

A repair for PCC and inverse contexts in Adyghe*

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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. An example from Greek is given in (1) which shows a strong PCC where the direct object must be 3rd person in the presence of an indirect object.

- (1) *Strong PCC in Greek* (Bonet 1991: 178)
- a. *O Kostas mu se sístise.
the Kostas 1.GEN 2.ACC introduced
'Kostas introduced you to me.'
 - b. *O Kostas su me sístise.
the Kostas 2.GEN 1.ACC introduced
'Kostas introduced me to you.'

The focus of this paper is a PCC pattern from the Northwest Caucasian language Adyghe. In this language, a cislocative marker emerges as a repair within applicative intransitives if the object outranks the subject on the person scale. In ditransitives, however, the cislocative appears if the indirect object outranks the direct object on the person scale. This pattern is unusual in two respects: First, prominent argument combinations seem to require a repair in ditransitives, in contrast to the common assumption that these scenarios are morphologically less marked than their non-prominent counterparts. Second, the subject argument of ditransitives seems to be invisible wrt. to the emergence of the cislocative. In this paper, we explore the compatibility of existing PCC approaches with the patterns

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found in Adyghe. We show 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 to derive the distribution of the repair (Nevins 2007, 2011; Coon and Keine 2020). Moreover, we claim that the invisibility of the subject in ditransitives arises from the fact that the argument is indexed by φ -agreement rather than clitic doubling. We present the data set in section 2, discuss accounts for which the Adyghe patterns are problematic in section 3, provide evidence for φ -Agree vs. clitic doubling in section 4, and suggest structures for the relevant paradigms in section 5, before concluding in section 6.

2. The distribution of the directional marker

In this section, we discuss the distribution of the so-called *cislocative marker* in the Circassian language Adyghe, 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 36 native speakers of various dialects of Adyghe. While suffixes in Adyghe encode tense, mood or aspect, prefixes express argument-related information such as agreement morphology, applicative and causative heads as well as the cislocative marker which originates from a directionality marker that encodes orientation towards the speaker, as shown in (2).

- (2) *Cislocative as a directional marker* (Arkadiev 2020: 88)
- a. $\widehat{tʃə}$!
run.IMP
'Run!'
 - b. $q^w\text{-}\widehat{tʃə}$!
CIS-run.IMP!
'Run here!'

The cislocative marker appears between two argument-referencing prefixes in certain argument combinations. A full paradigm of an intransitive verb with an applied indirect object is presented in (3).¹ In such cases, the affix that references the indirect object appears closer to the root than the affix that references the subject argument, as seen e.g. in (3a). The combinations in (3b), (3e), and (3f) illustrate scenarios where the direct object outranks the subject on the person scale (Silverstein 1976) and a cislocative marker q^w - emerges between the verbal prefixes cross-referencing subject and direct object. Both (3e) and (3f) show that exponents do not have to be overt for the cislocative marker to occur, as 3SG applicative objects are not cross-referenced on the verb, while q^w - still appears.

¹In 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 believe that the structures we suggest in Section 4 are compatible with 3>3 scenarios, yet we will not discuss them for reasons of space.

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

- | | | |
|----|--|--------------------------|
| a. | Se wo sə-wə-wo.
I you 1SG-2SG-beat
'I am beating you.' | AG: 1SG, PAT: 2SG, ✗ CIS |
| b. | wo se wə-q ^w -sə-wo.
you I 2SG-CIS-1SG-beat
'You are beating me.' | AG: 2SG, PAT: 1SG, ✓ CIS |
| c. | se a-ʃ sə-wo.
I DEM-OBL 1SG-beat
'I am beating him.' | AG: 1SG, PAT: 3SG, ✗ CIS |
| d. | wo a-ʃ wə-wo.
you DEM-OBL 2SG-beat
'You are beating him.' | AG: 2SG, PAT: 3SG, ✗ CIS |
| e. | a-r se q ^w -sə-wo.
DEM-ABS I CIS-1SG-beat
'He is beating me.' | AG: 3SG, PAT: 1SG, ✓ CIS |
| f. | a-r wo q ^w -wə-wo.
DEM-ABS you CIS-2SG-beat
'He is beating you.' | AG: 3SG, PAT: 2SG, ✓ CIS |

The table in (4) summarizes the distribution of the cislocative marker with applicative intransitive verbs, showing that the cislocative marker appears if the applicative object outranks the subject on the person scale $1 > 2 > 3$ (Silverstein 1976). Thus, the cislocative marker in Adyghe behaves like a canonical inverse marker that appears whenever an argument low in the syntactic hierarchy outranks a higher argument on the person scale (Jacques and Antonov 2014), thus repairing a marked combination of arguments.

(4)

	IO	1SG	2SG	3SG
SU			✗, (3a)	✗, (3c)
1SG				
2SG		✓, (3b)		✗, (3d)
3SG		✓, (3e)	✓, (3f)	see fn. 1

Distribution of CIS in applicative intransitives

With a ditransitive verb like 'give', the cislocative remains strictly between the markers cross-referencing the direct object and the indirect object. Concretely, it emerges whenever the indirect object outranks the direct object, as shown in (5b), (5c), and (5e), showcasing an ultra-strong (or strictly descending) repair pattern. Crucially, the emergence of the cislocative marker in ditransitive paradigms depends only on the interaction of direct object and indirect object, while the subject argument does not interfere. This is shown in (5f) where the cislocative marker does not occur, even though both direct object and indirect object outrank the subject argument. The configuration in (5f) questions a generalization, recently put forth by Arkadiev (2020), that characterizes the emergence of the cislocative to be restricted to contexts where the indirect object outranks the subject on the person scale.

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

- a. Se wo Ali-jəm wə-sə-tə.
1SG 2SG Ali-OBL 2SG-1SG-give
'I give you to Ali.' REC: 3SG, PAT: 2SG, ✗ CIS
- b. Se Ali-jər wo q^w-wə-sə-tə.
1SG Ali-ABS 2SG CIS-2SG-1SG-give
'I give Ali to you.' REC: 2SG, PAT: 3SG, ✓ CIS
- c. Wo Ali-jər se q^w-sə-wə-tə.
2SG Ali-ABS 1SG CIS-1SG-2SG-give
'You give Ali to me.' REC: 1SG, PAT: 3SG, ✓ CIS
- d. Wo se Ali-jəm sə-wə-tə.
2SG 1SG Ali-OBL 1SG-2SG-give
'You give me to Ali.' REC: 3SG, PAT: 1SG, ✗ CIS
- e. Hasan-əm wo se wə-q^w-sə-rə-tə.
Hasan-OBL 2SG 1SG 2SG-CIS-1SG-3SG-give
'Hasan gives you to me.' REC: 1SG, PAT: 2SG, ✓ CIS
- f. Hasan-əm se wo sə-wə-rə-tə.
Hasan-OBL 1SG 2SG 1SG-2SG-3SG-give
'Hasan gives me to you.' REC: 2SG, PAT: 1SG, ✗ CIS

The distribution of the cislocative marker in ditransitives, summarized in (6), reveals a remarkable pattern. Whereas the cislocative marker acts as a regular inverse marker in applicative intransitives, it emerges when a syntactically higher argument outranks an argument low in the syntactic derivation in ditransitives. Thus, 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 cislocative marker in Adyghe can be considered a *reverse PCC marker*, cf. Stegovec (2017, 2020).

(6)

IO \ DO	1SG	2SG	3SG
1SG		✓, (5e)	✓, (5c)
2SG	✗, (5f)		✓, (5b)
3SG	✗, (5d)	✗, (5a)	see fn. 1

Distribution of CIS in ditransitives

This pattern can be replicated for transitives with applied beneficiaries, signaled by an applicative benefactive prefix *fə-*. The cislocative emerges whenever the beneficiary outranks the direct object on the person scale, as demonstrated in (7).

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

- a. Hasan-əm wo Ali-jəm wə-fə-rə-fef-əḂ
Hasan-OBL you Ali-OBL 2SG-BEN-3SG-buy-PST

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- ‘Hasan bought you for Ali.’ BEN: 3SG, PAT: 2SG, ✗ CIS
- b. Hasan-əṃ Ali-jəɾ wo q^w-wə-fə-rə-ʃef-əḅ
 Hasan-OBL Ali-ABS you CIS-2SG-BEN-3SG-buy-PST
 ‘Hasan bought Ali for you.’ BEN: 2SG, PAT: 3SG, ✓ CIS
- c. Hasan-əṃ wo se wə-q^w-sə-fə-rə-ʃef-əḅ
 Hasan-OBL you I 2SG-CIS-1SG-BEN-3SG-buy-PST
 ‘Hasan bought you for me.’ BEN: 1SG, PAT: 2SG, ✓ CIS
- d. Hasan-əṃ se wo sə-wə-fə-rə-ʃef-əḅ
 Hasan-OBL I you 1SG-2SG-BEN-3SG-buy-PST
 ‘Hasan bought me for you.’ BEN: 2SG, PAT: 1SG, ✗ CIS
- e. Hasan-əṃ Ali-jəɾ se q^w-sə-fə-rə-ʃef-əḅ
 Hasan-OBL Ali-ABS I CIS-1SG-BEN-3SG-buy-PST
 ‘Hasan bought Ali for me.’ BEN: 1SG, PAT: 3SG, ✓ CIS
- f. Hasan-əṃ se Ali-jəṃ sə-fə-rə-ʃef-əḅ
 Hasan-OBL I Ali-OBL 1SG-BEN-3SG-buy-PST
 ‘Hasan bought me for Ali.’ BEN: 3SG, PAT: 1SG, ✗ CIS

As with ditransitives, the pattern in benefactive constructions reveals a reverse PCC effect since the marker appears when a syntactically higher argument outranks a lower argument on the person scale, summarized in table (8) below.

(8)

	DO	1SG	2SG	3SG
BEN				
1SG				
2SG	✗, (7d)			
3SG	✗, (7f)	✗, (7a)		

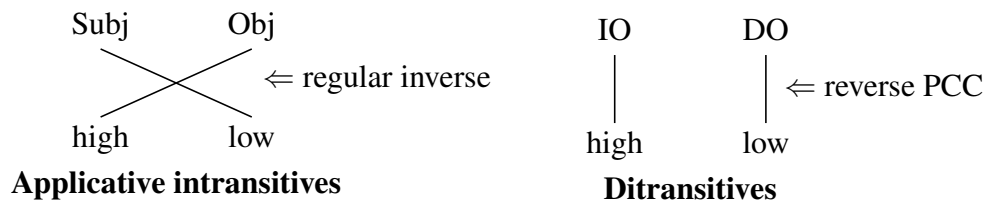
Distribution of CIS in benefactives

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.

3. The challenge of an ultra-strong reverse PCC

The distribution of the cislocative marker in ditransitives and benefactives reveals an ultra-strong reverse PCC effect in Adyghe.² Concretely, the cislocative marker emerges in contexts where a prominent indirect object (or beneficiary) co-occurs with a less prominent direct object. These constellations are traditionally considered to be unmarked scenarios, sometimes labelled *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 (9).

²See Stegovec (2017, 2020) for a cross-linguistic overview of reverse PCC patterns.

(9) *Contexts for cislocative in Adyghe*

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, e.g. via optional object shift (Stegovec 2020; Deal 2020), thereby questioning approaches that presuppose a universal asymmetric preference for one of the two objects. Concretely, reverse PCC patterns are explicitly excluded by functional approaches to PCC phenomena (Aissen 1999; Haspelmath 2004, 2020), 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. Adyghe, however, clearly displays the opposite pattern since an additional marker appears in prominent combinations of arguments.

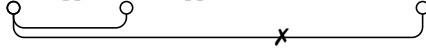
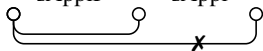
Moreover, reverse PCC patterns serve as counter-evidence against case-based approaches to PCC effects such as Béjar and Rezac (2003), Anagnostopoulou (2003, 2005) or Adger and Harbour (2007), as they presuppose that the indirect object receives special treatment, e.g. via inherent dative case assignment (Béjar and Rezac 2003), so that it is unaffected by the PCC probe placed above both objects, yet blocks further probing to the lower direct object, along the lines of a defective intervener. A strong PCC effect e.g. where the direct object can only be 3rd person, as it is found in French and Greek (see (1)), is then 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, thus allowing only for 3rd person direct objects, while 1st/2nd person are either illicit or require repairs. The ditransitive/benefactive scenarios, presented in the previous section, make clear that Adyghe displays the exact opposite effect, as it is the 3rd person direct object that requires a PCC repair, i.e. the presence of the cislocative.

Stegovec (2020) provides a PCC account that is independent of case marking where the highest object acts as the closest agreement target for the head responsible for person licensing, thereby deactivating the head which in turn prevents further probing to the lower argument. Based on symmetric PCC effects from Slovenian where regular and reverse PCC effects can arise depending on the clitic order, shown in (10), he proposes that optional object shift of the direct object across the indirect object results in reverse PCC effects, as it is always the highest object that deactivates the head, independent of case. A simplified sketch of the analysis is provided in (11), where each scenario leads to a strong PCC violation in case the lowest argument is 1st/2nd person and thus not licensed according to the PLC.

(10) *Strong PCC in Slovenian* (Stegovec 2020: 264)

- a. Mama mu ga/*me/*te bo predstavila.
 mom 3M.DAT 3M.ACC/1.ACC/2.ACC will introduce
 ‘Mom will introduce him/me/you to him.’ DAT: 3 \succ ACC: 3/*1/*2
- b. Mama ga mu/*mi/*ti bo predstavila.
 mom 3M.ACC 3M.DAT/1.DAT/2.DAT will introduce
 ‘Mom will introduce him to him/me/you.’ ACC: 3 \succ DAT: 3/*1/*2

(11) *Reverse PCC via object shift* (Stegovec 2020: 278-279)

- a. $[_v' v^o [_{AppIP} IO [_{AppI'} Appl^o [_{VP} V DO]]]]$ (10a)

- b. $[_v' v^o [_{AppIP} DO [_{AppI'} IO [_{AppI'} Appl^o [_{VP} V t_{DO}]]]]]$ (10b)


Based on a larger cross-linguistic survey, Stegovec (2017, 2020) identifies a typological gap, in that there seems to be no language that displays a reverse PCC effect without an accompanying standard PCC pattern. The reverse PCC in (10b) e.g. exists along side the regular PCC in (10a). Crucially, Adyghe fills this typological gap, as it shows a reverse PCC effect in the absence of a canonical PCC pattern within double object constructions. The 3 \succ *1/*2 contexts in (10b) are parallel to (5b) and (5c) as well as the benefactive variants (7e) and (7b), yet the 3 \succ *1/*2 equivalents for (10a) are not available in Adyghe since the prefix order within the verbal domain is fixed. In order for Adyghe to instantiate a viable counter-example to the generalization, object referencing prefixes in question have to qualify as clitics or weak pronouns, and the insertion of the directional marker must be analyzed as a person restriction repair. We provide evidence for the former in section 4, while we address the repair question in section 5.

The lack of a canonical PCC pattern in Adyghe questions the underlying assumptions Stegovec (2020) makes to account for his generalization: (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. Hence, Adyghe must either allow for DO-over-IO base orders or enforce obligatory object shift before the person licensing head enters the derivation. While this adjustment can account for the 3 \succ *1/*2 scenarios, a Stegovec-style analysis encounters more severe problems with respect to 1 \succ 2 configurations, which are licit combinations in Adyghe, as was shown in (5f) and (7d). Since Stegovec’s (2020) analysis is aimed at accounting for a strong PCC,³ it relies solely on the PLC, which requires licensing of 1st/2nd person objects only. 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.⁴

³For reasons of space, we refrain from discussing Stegovec’s (2020) extension to weak PCC patterns, as it runs into similar issues wrt. to 1 \succ 2 configurations in Adyghe.

⁴A similar point was recently made by Preminger (2019: 6) for regular strong PCC effects along the lines of Béjar and Rezac (2003).

We conclude that none of the PCC approaches discussed in this section provides an account of the ultra-strong reverse PCC pattern in Adyghe. Before we move on, we have to address an additional complication each of the so far presented theories face. Whereas within ditransitive/benefactive contexts the subject prefix never enters the person restriction configurations, it does so in applicative intransitives.

4. Clitic doubling vs. φ -agreement

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 (*contra* Ershova (2019: 39-42) where all argument-referencing prefixes spell out Agr heads in Adyghe). Evidence for this claim comes from observations regarding allomorphy. First observe that a prefix indexing a 3SG argument is only overt when it refers to the subject of a ditransitive/benefactive but covert for all other arguments, see (12).

(12) *Covert vs. overt agreement markers*

- a. Hasan-əṃ wo se wə-q^w-sə-rə-tə.
Hasan-OBL 2SG 1SG 2SG-CIS-1SG-**3SG**-give
'Hasan gives you to me.'
- b. A-r wo Ø-q^w-wə-wo.
DEM-ABS you **3SG**-CIS-2SG-beat
'He is beating you.'
- c. Se a-ʃ sə-Ø-wo.
I DEM-OBL 1SG-**3SG**-beat
'I am beating him.'

More importantly, Özdemir (2020) observes that a 2SG prefix cross-referencing subjects of ditransitives/benefactives displays allomorphy dependent on tense, as shown in (13).

(13) *Tense allomorphy for subject prefix in benefactives* (Özdemir 2020: 32)

- a. Ø-qə-s-fə-wə-ʃefə-Ø.
3SG-CIS-1SG.OBL-BEN-**2SG**-buy-PRES
'You buy him for my sake.'
- b. Ø-qə-s-fə-p-ʃefə-ɛ.
3SG-CIS-1SG-BEN-**2SG**-buy-PST
'You bought him for my sake.'

Furthermore, this allomorphy does not apply generally to 2SG prefixes adjacent to the verb, as is demonstrated in (14).

(14) *Tense allomorphy not due to adjacency to verb stem* (Özdemir 2020: 33)

- a. Se wo sə-wə-wo-Ø.
I you 1SG-**2SG**-beat-PRES

- ‘I am beating you.’
 b. Se wo sə-wə-wo-aɁ.
 I you 1SG-2SG-beat-PST
 ‘I beat you (in the past).’

Crucially, 2SG prefixes cross-referencing the subject of intransitives do not display this kind of tense allomorphy, see (15).

(15) *No tense allomorphy for subject prefix in applicative intransitives*

- a. Wo se wə-q^w-sə-wo-∅.
 you I 2SG-CIS-1SG-beat-PRES
 ‘You are beating me.’
 b. Wo se wə-q^w-sə-wo-aɁ.
 you I 2SG-CIS-1SG-beat-PST
 ‘You beat me (in the past).’

Following Nevins (2011) and Arregi and Nevins (2012), we take tense-invariance to be indicative of pronominal status, suggesting that these person markers constitute clitics. In contrast, tense-variant person markers, i.e. the prefix cross-referencing subjects of ditransitives/benefactives in (13), are the result of agreement. Under the assumption that person hierarchy effects emerge only with clitics (Nevins 2011), it becomes clear why subjects of ditransitives/benefactives never enter the valuation for PCC effects.

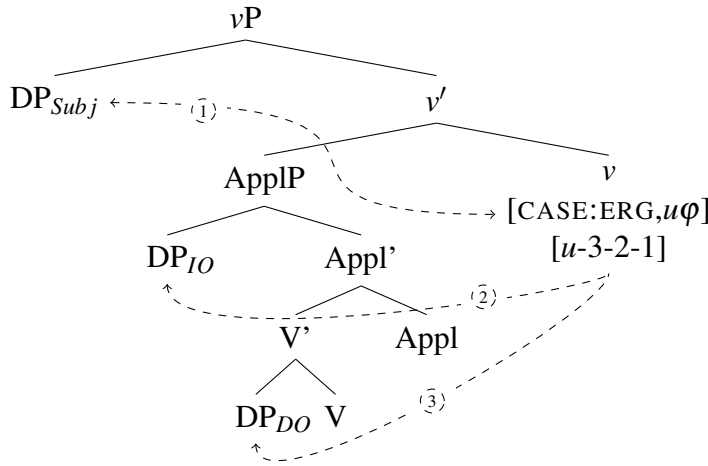
5. Analysis and discussion

We are now in a position to provide the underlying structures for the data presented in section 2. With Anagnostopoulou (2003); Rezac (2008); Preminger (2019); Coon and Keine (2020), we assume that φ -agreement is achieved by pure copying of φ -features from goal to probe, whereas clitic doubling is the result of φ -Agree followed by head movement.⁵ Furthermore, 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, reminiscent of nominative-accusative case systems where case assignment has been proposed to be parasitic on φ -agreement (Chomsky 2001). The relevant operations for the ditransitive/benefactive structures are shown in (16).⁶ Ergative case assignment takes place before clitic movement, ensuring that the prefix co-referencing the subject occurs closest to the verbal stem. An elaborate probe, e.g. in the sense of Béjar and Rezac (2009), will enter φ -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 head movement to v . Since both inverse and PCC patterns are strictly descending, the probe must be highly articulate.

⁵We remain agnostic as to whether clitic doubling instantiates simple head movement of D (Preminger 2019 a.o.) or whether a *big-DP* analysis (Arregi and Nevins 2012 a.o.) is needed.

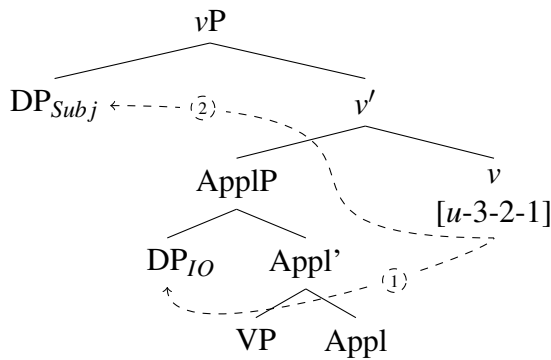
⁶Further syntactic operations not shown in (16) are inherent case assignment of oblique case by Appl and absolutive case assignment by T. Moreover, we assume $f\partial$ - to spell out Appl_{ben}. Thus, head movement of Appl-to- v has to be interspersed between ergative case assignment and the PCC probe.

(16) *Structure for ditransitives and benefactives: Cl_{DO}-Cl_{IO}-(BEN-)Agr_{Subj}-V*



Both canonical inverse as well as reverse PCC scenarios can be characterized by an IO preference, i.e. 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 (17) models this interaction by adopting cyclic expansion (Béjar and Rezac 2009). As in (16), the order of argument-referencing prefixes follows straightforwardly if each φ -Agree cycle triggers clitic doubling. Independent evidence for the clitic status is given by tense invariance, recall (14) and (15). Crucially, subjects of applicative intransitives are marked for absolutive case, indicating that v does not assign ergative in (17). Hence, there is no possibility of parasitic agreement like in (16) and the person features must be licensed via clitic movement.

(17) *Structure for applicative intransitives: Cl_{Subj}-Cl_{IO}-V*



The upshot of this analysis is that the prefix orders for all three paradigms introduced in section 2 follow straightforwardly, without the need to stipulate additional re-ordering rules within the morphological component, as it is e.g. proposed in Ershova (2019: 39). Based on the structures in (16) and (17), we now discuss existing multi-valuation accounts of person co-occurrence restrictions.

As already indicated in the trees, the system proposed by Béjar and Rezac (2009) derives the distribution of the cislocative marker without further ado. Essential for the Agree mechanism is a geometry-based feature structure that reflects natural classes as well as entailment relations. The probe in Adyghe is maximally specified, where $[u-3-2-1]$ is a shorthand for $[u-\pi\text{-PART-AUTH}]$. Goals less specified will partially match the probe's feature specification, in which case the probe can undergo another Agree cycle and license a second goal. Finally, a generalized PLC that includes 3rd person features (Béjar and Rezac 2009: 46) triggers a repair operation whenever the articulated probe does not enter a second Agree cycle. In the applicative intransitive $2 > 1$ scenario (3b) 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 does not Agree with the subject, the cislocative emerges as a repair to license the subject. In the $1 > 2$ scenario in (3a), however, where the cislocative does not occur, $[u-3-2-1]$ probes down and finds a 2nd person object, specified as $[3-2]$ and thereby only partially matching the probe's specification, which in turn leads the probe to search upwards and license the subject. The PCC contexts can be derived in a similar way. Take the ditransitive $2 > 1$ context in (5e) for example, in which the probe encounters a 1st person IO first, thereby fully matching $[u-3-2-1]$ on v , resulting in a repair configuration since the DO is not licensed. In the mirror $1 > 2$ context in (5f), however, $[u-3-2-1]$ sees a 2nd person IO which partially matches the probe so that it searches further down and licenses the DO.

Another multi-valuation Agree account which can derive the Adyghe data rather effortlessly was recently put forward by Deal (2020). Capitalizing on the idea that Agree essentially creates redundant information, Deal (2015, 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. For strictly descending orders, the interaction condition is specified for ϕ but can change in the course of the derivation, while the satisfaction condition is specified for $[\text{SPEAK}]$. The latter triggers a repair in $2 > 1$ contexts, as the first goal satisfies the probe so that it stops probing. Within $1 > 2$ scenarios, the first goal is 2nd person, i.e. $[\text{PART}]$ and therefore not satisfying the probe. At this point the $[\text{PART}]$ feature is copied into the interaction condition, so that the only goal the probe can interact with further is another $[\text{PART}]$ feature, which predicts that the second goal can only be 1st person.

Up to this point, we have assumed that the insertion of the cislocative marker instantiates a repair for inverse and PCC contexts. The grammaticalization from cislocative/directional markers to repair markers is well-documented for inverse languages such as Nez Percé (Sahaptian) and Kuki-Chin (Sino-Tibetan), as discussed in Zúñiga (2002) and Jacques and Antonov (2014). Moreover, Arkadiev (2020) shows how a cislocative acts as an inverse marker in Georgian, a language geographically close to Adyghe. In order to capture the occurrence 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) and Béjar and Rezac (2009). Thus, it is predicted to occur in contexts where an argument has not undergone an Agree relation with $[u-3-2-1]$ on v . Interestingly, the notion of an abstract licenser can be extended to monotransitive contexts, as they were shown in (2). The addition of the cislocative in (2b) adds the meaning

component that the movement expressed by the verb is directed towards the perspective center. Since perspective centers can be analyzed as hidden pronouns, cf. Partee (1989), they must require an additional person licenser. Hence, even in monotransitive structures, the cislocative licenses an argument, albeit a covert one, i.e. 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).

Two additional multi-valuation accounts we want to discuss before concluding are Nevins (2007, 2011) and Coon and Keine (2020), both of which tie the PCC to an intervention effect. Nevins (2007, 2011) proposes 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, see (18a). 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 TUCK-IN (Richards 1997), however, in order to create the correct hierarchy configurations, shown in (18b).

(18) *PCC and inverse structures in Nevins (2007, 2011)*

- a. $[_{v'} v^o [_{VP} V [_{AppIP} [[_D Appl^o Cl_{IO}] \dots] [_{AppI'} t_{Appl} [[_D Cl_{DO}] \dots]]]]]$
- b. $[_{T'} T^o \dots [_{vP} [[_D Cl_{SU}] \dots] [_{v'} [_D Appl^o Cl_{IO}] [_{v'} v^o \dots [t_{Appl+Cl} \dots] \dots]]]]]$

If we want to extend the account in (18a) to reverse PCC patterns, we have to assume that Adyghe shows obligatory object shift to an outer specifier of ApplP – an assumption that is by itself not problematic. This object shift, however, must not involve TUCK-IN, leading to an analysis where the availability of TUCK-IN is relativized to the type of head, i.e. Appl vs. v . Additionally, Nevins’ theory requires probe placement on v for ditransitives/benefactives, while applicative intransitives require T to carry the PCC probe. While probe placement is arguable parametrized across languages, Adyghe poses an additional challenge, as probe placement has to vary depending on the context within one language.

Coon and Keine (2020: 27) assume object shift explicitly in order to derive reverse PCC patterns. Similar to Nevins’ approach, their account predicts PCC repairs where v undergoes Agree with a prominent goal across a less prominent goal. They argue that such configurations lead to *feature gluttony*: the probe undergoes *too much* Agree which can give rise to conflicting requirements of subsequent operations. Concretely, Coon and Keine (2020: 17) propose a ban on sequential cliticization if they are triggered by segments of the same elaborate probe. This ban would come into effect in the reverse PCC scenarios in Adyghe. Since Coon and Keine (2020) do not extend their analysis to inverse phenomena, we can only speculate which assumptions they would share with Nevins (2011) if they did so. One potential problem, they will have to address is probe placement, as it is also crucial for their account that the probe encounters the subject first in inverse contexts, thus fac-

ing similar challenges. Another aspect of their theory that requires additional assumptions is clitic order. In line with our approach, Coon and Keine (2020) assume clitic doubling to result from \varnothing -Agree plus head movement. A PCC probe that encounters DO first and IO second, however, predicts the cross-referenced DO prefix to occur closer to the verbal stem than the IO prefix, contrary to fact. Hence, their system necessitates a template or morphological re-ordering rules, e.g. in the sense of Ershova (2019).

6. Conclusion

In this paper, we presented an intricate set of PCC and inverse patterns from the North-West Caucasian language Adyghe. The existence of a reverse PCC questions the scale-based/functional approaches (Aissen 1999; Haspelmath 2004, 2020) to person co-occurrence restrictions as well as the STANDARD-INVERSE generalization by Stegovec (2017, 2020). Under the assumption that only clitics participate in PCC/inverse probing, we discuss a number of multi-valuation accounts of person restriction phenomena and show that they can derive the data set but differ in the number of additional assumptions needed to account for the full pattern.

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