always triggered by the highest active feature on the stack. Ergative case assignment takes place before clitic movement, ensuring that the prefix co-referencing the subject occurs closest to the verbal stem.

(17) *Parasitic Agree in stacks* (cf. Stegovec 2020: 278)

If Agree holds between heads X and Y for any active feature on a stack, then every next unvalued feature on the stack of X or Y must be valued by any matching features on the other element regardless of the direction of valuation.

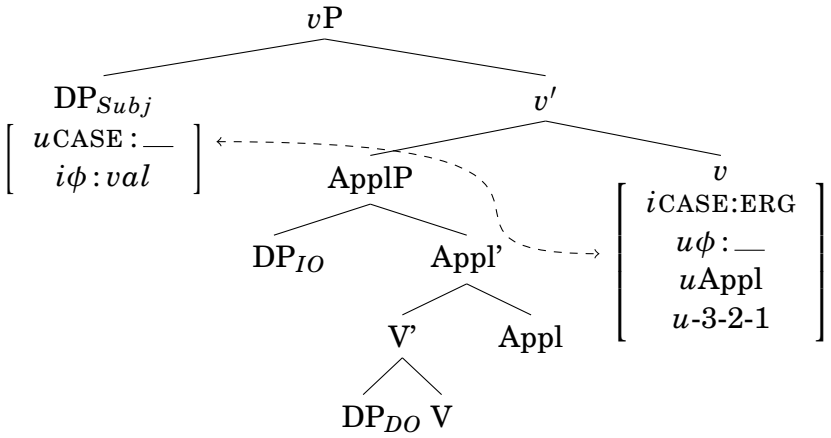
In (18-a), v assigns ergative case to the subject with subsequent valuation of v's ϕ-features. Since the external argument becomes inactive for all subsequent Agree operations, it will not take part in any person restriction evaluations. Moreover, Parasitic Agree does not affect the clitic doubling probe [u-3-2-1] in (18-a), that is the elaborate probe is not valued by the ϕ-features of the ergative subject. We propose that this follows naturally from the nature of the stack. The definition in (17) predicts that valuation proceeds only until [$u\phi$] in (18-a). Parasitic Agree stops, as [uAppl] does not find matching feature on the ergative subject. Since the clitic doubling probe only becomes active after [uAppl] has been discharged, the lower part of the stack is shielded from Parasitic Agree. The next step is shown in (18-b) where Appl moves to v checking [uAppl], which is eventually spelled out as *fə-* for Appl_{ben}. The last feature on the stack is the elaborate probe [u-3-2-1] triggering clitic doubling, shown in (18-c). Already forshadowing our analysis in section 4.3, we take over the notation for elaborate probes from Béjar and Rezac (2009). The probe will enter Agree with the applied object first and then with the internal argument, resulting in the correct clitic order if each of the Agree cycles triggers clitic doubling to v. Since both inverse and PCC patterns are stricly descending, the probe must be highly articulate.[15,16]

[15] Further syntactic operations not shown in (18) are inherent case assignment of oblique case by Appl and absolutive case assignment by T. Parasitic Agree does not apply for these heads since they do not come with a ϕ-probe. It is an open question at this point why transitive v and specifically Appl are encoded differently wrt. to the presence of a ϕ-probe since both heads assign case in a spec-head configuration.

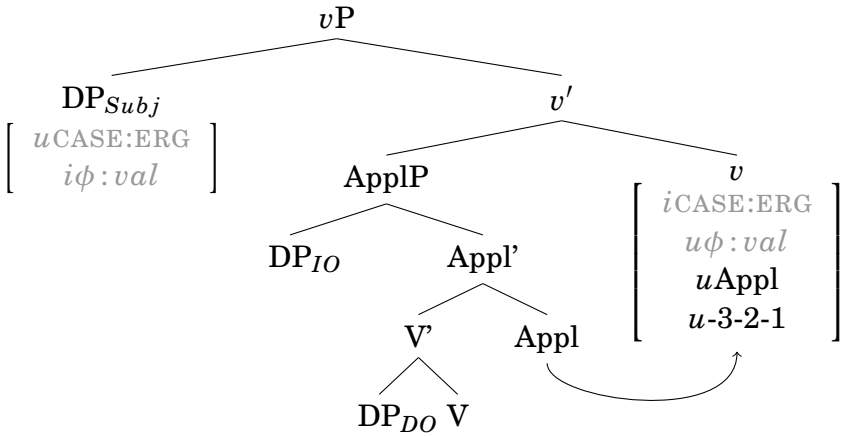
[16] A reviewer remarks that the analysis proposed here is potentially at odds with the universal implication put forward in Bobaljik (2008: 305-306): if a language shows agreement with the ergative argument, it will also show agreement with the absolutive argument. Our analysis, however, states pure agreement happens only with the ergative argument. It is at this point unclear whether Bobaljik's cross-linguistic observations for agreement include clitic-doubling. If so, we think Adyghe classifies as a language where each argument (ergative, absolutive, oblique) undergoes some form of agreement with the verb. Thus, the pattern is in line with Bobaljik's universal implication.

(18) *Ditransitives and benefactives: Cl_{DO}-Cl_{IO}-(BEN-)Agr_{Subj}-V*

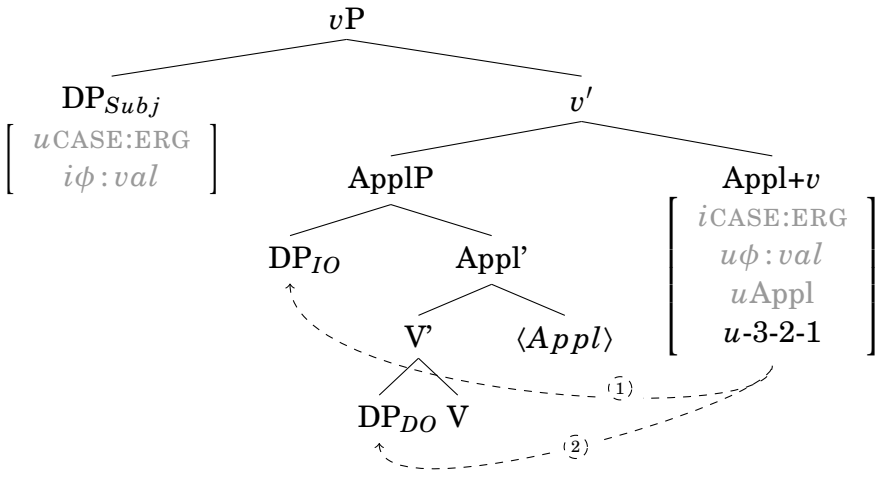
a. *Ergative case assignment and Parasitic ϕ-Agree*



b. *Appl-to-v movement*



c. *Clitic doubling*



Before we discuss the inverse pattern for applicative intransitive, we will first investigate where the absolutive argument is first merged. Ershova (2020a) provides evidence based on reflexive binding that within applicative unergatives the absolutive subject asymmetrically c-commands the applied object. In (19), we see another example of an absolutive-oblique structure. Recall from (6) that the prefix cross-referencing the absolutive subject precedes the prefix cross-referencing the applied object. Crucially, only the oblique slot

on the verb in (19) can be replaced with the reflexive marker, not the absolutive slot.

(19) *Binding asymmetries for ŝ^{w}e 'dance'* (Ershova 2020a: 16)

a. *pro refl* wə-qə-z-d-e-ŝ^{w}e-ž'ə
2SG.ABS-DIR-REFL.IO-COM-DYN-dance-RE
'You are dancing with yourself.'

b. **refl pro* zə-qə-b-d-e-ŝ^{w}e-ž'ə
REFL.ABS-DIR-2SG.IO-COM-DYN-dance-RE
Intended: 'You are dancing with yourself.'

As expected, the same binding asymmetries can be found for the applicative intransitive structure in (6), shown in (20). We therefore conclude that the absolutive argument is first merged in spec,*v*P.

(20) *Binding asymmetries for wo 'beat'*

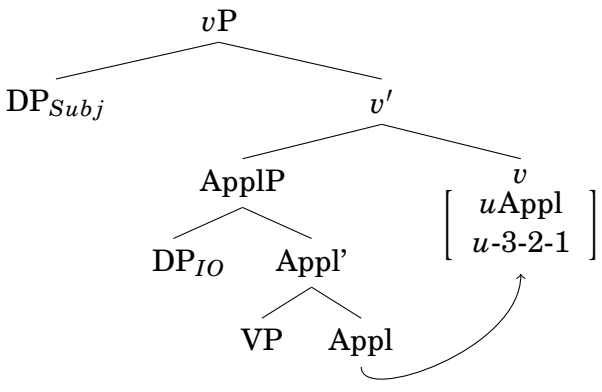
a. *pro refl* sə-zə-wo.
1SG.ABS-REFL-beat
'I am beating myself.'

b. **refl pro* zə-sə-wo.
REFL.ABS-1SG.IO-beat
Intended: 'I am beating myself.'

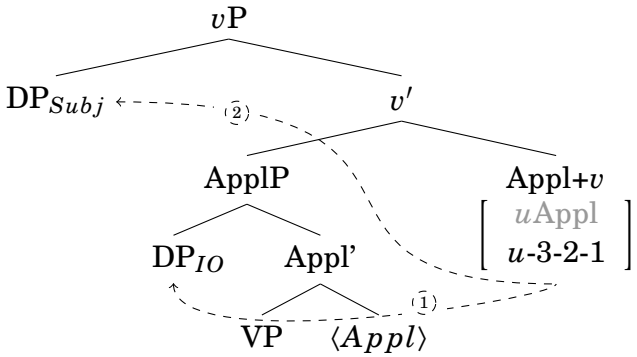
Both canonical inverse as well as reverse PCC scenarios can be characterized by an IO preference – helpful terminology adopted from Deal (2020). In other words, a probe undergoing multi-valuation encounters the IO first. If the IO is more prominent than either the DO in ditransitives/benefactives or the subject in applicative intransitives, a PCC/inverse repair is needed. The structure in (21-b) models this interaction by adopting cyclic expansion, that is the probe can enter Agree with the subject upon projection (Béjar and Rezac 2009: 48). As in (18), the order of argument-referencing prefixes follows straightforwardly if each ϕ-Agree cycle triggers clitic doubling. Independent evidence for the clitic status is given in section 4.1. Crucially, subjects of applicative intransitives are marked for absolutive case, indicating that v does not assign ergative in (21). Hence, there is no possibility of Parasitic Agree like in (18-a) so that the person features must be licensed via clitic doubling.

(21) *Applicative intransitives: Cl_{Subj}-Cl_{IO}-V*

a. *Appl-to-v movement*



b. *Clitic doubling*



As was already hinted at throughout this section, our analysis derives the prefix orders for all three paradigms introduced in section 2 without further ado. The split between clitic doubling on the one hand and exponents resulting from ϕ-Agree with ergative subjects on the other introduces a distinction that can explain why prefixes cross-referencing ergative arguments occur closest to the stem. Under the assumption that features are stacked and case assignment is ordered before clitic doubling, we derive the correct prefix slot for ergative subjects. The outermost status of the absolutive prefix slot follows from the fact that the absolutive argument is always the last to enter Agree with the probe for clitic doubling. Crucially, our analysis does not rely on a morphological template, in stark contrast to most previous analyses (Kumakhov 1964, Smeets 1984, Paris 1989, Lander and Testelets 2017, Arkadiev and Testelets 2019, Arkadiev 2020, Ershova 2020a). We follow the argumentation by Rice (2000, 2011) and Inkelas (2016) in that we argue that grammatical explanations to morphological phenomena such as affix order should be preferred to morphotactic explanations since arbitrary, morphological rules decrease the predictive power of the theoretical model (see Good 2016 for discussion). Our proposal rather dovetails with the analyses in Korotkova and Lander (2010) as well as Ershova (2020b), where the suffixal morpheme order is analyzed as a reflex of semantic scope and where the argument referencing prefixal zone is left to future research. Our account complements these works by providing syntactic arguments for the prefixal morpheme order based on the distribution of the cislocative.[17]

In the next section, we will provide detailed derivations of the direct-inverse scenarios as well as the reverse PCC effects by making use of the Cyclic Agree account proposed by Béjar and Rezac (2009). It should be pointed out, however, that the multi-valuation Agree model put forth in Deal (2020) is equally equipped to derive the Adyghe patterns – perhaps expectedly so since it is partially inspired by the Cyclic Agree model.[18] In both systems, ϕ-features are geometrically structured and Agree can happen with more than one goal, depending on probe specifications as well as derivational timing. In the interest

[17] Ershova (2019, 2020a, 2021) takes the outermost absolutive prefix slot to be indicative of obligatory A-movement of the absolutive argument to spec,TP. In other words, Adyghe is argued to be a high-absolutive language. Independent evidence comes from reciprocal binding and parasitic gap licensing. Our analysis is fully compatible with the possibility that Adyghe is a high absolutive language. We do not, however, argue that the position of the prefix slot cross-referencing the absolutive argument can be taken as evidence for it.

[18] Capitalizing on the idea that Agree essentially creates redundant information, Deal (2015a, 2020) proposes two restrictions on the Agree operation, an *interaction* condition which restricts the features which participate in transfer from goal to probe, and a *satisfaction* condition which halts probing. With this, Deal departs from standard valuation accounts in which probes are defined by unvalued features which have to be checked by their valued counterparts, otherwise the derivation crashes.

of space, we focus on the Cyclic Agree model in this paper.

4.3 Cyclic Agree

Essential for the Agree mechanism by Béjar and Rezac (2009) is a geometry-based feature structure that reflects natural classes as well as entailment relations (Harley 2002, Béjar 2003). In (22), it is shown how privative person features are organized into hierarchically ordered structures.

(22)

PERSON ENTAILMENTS		
3rd	2nd	1st
π	π	π
	PART	PART
		AUTH

Variation wrt. PCC/inverse patterns are implemented by manipulating the specifications of the probe responsible for person licensing, see (23). Goals less specified than the probe will partially match the probe's feature specification, in which case the probe can undergo another Agree cycle and license a second goal. The probe in Adyghe is maximally specified, where [u-3-2-1] is a shorthand for [u-π-PART-AUTH].

(23)

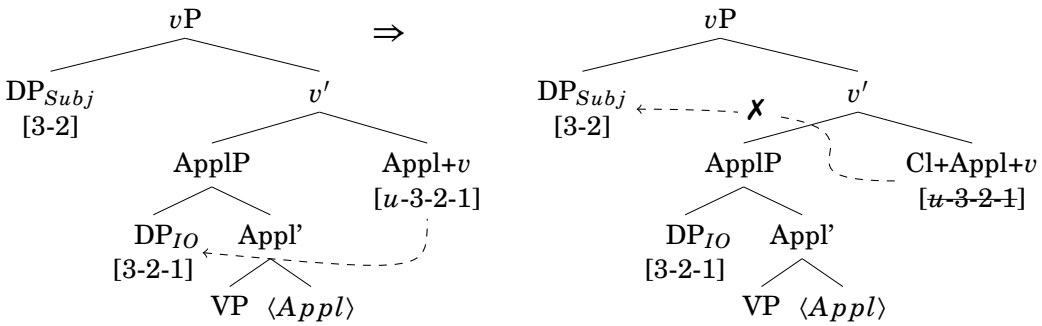
PROBES IN BÉJAR AND REZAC (2009)		
PATTERN	PROBE	LANGUAGES
no restriction	[u-3]	Swahili, Abkhaz, Choctaw, English, ...
strong	[u-3-2]	Basque, Georgian, Greek, ...
ultrastrong	[u-3-2-1]	Mohawk, Kashmiri, **Adyghe**, ...

Finally, a generalized PLC (24) that captures interactions between all three persons triggers a repair operation whenever the articulated probe does not interact with all arguments that need licensing.

(24) *Person Licensing Condition* (Béjar and Rezac 2009: 46)
A π-feature [F] must be licensed by Agree of some segment in a feature structure of which [F] is a subset.

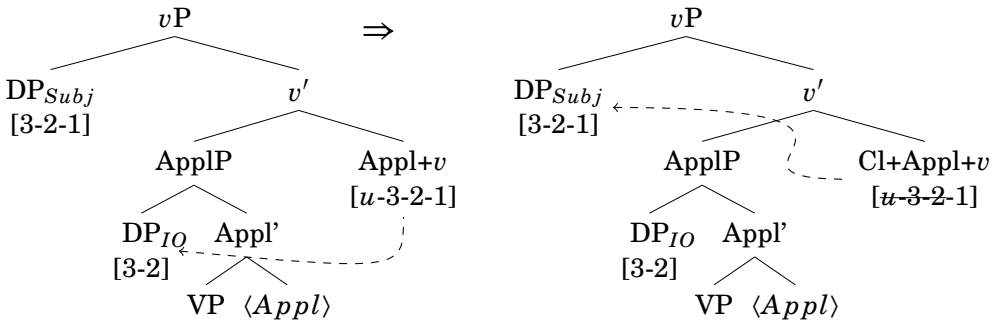
Let us start with the applicative intransitive contexts. For a 2 > 1 scenario, as shown in (6-b) for example, [u-3-2-1] probes down and finds a 1st person object, thus specified as [3-2-1], which fully matches the probe's specification. Since the probe is now fully deactivated, it does not Agree with the subject and the cislocative emerges as a repair to license the subject. An illustration is given in (25).

(25) *Applicative intransitives: 2 > 1*



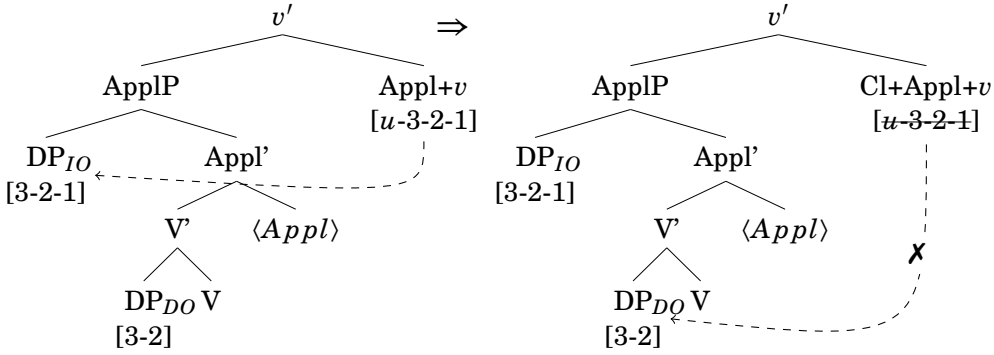
The opposite 1 > 2 scenario in (6-a) where the cislocative does not occur is presentend in (26). The [u-3-2-1] probe searches down and finds a 2nd person object, specified as [3-2] and thereby only partially matching the probe's specification. Matching does not require full identity, it suffice for a goal to be identical to a subset of the probe's segments (Béjar and Rezac 2009: 45). The first Agree-cycle leaves a residue on the probe which in turn enables the probe to search upwards and license the subject. It is important that the external argument is higher in the person hierarchy as it needs to match a segment in the probe that has not been deleted yet.

(26) *Applicative intransitives: 1 > 2*



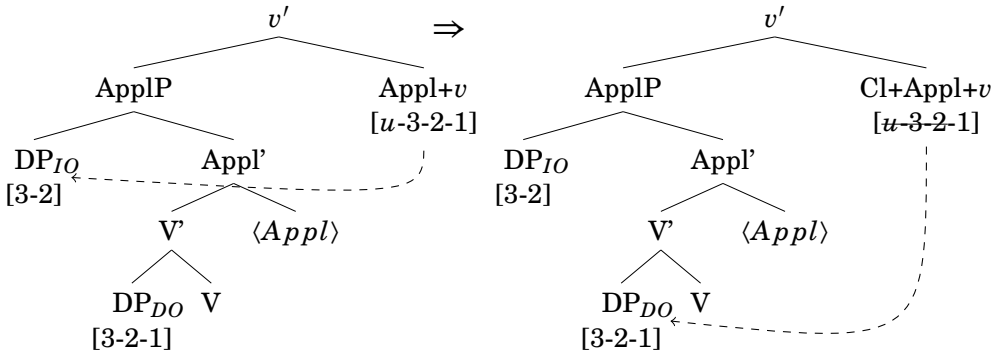
The PCC contexts can be derived in a similar way. Take the ditransitive 2 ≻ 1 context in (7-a) for example, shown in (27). The probe encounters a 1st person IO first, thereby fully matching [u-3-2-1] on v which in turn results in a repair configuration since the DO is not licensed.

(27) *Ditransitives / benefactives: 2 ≻ 1*



In the mirror 1 ≻ 2 context in (7-b), shown in (28), the [u-3-2-1] probes sees a 2nd person IO which partially matches the probe, leading to further probing downwards where it licenses the DO.

(28) *Ditransitives / benefactives: 1 ≻ 2*



The contexts involving 1st/2nd person and 3rd person can be derived very similarly and are therefore not shown here. In the next section, we will address *3-on-3* scenarios and the implementation of the repair.

4.4 On the nature of the directional marker

Up to this point, we assumed that the insertion of the cislocative marker instantiates a repair for inverse and PCC contexts. This claim aligns in spirit with previous work which has taken inverse marking (DeLancey 1981, Bliss 2013, Wiltschko 2014, Zubizarreta and Pancheva 2017) as well as PCC repairs (Charnavel and Mateu 2015, Pancheva and Zubizarreta 2018) to be rooted in grammatical perspective marking. Moreover, the connection between person hierarchy restrictions and the licensing of perspectival centers is empirically motivated. The grammaticalization from cislocative/directional markers to inverse markers is well-documented for the language Nez Percé (Sahaptian), as discussed in Rude (1991, 1997), Zúñiga (2002, 2006), Deal (2015b), and illustrated in (29) where *-(í)m* acts as a directional marker, while in (30), the same morpheme is used to indicate an inverse pattern.[19] The same grammaticalization path is also being reported for the Kuki-Chin languages (Sino-Tibetan) as well as some languages where the grammaticalization process is well under way such as Japanese (Shibatani 2003), see Jacques and Antonov (2014) for more references. Moreover, Arkadiev (2020) shows how a cislocative acts as an inverse marker in Georgian, a language geographically close to Adyghe.

(29) *Sahaptian cislocative marker as a directional marker* (Rude 1997: 121)

a. I-wínan-a.
3SG-go-PST
'He went.'

b. I-wínan-m-a.
3SG-go-CIS-PST
'He came.'

(30) *Sahaptian cislocative as an inverse marker* (Rude 1997: 121)

a. Héexn-e.
see-PST
'I saw you.'

[19] Both markers originate from Proto-Sahaptian *-ím, as noted by Rude (1997).

b. Hexn-ím-e.
see-INV-PST
'You saw me.'

Another aspect in which the cislocative in Adyghe resembles an inverse repair is its sensitivity to the proximate/obviative distinction on arguments. Since the inverse marker is traditionally seen as a means to disambiguate grammatical relations, *3-on-3* scenarios necessitate another distinction. In line with the person hierarchy, proximate arguments are ordered higher than obviative arguments, as they are closer to the deictic center. We repeat the 3 > 3 contexts from section 2 and pair them with the mirror context in (31), (32), and (33) respectively.

(31) *Applicative intransitives: 3 > 3* (Özdemir 2020: 10)

a. Mehmet-ɪr tʃ'ale-gore-m jə-wo.
Mehmet-ABS boy-some-OBL 3SG-beat
'Mehmet is beating some boy.' AG: PROX, GOAL: OBV, ✗ CIS

b. tʃ'ale-gore-r Mehmet-ɪm qʷə-wo.
boy-some-ABS Mehmet-OBL CIS-beat
'Some boy is beating Mehmet.' AG: OBV, GOAL: PROX, ✓ CIS

(32) *Ditransitives: 3 > 3* (Özdemir 2020: 11)

a. se tʃ'ale-gore-r Mehmet-ɪm qʷə-s-o-tə.
1SG boy-some-ABS Mehmet-OBL CIS-1SG-DYN-give
'I am giving some boy to Mehmet.' REC: PROX, PAT: OBV, ✓ CIS

b. se Mehmet-ɪr tʃ'ale-gore-m jə-s-o-tə.
1SG Mehmet-ABS boy-some-OBL 3SG-1SG-DYN-give
'I am giving Mehmet to some boy.' REC: OBV, PAT: PROX, ✗ CIS

(33) *Benefactives: 3 > 3*

a. Sine-m tʃ'ale-gore-r Ali-jəm qʷə-fə-r-ʃ'efə-ʁ.
Sine-OBL boy-some-ABS Ali-OBL CIS-BEN-3SG-buy-PST
'Sine bought some boy for Ali.' BEN: PROX, PAT: OBV, ✓ CIS

b. Sine-m Ali-jər tʃ´ale-gore-m fə-r-ʃ'efə-ʁ.
Sine-OBL Ali-ABS boy-some-OBL BEN-3SG-buy-PST
'Sine bought Ali for some boy.' BEN: OBV, PAT: PROX, ✗ CIS

We can capture the proximate/obviative distinction by extending the person hierarchy along the lines of Oxford (2019: 962), shown in (34). This extension can be readily implemented for the Cyclic Agree system discussed in section 4.3. The probe in Adyghe would have to be specified as [*u*-3-PROX-2-1].

(34)

PERSON ENTAILMENTS			
3rd,obv	3rd,prox	2nd	1st
π	π	π	π
	PROX	PROX	PROX
		PART	PART
			AUTH

While both the nature of the repair as well as the proximate/obviative sensitivity point to an inverse language, there is one striking aspect in which the distribution of the cislocative patterns with PCC languages. Inverse morphology with ditransitive verbs is de-

termined by the person features of the subject and the indirect object (Bliss et al. 2020) – see Klaiman (1992) for Arizona Tewa (Kiowa-Tanoan), DeLancey (2013) for Bawn (Sino-Tibetan), Rhodes (1994), Valentine (2001), Zúñiga (2002), Wunderlich (2005), Lochbihler (2008) for Algonquian languages, and Rude (2009) for Sahaptin. We demonstrate the interaction with Ojibwe, an inverse language with a *2 > 1 > 3* hierarchy (Valentine 2001). The relevant part of the paradigm is given in (35), where the inverse marker *-in* occurs in a *2 > 1* (35-b) since the subject outranks the object on the person scale. Both (35-a) and (35-c) present direct scenarios, where morphology additionally distinguished between interactions between local person and non-local person.

(35) *Ojibwe's inverse system* (Valentine 2001: 270-271)

a. g-waabam-i
2-see-DIRECT(LOCAL)
'You see me.'

b. g-waabm-in
2-see-INVERSE(LOCAL)
'I see you.'

c. g-waabm-aa
2-see-DIRECT(NON-LOCAL)
'You see him.'

Lochbihler (2008) provides the following contexts showing that the interaction relevant for the distribution of the inverse marker is exclusively tied to the subject and the indirect object. The constellation in (36-a) can be construed in parallel to (35-a), the same goes for (36-b) and (35-b). If the interaction were to take place between indirect object and direct object, we would expect the directive marker *-aa* in (35-c) to occur in (36-b). Instead, we see inverse marker *-in*, suggesting that it encodes person restrictions between subject and indirect object.

(36) *Ojibwe's inverse system for ditransitives* (Lochbihler 2008: 309)

a. gi-gii-miin-i emkwa:nes
2-PST-give-DIRECT(LOCAL) spoon
'You gave a spoon to me.'

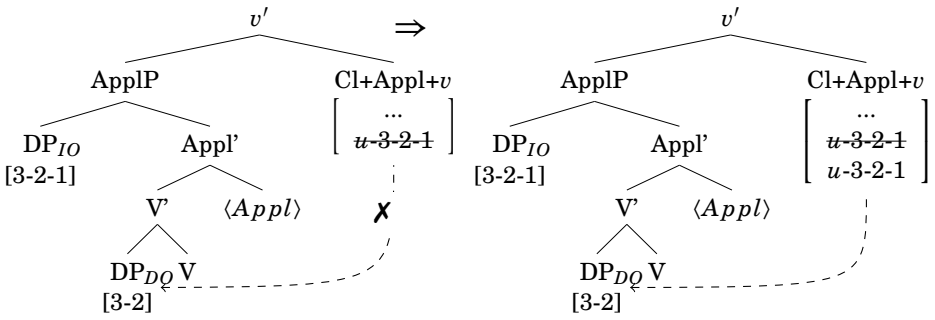
b. gi-gii-miin-in emkwa:nes
2-PST-give-INVERSE(LOCAL) spoon
'I gave a spoon to you.'

As section 2 has shown at length, the Adyghe cislocative tracks interactions between IO and DO throughout paradigms of three-place-predicates. Hence, we conclude that the cislocative repair behaves like a genuine PCC repair, in addition to an inverse repair in applicative intransitives. Together with the fact that the cislocative indicates direction within intransitive clauses, recall (5), Adyghe provides evidence for an underlying core trigger for PCC and inverse effects which is related to point of view centers, thereby supporting the main claim put forth in Pancheva and Zubizarreta (2018). Glossing over the details of their theory, Pancheva and Zubizarreta (2018) propose that agents in inverse languages and goals/experiencers in PCC languages instantiate logophoric centers via spec-head Agree with v and Appl. The logophoric roles are tied to interpretable person features on the respective heads. Since Appl/v undergo downward Agree with the direct object as well, a number of adjustable filters ensure that only certain person combinations

are allowed, depending on the PCC/inverse pattern in question. The authors specifically argue that the thematic role will be decisive in whether an argument can qualify as a logophoric center, implying that themes/patients are unsuitable to do so (Pancheva and Zubizarreta 2018: 1319-1320). This assumption derives the overall priviledged status of the indirect object in PCC scenarios and the subject in inverse systems. The universal connection between logophoric centers and specific types of theta roles, however, is not reflected in the Adyghe data since the person hierarchy relations are reversed for PCC configurations. This would imply that it is the theme/patient in Adyghe that can exceptionally serve as the point of view. In light of this unexpected cross-linguistic contrast, we will propose a different way to connect the directional nature of the repair to person restrictions.

In order to capture the distribution of the cislocative in applicative intransitives, ditransitives, and benefactives, we would like to submit that the cislocative acts as an abstract person licenser, in the spirit of Béjar and Rezac (2003, 2009). Together with the PLC in (24), the repair is predicted to occur in contexts where an argument has not undergone an Agree relation for person features with v. We adopt the *added probe strategy* (Béjar and Rezac 2009: 58-64) in which an additional probe is inserted if it leads to licensing of the subject or the direct object, respectively.[20] This is exemplarily shown for the repair context from (27), repeated here in (37). As can be seen in the tree on the left, the IO has already fully matched the core probe on v, leaving the DO unlicensed. The added probe in the tree on right enables licensing of the DO, resulting in clitic doubling as well as a morphological reflex in the form of the directional marker. Specifically, we argue that the cislocative spells out a person probe in the context of another person probe, see (38). Note that the occurrence of the cislocative is independent of clitic doubling since both core probe and added probe trigger head adjunction of the respective clitic with each Agree cycle, in addition to matching their segments. Furthermore, we assume with Preminger (2009, 2014) that clitic doubling of the indirect objects prevents it from acting as an intervener for any further Agree operation, in this case with the direct object.[21,22]

(37) *Repair for 2 ≻ 1*



[20] Another recent application of the added probe strategy can be found in Kalin (2018).

[21] A similar notion of repair is in principle also compatible with Deal (2020).

[22] Béjar and Rezac (2009: 56) assume that a probe can only be added upon projection, that is v' is the locus for insertion of an added probe. While this assumption is compatible with the repair scenarios of applicative intransitives, it does not extend to PCC repairs since they do not involve cyclic expansion, that is projection to v'. There is nevertheless a way to predict probe insertion for the Adyghe data since in our account person hierarchy restrictions arise via head-adjunction of clitics. If adjunction involves projection and not only distinct labeling (Chomsky 1995, Hornstein and Nunes 2008), the original condition on probe insertion can be maintained. Each clitic doubling cycle involves projection, and thus creates the necessary condition for inserting an added probe.

(38) *VI for cislocative in Adyghe*

/ q^wə- / ↔ [*u*-3-2-1] / [*u*-3-2-1]

Interestingly, the notion of an abstract licenser can be extended to the intransitive contexts in (5), where the person licenser triggers the interpretive effect of direction marking. The addition of the cislocative in (5-b) adds the meaning component that the movement expressed by the verb is directed towards the perspective center of the utterance. We provide examples for the *come*/*go* alternation in (39) from the Shapsug dialect of Adyghe.

(39) *Come*/*go alternation by the cislocative*

a. Se s-o-k'o / sə-q^wə-k'o.
I 1SG-DYN-go / 1SG-CIS-go
'I am going / coming.'

b. Wo w-o-k'o / wə-q^wə-k'o.
I 2SG-DYN-go / 2SG-CIS-go
'You are going / coming.'

c. Sine-r ma-k'o / q^wə-k'o.
Sine-ABS DYN-go / CIS-go
'Sine is going / coming.'

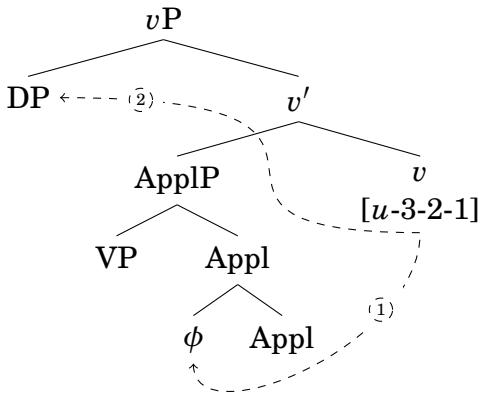
We propose that perspective centers can be analyzed as non-overt arguments that enter the computation for person licensing like any other argument. Hence, even in intransitive structures, the cislocative licenses an argument, albeit an implicit one, that is the addition of a perspective center. Since this is an argument in favour of the PLC, it also serves as an argument against PCC approaches that explicitly abandon the PLC, such as Coon and Keine (2020).

In a recent survey, Bhatt and Pancheva (2017) report on a variety of environments which indicate the presence of implicit arguments, including passives, middles, implicit arguments of nouns, arbitrary control, and evaluative predicates. Charnavel (2018, 2019) argues explicitly for deictic motion verbs such as the *come*/*go* alternation to require a silent logophor as an implicit argument, which in turn licenses exempt anaphora in French and Mandarin. One of the main motivations to question the silent pronoun analysis is its seeming resistance to be overtly realized as a pronoun (Partee 1989, Bylinina et al. 2015). Thus, perspectival restrictions on the goals of motion verbs are often encoded as presuppositions of the motion verbs themselves without assuming an implicit argument (Oshima 2006, Sudo 2015). Adyghe, being a *pro*-drop language, faces another version of this criticism since the implicit arguments in (39) do not trigger clitic doubling. Assuming that the implicit argument is introduced as an applied goal argument to motion verbs, we expect both the absolutive subject as well as the applied implicit object to be cross-referenced on the verb, akin to the applicative intransitive paradigms shown throughout this paper. One way of explaining the lack of clitic doubling can be found in Landau's (2010a) distinction between weak and strong implicit arguments. While the former consists of a (possibly partial) set of ϕ-features, the latter is additionally equipped with a [D] feature. We could now speculate that the implicit object in Aydghe is of the weak type, thus requiring person licensing but not clitic doubling, as the latter presumably requires a [D] feature.[23] A different way of implementing implicit arguments that might be more promising for Adyghe (as we will see in section 6.3) is proposed by Legate (2014) for the

[23] A reviewer suggests that the lack of clitic doubling could also be derived from the assumption that the implicit goal argument is embedded in a zero PP structure.

implicit agent of passives. Legate argues that a functional head introducing an implicit argument can be restricted by the ϕ-features of the argument without projecting it. The ϕ-features combine directly with the head instead of being introduced in the specifier. With (40), we show how this approach can be extended to Adyghe inverse/PCC patterns.

(40) *Implicit goal argument following Legate (2014)*



The implicit goal argument is introduced as a ϕ-feature bundle directly on Appl. This constellation arguably prevents cliticization by the clitic doubling probe on v. Nevertheless, the person feature is licensed and interacts with the higher subject for inverse marking. In the following, we will present some selected contexts that prove our point. In (41), we present a context that associates neither speaker nor hearer with the goal location of the motion verb. Hence, we do not predict the cislocative to occur, as there is no implicit argument present.

(41) *Context: Speaker and addressee are both living in Izmir. The speaker is telling the addressee that the speaker is about to go to Istanbul.*

✓ sə-k'o.
1SG-go
'I am going.'

sə-q^{w}ə-k'o.
1SG-CIS-go
'I am coming.'

The contexts in (42) and (43) locate the speaker at the goal location of the motion activity. This implies that the implicit argument is encoded for 1st person. Thus, the v probe encounters a 1st person argument which values the probe fully on the first Agree cycle. An added probe, spelled out as the cislocative, licenses the 2nd person argument in (42) and the 3rd person argument in (43), respectively.

(42) *Context: The speaker lives in Izmir and the addressee in Istanbul. The speaker is telling the addressee that the addressee is about to come to Izmir.*

wə-k'o.
2SG-go
'You are going.'

✓ wə-q^{w}ə-k'o.
2SG-CIS-go
'You are coming.'

(43) *Context: The speaker lives in Izmir and the addressee in Istanbul. Sine, a third person, lives in Ankara. The speaker is telling the addressee that Sine is about to come to Izmir.*

\# Sine-r ma-k'o.
Sine-ABS DYN-go
'Sine is going.'

✓ Sine-r qʷə-k'o.
Sine-ABS CIS-go
'Sine is coming.'

With this we conclude our discussion of the core PCC and inverse paradigms from section 2. In the next section, we will discuss a range of PCC accounts that either undergenerate or overgenerate wrt. to the person restriction patterns found in Adyghe, before we consider three additional paradigms in section 6, that extend the empirical coverage in this paper.

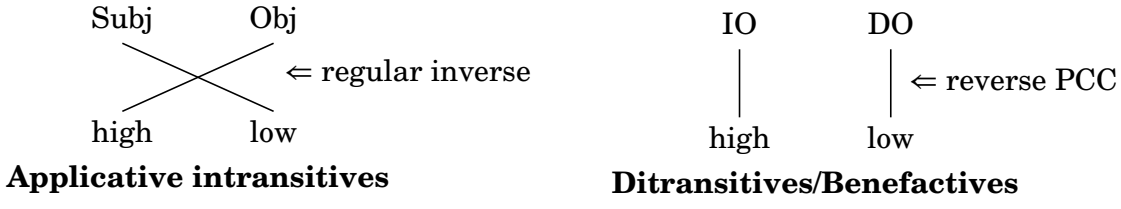
5 The challenge of an ultra-strong reverse PCC

We first discuss two families of approaches, functional and case-based accounts, both of which make the wrong prediction in particular wrt. to the reverse PCC effects in Adyghe. We then move on to discuss Nevins (2007, 2011), another multi-valuation account, which requires specific assumptions on probe placement and order of specifiers to account for the contrast in Adyghe between inverse and reverse PCC patterns. Finally, we discuss the account by Stegovec (2017, 2020), initially developed to account for the obligatory co-presence of canonical and reverse PCC, and whether it can be extended to the patterns found in Adyghe, where a canonical PCC is absent. For the discussion, we will assume that the object referencing prefixes in question qualify as clitics (section 4.1), and that the insertion of the directional marker signals a person restriction repair (section 4.4).

5.1 Functional accounts

The distribution of the cislocative marker reveals an ultra-strong reverse PCC effect with ditransitives and benefactives structures in Adyghe. Hence, the cislocative marker emerges in contexts where a prominent indirect object co-occurs with a less prominent direct object. These constellations are traditionally considered to be unmarked scenarios, sometimes labeled *usual* scenarios. Thus, the PCC pattern in Adyghe contrasts strongly with regular cases of PCC and inverse effects where a repair emerges in *unusual* scenarios, compare the canonical repair context for inverse to the reverse context for PCC in (44).

(44) *Contexts for cislocative in Adyghe*



Applicative intransitives **Ditransitives/Benefactives**

The fact that both regular and reverse PCC patterns are attested across languages as well

as within one and the same language (see Stegovec 2020 for Slovenian) indicates that the choice between the two patterns is parametrized somehow, for example via optional object shift (Stegovec 2020, Deal 2020). This questions approaches that presuppose a universal asymmetric preference for one of the two objects. Concretely, reverse PCC patterns are explicitly excluded by approaches implementing PCC phenomena with functional hierarchies (Farkas and Kazazis 1980, Rosen 1990, Aissen 1999, Gerlach 2002, Haspelmath 2004, 2020, Sturgeon et al. 2012, Doliana 2014), as they draw an explicit connection between the universal argument hierarchy *Subject* > *Indirect Object* > *Direct Object* and morphological markedness by assuming that *usual* or *expected* person configurations are morphologically less marked than *unusual* scenarios.[24] Adyghe, however, clearly displays the opposite pattern for PCC scenarios since an additional marker appears within prominent combinations of arguments.[25]

5.2 Asymmetric licensing approaches

Reverse PCC patterns serve as counter-evidence against PCC accounts which presuppose that arguments have to be licensed in some way, but where the indirect object receives a different treatment from the direct object, see Ormazabal and Romero (1998), Ormazabal (2000), Béjar and Rezac (2003), Anagnostopoulou (2003, 2005), Adger and Harbour (2007), Rezac (2008a,b), Richards (2008a,b), Pancheva and Zubizarreta (2018), among others.

Béjar and Rezac (2003) for example assume that the indirect object receives inherent case by a preposition, leaving it inaccessible for Agree by the PCC probe placed above both objects, yet blocking further probing to the lower direct object, along the lines of a defective intervener. Per assumption, person probes first and thus separately from number. After the v^o probe failed to match the IO's person feature, it agrees with the direct object for number, see (45). At this point, the direct object is licensed for number but not for person. The indirect object, however, is licensed for all ϕ-features via case assignment by P. A strong PCC effect – where the direct object can only be 3rd person, as was shown in (1) for Greek – is derived by an additional *Person Licensing Condition* (PLC) that requires all [PART] features (i.e. 1st/2nd person) to undergo Agree with a functional head. Under the assumption that 3rd person does not represent a ϕ-feature (Benveniste 1971), 3rd person direct objects will be allowed to occur in ditransitive contexts, as they do not fall under the PLC. 1st/2nd person direct objects, however, are either illicit or require repairs.

(45) *Strong PCC analysis in Béjar and Rezac (2003)*

$$[_{v'}\ \underbrace{v^o_{[\pi,\#]}\ [\ \ldots\ [_{PP}\ P\ IO]}_{*\pi}\ \ldots\ V\ DO\ ]] \quad \Rightarrow \quad [_{v'}\ \underbrace{v^o_{[\#]}\ [\ \ldots\ [_{PP}\ P\ IO]\ \ldots\ V\ DO}_{\#}\ ]]$$

Asymmetric licensing approaches like Béjar and Rezac (2003) make the wrong predictions for the PCC patterns presented in section 2.1. Direct objects can come with local person features in the presence of an indirect object without the need for an additional cislocative marker acting as a repair, indicating that DO's must Agree for person features with the person licensing head. Since there are languages like Adyghe where the IO is

[24] See also Dixon (1994) for a connection between marked semantic roles and morphological marking.

[25] Jelinek (1993) questions the validity of the person scale by demonstrating that 3rd person agents are as frequent as 1st and 2nd person agents.

not priviledged in its licensing requirements over the DO, asymmetric licensing accounts cannot provide an explanation for the cross-linguistic picture.
A licensing account which deserves special attention wrt. Adyghe is Anagnostopoulou (2003, 2005), which provides analyses for strong and weak PCC patterns in Romance and Icelandic as well as a partially reversed strong PCC pattern for Swiss German. The account for strong PCC is sketched in (46). In line with Béjar and Rezac (2003), Anagnostopoulou argues that person restrictions arise whenever a head enters Agree/Move relations with two arguments, where probing is split and person probes before number. In contrast to Béjar and Rezac (2003), Anagnostopoulou assumes that the IO is defective in that it does not come with a number value. Since arguments are licensed via Agree and Move to dedicated specifier positions of the licensing head v and the IO is closer to v than the DO, the IO checks the person feature against v in a first step, and the DO checks the number value in a second step, *tucking in* (Richards 1997) below the IO. Finally, an asymmetry is built in via structural case assignment, which is assumed to only take place if accompanied by complete ϕ-feature checking. In contrast to the IO, the DO is assigned structural case, leaving it with no possibility to receive case unless it is 3rd person (where 3rd person is not encoded with a person feature). A strong PCC pattern emerges, that is the DO cannot be 1st or 2nd person in the presence of an IO.

(46) *Strong PCC analysis in Anagnostopoulou (2003, 2005)*

$[_{vP}\ \underbrace{IO_1\ [_{v'}\ v^o_{[\pi,\#]}}_{\pi}\ [\ e_1\ ...\ DO\ ]]]\ \Rightarrow\ [_{vP}\ IO_1\ [_{v'}\ \underbrace{DO_2\ [_{v'}\ v^o_{[\#]}}_{\#}\ [\ e_1\ ...\ e_2\ ]]]]$

Anagnostopoulou (2003: 295-297) then moves on to account for the observation in Swiss German, where a strong PCC effect is neutralized whenever the accusative clitic precedes the dative clitic. Data and analysis is given in (47). The data in (47-a) show a canonical PCC effect, which is derived by the analysis in (46). The DO cannot be 1st person because it would have to check both π and # in order to receive structural case. If the clitic order is reversed as in (47-b), no PCC violation occurs. In this case, Anagnostopoulou argues that Swiss German has the option to reverse the base order, shown in (47-c), resulting in the DO moving first to spec,vP where it undergoes complete ϕ-feature checking and subsequently structural case assignment.

(47) *Partially reverse PCC in Swiss German* (Anagnostopoulou 2003: 296)

a. *D' Maria zeigt em mich.
the Maria shows to-him me
'Mary shows me to him.' DAT: 3 ≻ ACC: 1

b. D' Maria zeigt mi em.
the Maria shows me to-him
'Mary shows me to him.' ACC: 1 ≻ DAT: 3

c. $[_{vP}\ \underbrace{DO_1\ [_{v'}\ v^o_{[\pi,\#]}}_{\pi,\#}\ [\ e_1\ ...\ IO\ ]]]\ \Rightarrow\ [_{vP}\ DO_1\ [_{v'}\ IO_2\ [_{v'}\ v^o\ [\ e_1\ ...\ e_2\ ]]]]$

We can ask ourselves now if this theory can account for the reverse PCC data presented in this paper. Assuming that the base order in (47-c) is the only option in Adyghe, the lack of a PCC repair in the 3(IO)>1/2(DO) cases would indeed be derived under the analysis in (47-c). Anagnostopoulou's theory, however, does not capture the illicit 1/2(IO)>3(DO)

cases in Adyghe which crucially require a PCC repair, recall (7-c) and (7-e) for ditransitives as well as (8-c) and (8-e) for benefactives. In order to see why, let us first take a look at Swiss German again. Anagnostopoulou observes that the reversal of clitic order only has an effect if it is the DO which is 1/2 person and needs to be licensed. As shown in (48), if the IO is 1st person, clitic order does not matter.

(48) *Partially reverse PCC in Swiss German* (Anagnostopoulou 2003: 295)

a. D' Maria zeigt mir en.
the Maria shows to-me him
'Mary shows him to me.' DAT: 1 ≻ ACC: 3

b. D' Maria zeigt en mir.
the Maria shows him to-me
'Mary shows him to me.' ACC: 3 ≻ DAT: 1

The data in (48), specifically (48-b), fall out from Anagnostopoulou's account since the IO does not receive structural case, thus is not required to undergo complete ϕ-feature checking. So even if the IO does not undergo feature checking with v, it can still be licensed. Crucially, the equivalent Adyghe structures for Swiss German (48-b), that is (7-c) and (8-c), are illicit and require a PCC repair. Hence, they are not accounted for by Anagnostopoulou (2003, 2005) since the approach does not predict person restrictions for the IO. Once again, the asymmetry built into an asymmetric licensing account, ultimately leads to the wrong prediction for the Adyghe data.

5.3 Nevins (2007, 2011)

In contrast to the approaches discussed in the previous section, Nevins (2007, 2011) develops a multivaluation account that does not necessarily rely on an asymmetric treatment of the objects in a ditransitive structure. Nevins argues that person restriction effects arise if a probe undergoes downward *Multiple Agree* with two equidistant goals, whereby a constraint termed *Contiguous Agree* essentially prevents Agree with a more prominent goal across a less prominent goal, thus triggering a repair. For canonical PCC patterns, v is argued to be equidistant to IO and DO via incorporation of Appl into the IO clitic D head, where both IO and DO are crucially introduced in a low applicative structure (Pylkkänen 2008), see (49).

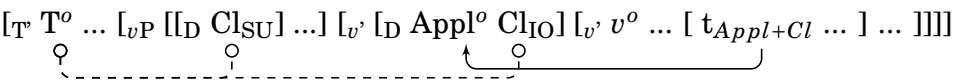
(49) *PCC structures in Nevins (2007, 2011)*

a. $[_{v'}\ v^o\ [_{VP}\ V\ [_{ApplP}\ [[_D\ Cl_{IO}]\ ...]\ [_{Appl'}\ Appl^o\ [[_D\ Cl_{DO}]\ ...\ ]\ ...\ ]]]]$

b. $[_{v'}\ v^o\ [_{VP}\ V\ [_{ApplP}\ [[_D\ Appl^o\ Cl_{IO}]\ ...\ ]\ [_{Appl'}\ t_{Appl}\ [[_D\ Cl_{DO}]\ ...\ ]\ ...\ ]]]]$

For inverse contexts, Nevins (2011: 955) proposes object shift to be responsible for equidistance of the object and the subject to T. This object shift has to involve *tucking in* (Richards 1997), in order to create the correct hierarchy configurations. We transfer Nevins' idea to applicative intransitives in (50).

(50) *Inverse structures in Nevins (2007, 2011)*



In order to run this account on the Adyghe pattern, we first have to investigate whether there is evidence for the low applicative structure in the language. Following Pylkkänen (2008: 18), we consider two tests to probe for a low applicative structure. First, a low Appl phrase cannot derive a structure that lacks a direct object. Thus, the very existence of applicative intransitives discussed in section 2 points against a low Appl structure (recall also footnote 4). Zooming in on benefactives, we show in (51) that a benefactive object is acceptable without the presence of a direct object. Given that the Appl head is exponend as *f*ə- in (51), the same morpheme that is used for the 'buy'-paradigm in (8), we conclude that benefactives are not built by low applicatives.

(51) Hasan-ər qʷə-p-fə-laʒ'ə.
Hasan-ABS CIS-2SG-BEN-work
'Hasan works for you.'

A similar argument can be made wrt. the introduction of goal arguments. As was shown for the 'give' paradigm in (7), Appl receives zero spell-out, in parallel to the Appl head used for the 'beat' paradigm in (6) which introduce the goal of a beating event. Since the 'beat' paradigm is another example of an applicative intransitive, the data point against a derivation with low applicatives for goal arguments.
Pylkkänen's second diagnostic of low applicatives is related to its semantics, as the structure is said to imply a direct relation between the indirect object and the direct object, which is incompatible with the semantics of stative verbs. As shown in (52), however, benefactive applicatives are compatible with stative verbs. The data in (52) are in line with the conclusion that benefactives are not introduced via a low Appl structure.[26]

(52) Hasan-əm t͡ʃãntʰa-r Ali-jəm (feʃigə) fə-r-əʁ.
Hasan-OBL bag-ABS Ali-OBL (for) BEN-3SG-hold
'Hasan is holding the bag for Ali.'

We conclude from the discussion above that Adyghe makes use of a high applicative head which introduces indirect objects, specifically goals and benefactives, between VP and *v*P (Marantz 1993, Pylkkänen 2008). Hence, the original theory in Nevins (2007, 2011) cannot be adopted to account for the Adyghe data. In the following, we will spell out the predictions of Nevin's account with a high Appl structure.
If we want to extend the PCC account in (49) to reverse PCC patterns and integrate the theory with a high Appl structure, we have to assume that Adyghe displays obligatory object shift of the DO to an outer specifier of high ApplP (53-a). Since the PCC pattern is reverse, the DO has to be closer to *v* than the IO in order for Contiguous Agree to make the right predictions. In contrast, the inverse scenario has to be modeled by object shift of the IO to an inner specifier of *v*P (53-b), similar to Nevins's (2011) original proposal.

[26] This test cannot be applied to the ditransitive 'give' since it is inherently non-stative.

(53) *Nevins (2007, 2011) applied to Adyghe*

a. $[_{v'}\ v^o\ [_{\text{ApplP}}\ [_{\text{D}}\ \text{Cl}_{\text{DO}}]\ [_{\text{Appl'}}\ [[_{\text{D}}\ \text{Cl}_{\text{IO}}]\ \ldots]\ [_{\text{Appl'}}\ \text{Appl}^o\ [_{\text{VP}}\ t_{\text{DO}}\ \ldots\ ]]]]]$

b. $[_{\text{T'}}\ \text{T}^o\ \ldots\ [_{v\text{P}}\ [[_{\text{D}}\ \text{Cl}_{\text{SU}}]\ \ldots]\ [_{v'}\ [_{\text{D}}\ \text{Cl}_{\text{IO}}]\ [_{v'}\ v^o\ [_{\text{ApplP}}\ t_{\text{IO}}\ \ldots\ ]]]]]$

Crucially, the object shift in (53-a) may not involve tucking in, whereas the object shift in (53-b) has to involve tucking in. We are left with an analysis where the availability of tucking in is relativized to the type of head, i.e. Appl vs. v.
Another problem arising with Nevins' theory relates to the fact that probe placement shifts from v for ditransitives/benefactives to T for applicative intransitives. While probe placement is arguably parametrized across languages (Anagnostopoulou 2003, Clem 2021), Adyghe poses an additional challenge, as probe placement has to vary depending on the context within one and the same language.

5.4 Stegovec (2017, 2020)

A number of languages are reported to show PCC effects sensitive to linear rather than hierarchical order. Languages such as Zürich German (Werner 1999) and Czech (Sturgeon et al. 2012) allow for $IO \succ DO$ as well as $DO \succ IO$ clitic orders, where the restrictions on person combinations are not based on grammatical function but surface order. Stegovec (2017, 2020) provides a cross-linguistic overview and develops an analysis for the strong PCC pattern found in Slovenian (54). A canonical PCC effect is presented in (54-a) where the direct object has to be 3rd person in the presence of an indirect object. In (54-b), the direct object precedes the indirect object and it is the indirect object which has to 3rd person – a reverse PCC effect, as it was also shown for Adyghe in section 2.

(54) *Canonical / reverse PCC in Slovenian* (Stegovec 2020: 264)

a. Mama mu ga/*me/*te bo predstavila.
mom 3M.DAT 3M.ACC/1.ACC/2.ACC will.3 introduce
'Mom will introduce him/me/you to him.' DAT: 3 ≻ ACC: 3/*1/*2

b. Mama ga mu/*mi/*ti bo predstavila.
mom 3M.ACC 3M.DAT/1.DAT/2.DAT will.3 introduce
'Mom will introduce him to him/me/you.' ACC: 3 ≻ DAT: 3/*1/*2

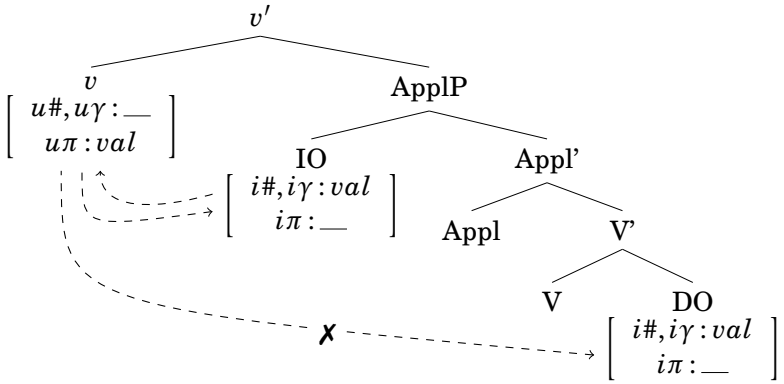
Stegovec develops an account that is independent of case marking. In other words, the indirect object does not receive special treatment. Instead, PCC effects are traced back to locality and the assumption that Agree between an object and v^o deactivates further probing. An illustration is given in (55). Following Kratzer (2009), he proposes that v^o enters the derivation with valued person features (π) and assigns them to its arguments. Other ϕ-features such as number (#) and gender (γ) are unvalued on v^o and valued on the arguments, ensuring a downward Agree approach with parasitic person valuation.[27] The highest object acts as the closest agreement target for v^o, thereby deactivating the head which in turn prevents further Agree between v^o and the lower object. For canonical PCC, the highest object is the indirect object, see (55-a). Reverse PCC is derived by

[27] Stegovec (2020: 278) points out that this assumption also predicts the lack of *Number / Gender-Case Constraints*. Since both NCC as well as GenCC effects have recently been attested (Coon et al. 2019, Foley and Toosarvandani 2020), this notion of Agree is in need of some refinement.

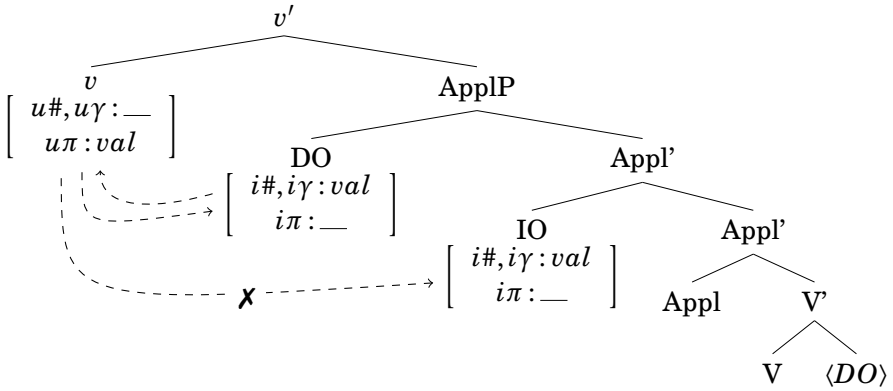
additional object shift prior to Agree, see (55-b). Having IO and DO be the locus of person valuation allows Stegovec to implement the PLC via default 3rd person Agree (Preminger 2014). Since v^o is deactivated after Agree with the highest object, the lower object is left unvalued for person, the only option being default Agree. Since default Agree often results in 3rd person valuation, a strong PCC can be derived.

(55) *Strong PCC in Slovenian (Stegovec 2020:278-279)*

a. *Canonical strong PCC* (54-a)



b. *Reverse strong PCC* (54-b)



Based on a larger cross-linguistic survey, Stegovec (2017, 2020) identifies a typological gap in terms of the distribution of canonical and reverse PCC effects. There seems to be no language that displays a reverse PCC effect without an accompanying standard PCC pattern. The reverse PCC in (54-b) e.g. exists along side the regular PCC in (54-a). These findings motivate the analysis in (55), as canonical PCC can result from the base order and additional reverse PCC can arise if the language has optional object shift. Note that the Cyclic Agree mechanism employed in our analysis of the Adyghe pattern in section 4.3 derives reverse PCC from the base order IO-over-DO. Consequently, a canonical PCC pattern would have to be derived via object shift, see also the discussion in Deal (2020). The complete absence of languages with only reverse PCC patterns would be puzzling under this view since they are derived by base orders. Adyghe, however, fills the typological gap, as it shows a reverse PCC effect in the absence of a canonical PCC pattern.The 3 ≻ *1/*2 contexts in (54-b) are parallel to (7-c) and (7-e) as well as the benefactive variants (8-c) and (8-e), yet the 3 ≻ *1/*2 equivalents for (54-a) are not available in Adyghe since the prefix order within the verbal domain is fixed. Since the paradigms in section 2 display a $DO \succ IO$ order matching the prefix order throughout, we present $IO \succ DO$ orders in (56) for comparison. The data point (56-a) serves as a minimal contrast to (7-c),

whereas (56-b) contrasts with (8-c). The comparison shows that object orders have no effect on the prefix order or PCC calculations, suggesting that optional object shift is irrelevant to person valuation.

(56) *No change in* CIS *distribution or prefix order with IO > DO order*

a. wo se Ali-jər qʷə-sə-w-o-tə.
2SG 1SG Ali-ABS CIS-1SG-2SG-DYN-give
'You give Ali to me.'

b. Sine-m se Ali-jər qʷə-s-fə-r-ʃ'efə-ʁ
Sine-OBL 1SG Ali-ABS CIS-1SG-BEN-3SG-buy-PST
'Sine bought Ali for me.'

Let us entertain for a moment how Stegovec' theory as it is sketched in (55) would account for the Adyghe data. In order to derive the generalization that there is no reverse PCC pattern without a canonical PCC pattern, Stegovec (2020: 304) proposes that (i) the base order IO-over-DO is universal and (ii) there is no obligatory object shift before IO and DO enter the person licensing configurations. Slovenian for example shows optional reordering before person valuation, resulting in canonical and reverse PCC patterns depending on the clitic order. To account for the Adyghe pattern, we must either allow for DO-over-IO base orders or enforce obligatory object shift before the person licensing head enters the derivation. The first option is unlikely given the discussion of Pylkkänen's (2008) diagnostics in the previous section. The second option can be entertained by obligatory object shift of DO to an outer specifier of ApplP, possibly due to case assignment of a higher head where the IO would otherwise act as a (defective) intervener, as an anonymous reviewer suggests. While this could be a feasible option (recall (55-b)), it nevertheless suggests that Stegovec' (2020) generalization, that reverse PCC can only occur if the language also displays canonical PCC, can no longer be upheld across languages. Since languages can display either canonical PCC only, or canonical and reverse PCC, or reverse PCC only, there is no motivation for the universal claim in (ii). Neither is there motivation for the analysis in (55). If all three patterns are attested after all, other multi-valuation accounts such as Béjar and Rezac (2009) and Deal (2020) can equally well account for the typology.[28]

Now that we have laid out how Stegovec' analysis must be extended to account for the Adyghe data, we turn to one final problem. The analysis encounters an insurmountable obstacle with respect to combinations of local person, specifically the 1PAT > 2REC configurations, which are licit combinations in Adghe, as was shown in (7-b) and (8-b). In contrast, Slovenian speakers do not allow for local person combinations altogether, displaying a strong PCC pattern, shown in (57).[29]

[28] Recent findings by Arregi and Hanink (2021) reveal another reverse only pattern found for Washo.

[29] A subset of Slovenian speakers show a weak PCC pattern, that is they allow for local person combinations. Stegovec (2020: 280-285) extends his analysis to weak PCC patterns essentially by blocking parasitic person Agree due to the internal feature structure of the objects in the weak PCC variety of Slovenian. This leaves the person features unvalued, triggering valuation-driven movement to spec,vP where each object can undergo downward Agree with the valued person feature on v^o. The person feature on v^o can but must not be deactivated after it has undergone Agree. In the latter case, the licit 1 > 2 and 2 > 1 configurations arise, whereas the former leads to illicit 3 > 1/2 as well as licit 1/2 > 3 scenarios. As with the account for strong PCC, this extension runs into similar issues wrt. to local person configurations in Adyghe. If the person feature is not deactivated, a 1PAT > 2REC combination is licensed in line with the observations in (7-b) and (8-b). The combination 2PAT > 1REC, however is subsequently also ruled in, contrary to (7-a) and (8-a).

(57) *Strong PCC in Slovenian* (Stegovec 2020: 265)

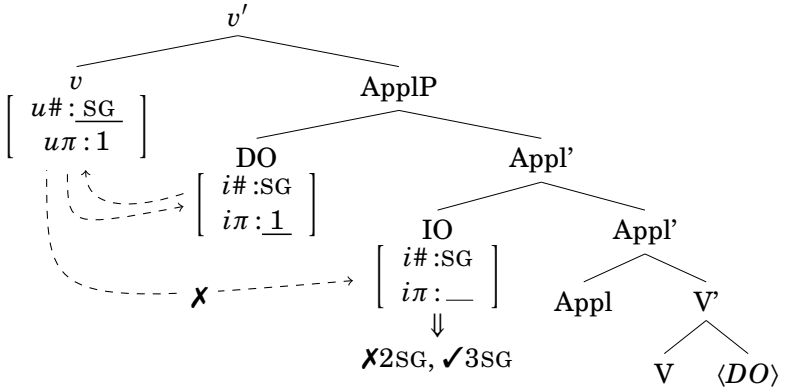
a. %Mama mi te bo predstavila.
mom 1.DAT 2.ACC will.3 introduce
'Mom will introduce you to me.' DAT: 1 ≻ ACC: 2

b. %Mama ti me bo predstavila.
mom 2.DAT 1.ACC will.3 introduce
'Mom will introduce me to you.' DAT: 2 ≻ ACC: 1

We repeat (7-b) as (58-a) for convenience and compare it to the illicit Slovenian equivalent in (57-b). Both examples receive the analysis in (58-b), making the correct prediction for Slovenian but not for Adyghe. Since the DO is the first argument v^o encounters, it assigns its person value to the DO, in this case 1st person. The IO is left without a person feature, so there is no possibility to realize it as 2nd person (only 3rd person is an option). Thus in Slovenian, the structure is not licensed. In Adyghe, we would expect the addition of an additional probe to license the IO, but the cislocative marker does not occur in (7-b)/(58-a).

(58) 1PAT > 2REC *predicts PCC repair in Adyghe contrary to fact!*

a. Sine-m se wo sə-wə-rə-tə.
Sine-OBL 1SG 2SG 1SG-2SG-3SG-give
'Sine gives me to you.' REC: 2SG, PAT: 1SG, ✗ CIS

b. 

Since Stegovec's (2020) analysis is mainly aimed at accounting for a strong PCC, it relies solely on the PLC, that is the fact that default agreement can only create 3rd person objects. Hence, any combination of local person objects is ruled out. This approach, however, can only create an opposition between participant and non-participant pronouns with no straightforward extension to person restrictions amongst participant pronouns and thus a strictly descending PCC.[30] In Adyghe, hierarchy obeying local person combinations are acceptable, in contrast to Slovenian. This is what makes the PCC pattern ultra-strong and ultimately unsuitable for his account.

We conclude that none of the PCC approaches discussed in this section provides an account of the ultra-strong reverse PCC pattern in Adyghe. In the next section, we will turn to some additional paradigms in Adyghe that contribute to the empirical coverage of our account.

[30] A similar point was recently made by Preminger (2019: 6) for regular strong PCC effects along the lines of Béjar and Rezac (2003).

6 Further insights into argument structure

In this section, we briefly look at the distribution of the cislocative for psych verbs and causatives, two paradigms that support our analysis of the argument structures we have proposed in this paper. Finally, we will address regular ERG-ABS transitive structures in section 6.3. For this paradigm, the results of our online study do not align with the judgements of our 3 core consultants. We discuss a possible extension to our theory.

6.1 Experiencer verbs

The paradigm in (59) demonstrates that the empirical generalization drawn for applicative intransitives can be extented to psych verbs, where the applicative is overtly realised by means of the marker *ʃe-*. More specifically, the experiencer argument patterns with the subject of applicative intransitives, as it is marked by the outermost prefix. The stimulus argument is marked by the innermost affix, thus forming a natural class with applied objects. In line with the pattern for applicative intransitives in (6), the cislocative marker appears whenever the stimulus argument outranks the experiencer on the person scale.

(59) *Cislocative with experiencer verbs*

a. Se wo sə-p-ʃə-ɕtɛ
I you 1SG-2SG-APPL-fear
'I fear you.' EXP: 1SG, STIM: 2SG, ✗ CIS

b. Wo se wə-qʷə-s-ʃə-ɕtɛ
you I 2SG-CIS-1SG-APPL-fear
'You fear me.' EXP: 2SG, STIM: 1SG, ✓ CIS

c. Se kovid-ɯm sə-ʃə-ɕtɛ
I Covid-OBL 1SG-APPL-fear
'I fear Covid.' EXP: 1SG, STIM: 3SG, ✗ CIS

d. Ali-jər se qʷə-s-ʃə-ɕtɛ
Ali-ABS I CIS-1SG-APPL-fear
'Ali fears me.' EXP: 3SG, STIM: 1SG, ✓ CIS

e. Wo kovid-ɯm wə-ʃə-ɕtɛ
you Covid-OBL 2SG-APPL-fear
'You fear Covid.' EXP: 2SG, STIM: 3SG, ✗ CIS

f. Ali-jər wo qʷə-p-ʃə-ɕtɛ
Ali-ABS you CIS-2SG-APPL-fear
'Ali fears you.' EXP: 3SG, STIM: 2SG, ✓ CIS

The prefix order and the presence of the cislocative in (59) strongly suggest that both arguments are clitic-doubled. The verb 'fear' belongs to the experiencer subject verbs (class I) which are analyzed with an externally merged experiencer (Belletti and Rizzi 1988, Grimshaw 1990, Dowty 1991). Following the traditional literature, the Adyghe equivalent behaves as expected since the experiencer patterns with the subject of applicative intransitives in case marking, prefix order as well as distribution of the cislocative. Hence, the analysis can precede as argued for in section 4.3 for applicative intransitives. The data in (59) are, however, unexpected for a view that treats experiencers uniformly as locative phrases (Landau 2010b: 11-15).

6.2 Causatives

In Adyghe, the causative is morphologically marked by adding ʁe- to the stem. The causer argument is case-marked ergative and cross-referenced by the innermost person prefix. We take *wo* 'beat', an applicative intransitive we are already familiar with, and causativize it in (60). The causee is marked by absolutive, indexed by the outermost prefix, while the indirect object appears in oblique case. Causativized predicates pattern with ditransitives and benefactives in that the causer as the ergative argument is irrelevant for the occurrence of the cislocative. Instead, the distribution depends entirely on the person features of the the causee and the goal of the beating motion.

(60) *Cislocative with causatives*

a. Hasan-əm se wo sə-wə-rə-ʁe-wo
Hasan-OBL I you 1SG-2SG-3SG-CAUS-beat
'Hasan is making me beat you.' CSEE: 1SG, GOAL: 2SG, ✗ CIS

b. Hasan-əm wo se wə-q^{w}ə-sə-rə-ʁe-wo
Hasan-OBL you I 2SG-CIS-1SG-3SG-CAUS-beat
'Hasan is making you beat me.' CSEE: 2SG, GOAL: 1SG, ✓ CIS

c. Hasan-əm se Ali-jəm sə-rə-ʁe-wo
Hasan-OBL I Ali-OBL 1SG-3SG-CAUS-beat
'Hasan is making me beat Ali.' CSEE: 1SG, GOAL: 3SG, ✗ CIS

d. Hasan-əm Ali-jər se q^{w}ə-sə-rə-ʁe-wo
Hasan-OBL Ali-ABS I CIS-1SG-3SG-CAUS-beat
'Hasan is making Ali beat me.' CSEE: 3SG, GOAL: 1SG, ✓CIS

e. Hasan-əm wo Ali-jəm wə-rə-ʁe-wo.
Hasan-OBL you Ali-OBL 2SG-3SG-CAUS-beat
'Hasan is making you beat Ali.' CSEE: 2SG, GOAL: 3SG, ✗ CIS

f. Se Hasan-ər wo q^{w}ə-wə-sə-ʁe-wo
I Hasan-ABS you CIS-2SG-1SG-CAUS-beat
'I am making Hasan beat you.' CSEE: 3SG, GOAL: 2SG, ✓ CIS

We take the exponent *r*ə- for 3rd person causers as well as the position of the prefix as evidence for our claim that ergative case assignment triggers Parasitic Agree, resulting in copying of ϕ-features of the argument. Since we do not have the space to refine our analysis of the morphological causative in Adyghe, we stay agnostic as to the various implementations suggested in the rich literature on causation, see Harley (2008), Pylkkänen (2008), Alexiadou et al. (2015) among many others. What matters is that the emergence of the cislocative depends on the person specifications of clitics. Thus, we predict no interaction with person features of the causer.

6.3 Transitives

As already mentioned in section 2, Adyghe displays two productive strategies to produce bivalent predicates: intransitives with an applied object and regular transitives. Since the applicative marker is often covert in applicative intransitives, the main way to distinguish between the two types is by the order of prefixes on the verb (besides case marking on the arguments). Concretely, the agent is cross-referenced by the outermost prefix in applicative intransitive but by the innermost prefix in regular transitives, while the object's features are reflected by the innermost prefix in applicative intransitives but the outermost prefix in regular transitive predicates. Arkadiev (2020) notes that the

cislocative is entirely absent in regular transitives – an observation that matches the judgements of our three main consultants of Shapsug Adyghe. The online study, however, revealed that there is speaker variation. The cislocative seems to be optional in contexts which would require a canonical inverse marker, shown in (61). For example, out of the speakers who participated in the study, 100% required the marker in the *2 > 1* contexts for applicative intransitives (6-b), but only 37.5% required the marker for transitives in the machting context (61-b). The empirical picture for regular transitives is thus strikingly different from the obligatory occurrence of the cislocative within applicative intransitives.

(61) *Optional cislocative with transitives*

a. Se wo wə-s-o-ɬeʁə.
1SG 2SG 2SG-1SG-DYN-see
'I see you.' AG: 1SG, PAT: 2SG, ✗ CIS

b. Wo se sə-(q^{w}ə-)w-o-ɬeʁə.
2SG 1SG 1SG-CIS-2SG-DYN-see
'You see me.' AG: 2SG, PAT: 1SG, (✓) CIS

c. Se Hasan-ər s-o-ɬeʁə.
1SG Hasan-ABS 1SG-DYN-see
'I see Hasan.' AG: 1SG, PAT: 3SG, ✗ CIS

d. Hasan-əm se sə-(q^{w}ə-)ɬeʁə.
Hasan-OBL 1SG 1SG-CIS-see
'Hasan sees me.' AG: 3SG, PAT: 1SG, (✓) CIS

e. Wo Hasan-ər w-o-ɬeʁə.
2SG Hasan-ABS 2SG-DYN-see
'You see Hasan.' AG: 2SG, PAT: 3SG, ✗ CIS

f. Hasan-əm wo wə-(q^{w}ə-)ɬeʁə.
Hasan-OBL 2SG 2SG-CIS-see
'Hasan sees you.' AG: 3SG, PAT: 2SG, (✓) CIS

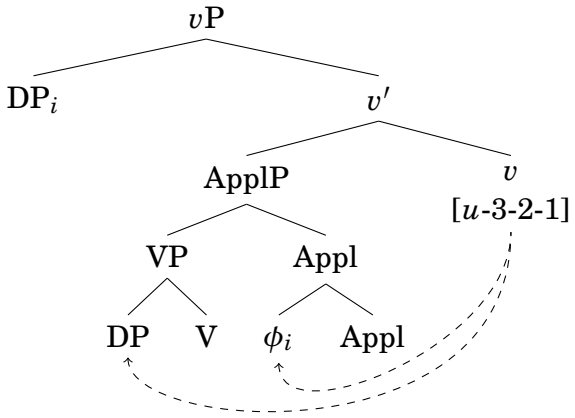
Since the subject is assigned ergative case, we expect it to be irrelevant for the distribution of the cislocative. With everything set up so far, the marker should be absent within transitive paradigms, as only the direct object requires person licensing via clitic doubling. For the rest of this section, we will suggest one possible avenue to explain the speaker variation.

Suppose there is an implicit goal argument also present in transitives, parallel to the intransitive structure in (40). This goal argument is co-indexed with the agent. Under standard locality considerations[31] and on Legate's (2014) view of implicit arguments, both the direct object and the the implicit goal argument would be equidistant to v, as is illustrated in (62). This configuration will not lead to the insertion of an added probe for any person combinations since the probe can in principle choose which goal it will target first.

[31] We follow Rackowski and Richards (2005: 579):

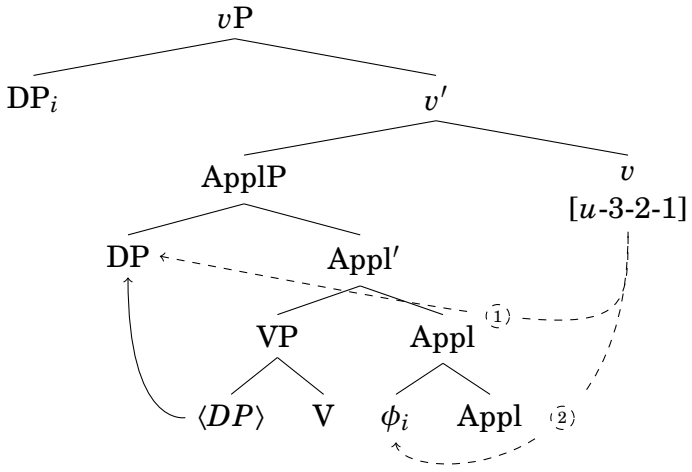
> "Closest: A goal α is the closest one to a given probe if there is no distinct goal β such that for some X (X a head or maximal projection), X c-commands α but does not c-command β."

(62) *Implicit goal argument in transitives*



We now speculate that the speakers of our study who require a cislocative in the contexts shown in (61), display obligatory object shift along the lines of (63).[32] Under this assumption, v will be closer to the direct object than to the implicit argument co-indexed to the agent. Thus, a probe will be added on v whenever the patient argument outscopes the agent on the person scale, leading to the distribution in (61).

(63) *Grammar for cislocative with transitives*



It is worth pointing out that the type of object shift the analysis permits for this cluster of speakers does not extend to PCC contexts, as we do not find canonical PCC in Adyghe. The difference to transitive contexts lies in the fact that for PCC scenarios the indirect object is fully projected in the specifier of ApplP. This indicates that object shift to Spec,ApplP either depends on the number of specifiers or is always order preserving.

7 Conclusion

In this paper, we present an intricate set of PCC and inverse patterns from the North-West Caucasian language Adyghe. The repair for canonical inverse scenarios and reverse

[32] One way of testing this hypothesis would be to identify adverbs/particles which map the VP-boundary and investigate the word order relative to the DO in each of the grammars.

PCC scenarios takes the form of a cislocative marker in the language. We provide independent evidence from differential phonological behaviour that the person marker indexing the ergative argument results from ϕ-Agree, in contrast to all other person markers which result from clitic doubling. Consequently, we argue that ergative arguments do not take part in the computation of reverse PCC and inverse effects. Our analysis is superior to previous analyses of the pre-verbal morphology in Adyghe, as it ties the verbal prefix order to the distribution of the cislocative marker. The linear order follows directly from the feature stack order on v, which is motivated independently by the patterns for inverse and reverse PCC scenarios. More broadly, we provide a way to implement the use of a cislocative marker as a repair for person hierarchy restrictions. We claim that the meaning of the cislocative in monotransitives as a directional marker can in fact be derived from its function as an abstract person licenser, as it indicates an implicit goal argument for motion verbs. In doing so, we provide a potential new argument for the syntactic presence of implicit arguments.

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