Locating Variation in Person Restrictions

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Abstract

Person based restrictions on combination of two internal argument clitics known as the Person Case Constraint (PCC) show two types of variation: (i) Different languages and different groups of speakers within one language allow differ combinations of person on the two internal argument clitics, and (ii) languages differ on which of the two arguments is realized differently when cliticization of both is blocked by the PCC. Two types of proposals exist within the larger literature on person based restrictions for how the first type of variation arises. Multiple Agree analyses locate the variation in the parametrization of the operation Agree. Cyclic Agree analyses on the other hand locate the variation in the properties of the functional lexicon, specifically the feature content of the probe and its syntactic position. Case studies of Central Catalan and Classical Arabic demonstrate here that a Cyclic Agree analysis using different feature specifications on the probe can account for variation of the first type between the Strong PCC and the Ultrastrong PCC within each of the the two languages. Cyclic Agree thus offers a unified analysis of such variation in the PCC and in person restrictions between subjects and objects where it was originally proposed (Bejar & Rezac 2009). The second type of variation is shown to arise from the different underlying structures that cause PCC in Central Catalan and Classical Arabic. A Cyclic Agree analysis offers a way of understanding this variation in terms of the different positions of the probes, different locality patterns of Agree as a function thereof and the presence of other processes of movement and Agree. The alternative strategies used when the PCC blocks cliticization are argued to follow from independent derivational processes, rather than a Last Resort mechanism. The analysis of the PCC is also shown to extend to restrictions on combinations of third person pronouns that are not typically analyzed in the PCC literature. Cyclic Agree thus accounts for some of the variation of the first type, plus the second type and restrictions on combinations of third person pronouns.

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Martin Walkow*

1 Person Restrictions and Agree

Person based restrictions have recently provided the basis for arguments about the mechanics of Agree, the only non-structure building operation in Chomsky (2000). Many languages show person based restrictions on combination of weak elements like clitics or agreement markers known as the *Person Case Constraint* (PCC, Bonet 1991, 1994). For example, Classical Arabic (***A***) allows combinations of two object clitics with verbs like *ʔaʕtˤaː*, '*give*,' when the recipient argument is first person and the theme second person, (1), but not when the person specifications are reversed, (2).

(1) ʔaʕtˤaː **-ni:** **-ka**
gave.3SG -CL.1SG -CL.2SG.M
'He gave me you'

(2) * ʔaʕtˤaː **-ka** **-ni:**
gave.3SG -CL.2SG.M -CL.1SG
'He gave me to you' (Sibawayh 1881:335/6)

Other languages, and sometimes speakers of the same language, disallow all clitic combinations containing two local person clitics, or allow all of them. Jahn (1900:61) for example reports that some ***A*** speakers use clitic combinations in neither (1) nor (2). Some speakers of Central Catalan (***C***) on the other hand allow the Catalan equivalent of both (1) and (2) (Bonet 1991). Syntactic analyses of these types of restrictions build on the observation that they arise when two arguments, the recipient and theme in (1/2), are in the domain of a single syntactic probe. When the probe cannot Agree with both arguments, combinations of clitics or agreement markers are impossible. Two big proposals about this type of variation have occurred and they differ on where variation resides. One family of analyses argues that languages differ on the kind of Agree operations they have (Anagnostopoulou 2005) or how the operation Agree is parameterized (Nevins 2007). Both types of analysis assume an operation *Multiple* Agree that relates the features of a one probe to multiple goals in one application of Agree subject to restrictions on featural identity. Multiple Agree analyses locate the variation in parameterizations of grammatical operations. The second family of analyses locates variation more conservatively in the positions of the probes and their feature content (Béjar 2003, Béjar and Rezac 2003). These so-called *Cyclic* Agree analyses assume that probes have multiple features that are valued independently of one another in successive Agree-relations with the two arguments. By deactivating some of the features of the probe, earlier Agree-relations restrict which later Agree relations a probe can enter into. The two types of analyses have not been applied to the same set of data so far. While Multiple Agree analyses have been applied to the PCC in contexts like (1/2), Cyclic Agree analyses have mostly been applied to restrictions between subjects and objects. This paper shows how a Cyclic Agree analysis of person based restrictions can be applied to the variation in the PCC. Specifically, I will show (i) that the PCC can be derived if the probe accesses the direct object (DO) before the other argument (also Walkow 2011), and (ii) that the difference between the *strong* PCC (Bonet 1991) and the *ultrastong* PCC (Fassi Fehri 1988, Nevins 2007) can be accounted for by the probe specifications $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ and $\left[\begin{smallmatrix} u\pi, u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$. Continuing the argument in Walkow (2011, 2012, t.a.), I also show that restrictions on combinations of third person pronouns are part of the PCC in ***C*** and ***A***.

A second area of variation addressed here is in the strategies used to realize person combinations where cliticization is blocked. So while ***C*** and ***A*** both have speakers of the strong and the ultrastrong PCC, they differ on what they do in contexts like (2) where cliticization is blocked. While ***A*** changes the morphosyntactic realization of the theme, ***C*** typically changes that of the recipient argument. This type of variation has so far not received much attention. I will show that person restrictions in ***C***

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and ***A*** arise in different syntactic structures and that these differences account for the different places where they use alternative strategies for realizing banned person combinations. Furthermore, I will show that the strategies used by the two languages are not 'last resort'-type mechanisms arising from additional operations, but are a derivational byproduct. They do not arise because special operations have applied, but because operations that would apply outside of person restrictions did not apply.

The paper is organized as follows. Section 2 introduces the two types of variation in more detail. Section 3 introduces Cyclic Agree analyses of person restrictions and shows how they relate to the two types of PCC discussed here. Section 4 shows how different syntactic structures in ***C*** and ***A*** give rise to the same person restrictions and affect the alternative strategies for realizing banned person combinations. Section 5 discusses implications of the analysis and its relation to Multiple Agree ones.

2 Two Types of Variation in Person Restrictions

Person restrictions like the PCC arise when one probe has two possible agreement targets in its domain (Anagnostopoulou 2003, 2005, Béjar 2003, Béjar and Rezac 2003). The data in this paper are from restrictions on combinations of two internal argument clitics as they arise in double object constructions and causatives. I will discuss two kinds of variation in this domain. The first concerns what I will call *granularity*. Bonet (1991) already observed that the PCC is a family of restrictions that differ on which particular combinations of person on the two internal arguments they ban. The second kind of variation concerns the alternative strategies used to realize banned clitic combinations. Languages often have morphosyntactic strategies to realize person combinations on the two internal arguments where cliticization is impossible. Languages differ on which of the two arguments, the higher or the lower one these strategies apply to. The second type of variation will be illustrated first on the example of the *ultrastrong PCC* in ***A*** and ***C***.

The *ultrastrong PCC* (U-PCC, following the nomenclature of Nevins 2007) allows combinations of two internal argument clitics as long as the syntactically higher one, the recipient, is more local than the lower one, DO, and the language treats first person (1) as more local than second person (2), and second person more local than third (3):

(3) *The Ultrastrong Person-Case Constraint:*
Two internal arguments cliticize if
   a. The higher one has a more local person specification than the lower one,
   b. where: $1 \underset{\text{local}}{>} 2 \underset{\text{local}}{>} 3$

The U-PCC is illustrated in (4/5) for ***A*** in combinations of two accusative pronouns under the verb *ʔaʕtˤaː*, 'give' (Sibawayh 1881, also Wright 1874:104, Howell 1894:540, Fassi Fehri 1988). When the recipient, lefthand clitic, is more local than the theme, righthand clitic, both pronouns cliticize, (4). When the recipient is not more local than the theme, cliticization is banned, (5) and the theme is realized as a free pronoun with the accusative marker *ʔɪjːaː-*.

(4) a. ʔaʕtˤaː **-niː** **-ka**
gave.3SG -CL.1SG -CL.2SG.M
'He gave me you'

b. ʔaʕtˤaː **-niː** **-hɪ**
gave.3SG -CL.1SG -CL.3SG.M
'He gave me him/it'

c. ʔaʕtˤaː **-ka** **-hu**
gave.3SG -CL.2SG -CL.3SG.M
'He gave you him/it' (Sibawayh 1881:336, Wright 1874:103)

(5) a. ʔaʕtˤaː **-ka** {***-niː**/ **ʔɪjːaː-ja**}
gave.3SG -CL.2SG.M {-CL.1SG/ -ACC-1SG}
'He gave me to you' (Sibawayh 1881:335/6)

b. ʔaʕtˤaː **-huː** {***-niː**/ **ʔɪjːaː-ja**}
gave.3SG -CL.3SG.M {-CL.1SG/ ACC-1SG}
'He gave me to him' (Sibawayh 1881:335/6, Wright 1874:104)

c. ʔaʕtˁa: **-hu:** {***-ka/** **ʔɪj:a:-ka**}
gave.3SG -CL.3SG.M {-CL.2SG.M/ -ACC-2SG.M}
'He gave him you' (Sibawayh 1881:336)

The pattern in (3) has also been reported for ***C*** (Bonet 1991:179, 2002:953), and Spanish (Perlmutter 1971:26) in combinations of DO and indirect object (IO) clitics.

C and Spanish differ from ***A*** in their strategies for realizing person combinations that disallow cliticization. In ***A***, all banned person combinations are realized by changing the realization of the syntactically lower DO. In Spanish and ***C*** on the other hand, all banned person combinations can be realized by changing the realization of IO (Spanish: Bonet 1991:202/3). Example (6) illustrates this in ***C*** for a 2-IO+1-DO combination, where IO appears as a strong pronoun, *a tu*, rather than a clitic. Such combinations also allow DO to be expressed by a strong pronoun. When IO is third person, changing the realization of IO is the only option and IO is realized as a bare dative marker without the third person morph /l/ (Bonet 1991, 1994, 1995), (7). I focus here on ***C***, Walkow (2012:§5.1) discusses how the current proposal extends to Spanish.

(6) **M**'ha recomanat **a tu** per a la feina la subdirectora
1-has recommended *a* 2 for the job the deputy director
'The deputy director has recommended me to you for the job' (Bonet 2002:953)

(7) **M(e)** {***li**, **/i/**} ha recomanat la senyora Bofill
1 {3.DAT, DAT} has recommended the Mrs. Bofill
'Mrs Bofill has recommended me to him/her.' (composite of Bonet 1994:33, 48)

Rezac (2007) suggests that rather than a personless dative clitic, /i/ in PCC-repairs might be the locative/directional clitic /i/ that pronominalizes a PP illustrated in (8a). Evidence against this treatment comes from quantifier float. When locative /i/ floats the quantifier *tots*, 'all,' it has to appear with *a*, (8a). When /i/ floats *tots* in PCC contexts, *a* is absent (8b).

(8) a. [Als pobles de la Marina Baixa]$_i$, t'**/i/**$_i$ acompanyaré **a tots**$_i$ demà.
to.the villages of the Marina Baixa 2SG-DAT will.accompany.1SG to all tomorrow
'I will accompany you to the villages all the villages of the Marina Baixa tomorrow'

b. [Als nens]$_i$, en Joan t'**/i/**$_i$ recomanara **tots**$_i$
to.the.PL children the Joan 2SG-DAT will recommend all
'The children, Joan will recommend you to them all'

The data from ***C*** and ***A*** show that despite both languages observing the U-PCC, they differ on where they deploy their strategies for evading person restrictions. This is not for lack of other options. ***C*** can realize combinations of 2-IO+1-DO like (6) by using a clitic IO and a free form of DO (Bonet 1991:205). Similarly, some transfer verbs in ***A*** allow the recipient to be introduced by a PP (on *ʔarsala*, 'send,' see Lane 1867:1081), which Postal (1990) argues happens in PCC repairs in French. This strategy, however, appears not to be used for PCC-repairs in ***A***. There needs to be an explanation then for how these particular repairs arise, rather than others. The PCC repairs in ***C*** and ***A*** stand out in another respect: they look rather normal. Many languages employ unusual strategies for avoiding the PCC (Bonet 1991, 1994, Rezac 2007). French and Spanish for example introduce pronominal recipients as PPs, which is not normally possible. Both ***C*** and ***A*** on the other hand introduce the repaired arguments with their normal case. Free pronouns with *ʔɪj:a:-* are also the normal way of realizing accusative pronouns when cliticization is blocked in ***A*** (Walkow in rev.), and ***C*** independently has datives without person morphology (Rigau 1982).[1] The repair strategies raise two questions then: (i) How does the grammar choose the argument to repair? and (ii) What accounts for the relative normalcy of the repairs in ***C*** and ***A***?

The second question is the granularity of person restrictions. In addition to speakers with the U-PCC, ***C*** (Bonet 1991), Spanish (Bonet 1991) and ***A*** (Jahn 1900:61) also have speakers with the so

[1]Despite their relative normalcy, the repairs in ***C*** and ***A*** still meet Rezac's (2007) criterion for true 'repairs' of not being freely available elsewhere. Cliticization in ***A*** is obligatory (e.g. Sibawayh 1881:§206ff, Howell 1894:253, Walkow in rev.) and the personless dative /i/ is only possible with inanimate datives outside of person restrictions (Rigau 1982).

called *strong PCC* (S-PCC). S-PCC speakers reject any combination of two local person pronouns. So in addition to rejecting (5a), such speakers also use free pronouns in (4a) as in (9).

(9) ʔaʕtʕa: **-ni:** {*-**ka/** **ʔɪj:a:-ka**}
give.PERF.3SG -CL.1SG {-CL.2SG.M/ ACC-2SG.M}
'He gave me you' (Jahn 1900:61)

The difference between S-PCC and U-PCC is in how finely the languages distinguish between person categories for determining what is 'more local.' Example (4a) shows that U-PCC speakers treat 1 as more local than two. That S-PCC speakers reject this example suggests that they don't. Analogously to (3), the S-PCC can be stated as in (10).

(10) *Strong PCC:*
Two internal arguments cliticize if
a. The higher one has a more local person specification than the lower one,
b. where: $\{1, 2\} \underset{\text{local}}{>} 3$

A second question in the realm of granularity is the role of restrictions on 3-pronouns. Restrictions on combinations of 3-pronouns are often relegated to the post-syntax (e.g. Anagnostopoulou 2003, Nevins 2007). All three languages that show the U-PCC also have such restrictions (Spanish: *Spurious se* Perlmutter 1971, ***C***: Bonet 1995). In combinations of 3-pronouns, ***C*** uses the same strategy for realizing the IO as in the PCC: a dative marker without person morphology, (11) (see Walkow 2011, 2012, t.a.).

(11) [...] [**l** - {***li**, **/i/**}] donaré demà
[...] 3 - {3.DAT, DAT} will.give(1.st) tomorrow
'I will give him it tomorrow.' (composit of Bonet 1995:610 and 639)

Sibawayh (1881) reports that some combinations of 3-pronouns were possible in ***A***, but that even those were typically avoided (see Walkow in rev.) by realizing DO as a free pronoun, (12).

(12) ʔaʕtʕa: **-hu** **ʔɪj:a:-hu**
gave.3SG -CL.3SG.M ACC-3SG.M
'He gave him it' (Sibawayh 1881:336, Wright 1874:104)

C and ***A*** use the same strategies for avoiding restrictions on combinations for 3-pronouns and the PCC. An analysis that relegates the two to different parts of the grammar would have to treat this as an accident. Furthermore, the morphological analysis of restrictions on combinations of 3-pronouns is often supported by the fact that they lead to a morphologically reduced realization of the affected argument, while PCC leads to more syntactic looking repairs like free pronouns. This association breaks both ways in ***C*** and ***A***. ***C*** uses a morphologically reduced form for 3-IOs in both PCC and restrictions on 3 and ***A*** uses a free pronoun in both contexts. Finally, the definitions of S-PCC and U-PCC in (10) and (3) naturally extend to restrictions on 3-clitics: when both clitics have the same person specification, the higher one is not more local than the lower one. I take this to be further evidence that the PCC and restrictions on 3-pronouns are two parts of the same phenomenon.

3 Granularity in Person Restrictions

This section introduces the syntactic assumptions that underly all syntactic analyses of person restrictions in one way or another and then proceeds to the representation of person categories in terms of sets of privative features (Béjar and Rezac 2009) that derives granularity in Cyclic Agree analyses. The PCC-patterns in (3/10) follow if the probe access the lower argument (DO) before the higher one. The difference between S-PCC and U-PCC follows from how many uninterpretable features are present on the probe.

Person restrictions arise when one probe has two goals in its domain (i.a. Anagnostopoulou 2003, 2005, Béjar 2003, Béjar and Rezac 2003, 2009, Adger and Harbour 2007). This situation

Person:	3rd	2nd	1st
Feature Specification:	[π]	[π] [PART(ICIPANT)]	[π] [PART(ICIPANT)] [SPEA(KER)]

Table 1: Person categories as bundles of privative features (Béjar and Rezac 2009:42).

can arise between *v* and two internal arguments, between T and nominative objects as in dative-nominative constructions in Icelandic (Taraldsen 1995), or between subjects and objects (e.g. Béjar 2003, Béjar and Rezac 2009). In the PCC contexts discussed here, both arguments cliticise and appear in their normal morphological form when both Agree. Alternative strategies appear when both arguments cannot agree with the same probe. With the exception of the Multiple Agree-analyses in Anagnostopoulou (2005) and Nevins (2007), all such analyses build on the ideas that (i) probes consist of multiple features that can enter Agree independently of one another, and (ii) that probes Agree with one goal at a time, at each step deactivating the features that the probe and the goal share. Successful Agree between the probe and the two goals is possible, when after Agree with the first goal, the probe has appropriate features left to Agree with and license the second one. Person based restrictions arise because local person pronouns are subject to the special licensing requirement in (13).

(13) *Person Licensing Condition* (PLC):
An interpretable 1st/2nd person feature must be licensed by entering into an agree relation with a functional category. (Béjar and Rezac 2003:53)

Here and in other work (Walkow 2011, 2012, t.a.), I follow Béjar and Rezac (2003) and Preminger (2011b) in assuming that (13) is indeed specific to person features, and does not follow from the Case Filter. If the first Agree relation a probe has entered in has valued the probe's local person features, the second Agree can no longer license a local person argument. Third person features are outside of (13). Walkow (2011, 2012, t.a.) argues that instead of ungrammaticality, the failure of a 3-feature to Agree leads to it not being realized morphologically.

Béjar (2003) and Béjar and Rezac (2009) capture the granularity of person restrictions between subjects and objects by a system of person features where more local categories subsume the features of less local ones. I will show that this system can also account for the difference between S-PCC and U-PCC. Building on morphological work about implicational relations among person categories, Béjar and Rezac develop a syntactic representation of 1, 2 and 3 as sets of privative features, Table 1. 3 is the person category with the fewest features, represented only as [π]. 1 and 2 have an additional [PART]-feature that sets local person categories apart from 3. 1 and 2 are further distinguished from one another by the feature [SPEA]. The representations in Table 1 allow a statement of the 'more local' part of the descriptions of S-PCC and U-PCC in terms of subset relations. A person category *X* is 'more local' than person category *Y*, if *X*'s person features are a superset of *Y*'s.

The feature bundles in Table 1 represent person on goals. Probes have unvalued variants of these features (on valuation in a system with privative features see Béjar 2003). How many of these features are present on the probe, $\left[\begin{smallmatrix} u\pi, u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$ vs. $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ vs. [$u\pi$], determines how finely probes distinguish between person categories. For example, a probe that is specified as $\left[\begin{smallmatrix} u\pi, u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$ can distinguish between 1 and 2, because 1 values all of its features, but 2 leaves [*u*SPEA] active. By the same logic it can distinguish between 2 and 3. This is the granularity of the U-PCC, (3). The U-PCC distinguishes between all three person categories. A probe that is only specified for $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ on the other hand is fully valued by Agree with either 1 or 2, and only distinguishes between 3 and local person. This is the granularity of the S-PCC, (10), which only distinguishes between local person and third. The specification as either $\left[\begin{smallmatrix} u\pi, u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$ or $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ thus corresponds to the difference in granularity between S-PCC and U-PCC.

For the syntax of person restrictions, this means that one probe can Agree with two goals when (i) the first goals's features are a subset of those of the probe, and (ii) the second goal has a superset of the features of the first goal, i.e. the second goal is more local than the first. This entails that the probe responsible for the S-PCC and U-PCC Agrees with the lower argument, DO, first and then

with the higher one.

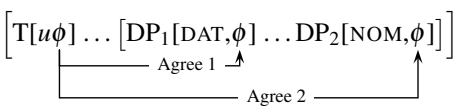
To summarize, S-PCC and U-PCC share the locality pattern of probing the lower before the higher argument. The specification of the probe determines the granularity of the PCC: A probe specified as $\left[\begin{smallmatrix} u\pi,\ u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$ derives the U-PCC and one specified as $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ the S-PCC. This entirely parallel to the account of granularity in person restrictions between subjects and objects in Béjar (2003) and Béjar and Rezac (2009). The derivation of the S-PCC will be illustrated in more detail for ***C*** in Section 4.1, and that of the U-PCC for ***A*** in Section 4.2.

4 Syntactic Structure and the Place of Repair

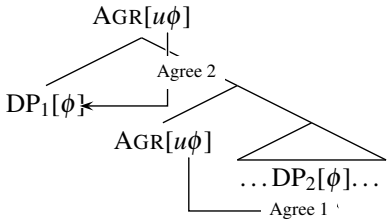
In general terms, the proposal in this section is that the syntactic structure that person restrictions arise in affects the shape and place of the alternative strategies used when both goals cannot Agree with the same probe. This section introduces the locality interactions that give rise to person restrictions in general terms. Sections 4.1 and 4.2 will present ***C*** and ***A*** as two case studies of how the different alternative strategies for realizing banned person combinations arise from differences in syntactic structure. In addition, I argue that the alternative strategies used in ***A*** and in ***C*** in (7) and (11) are not the result of last resort mechanisms as argued for other repairs in Rezac (2007), but are the result of regular derivational processes.

Two types of configurations have been observed to give rise to person restrictions. The probe can be above both arguments leading to the defective intervention pattern in Icelandic dative-nominative constructions, (14) (Anagnostopoulou 2003). The probe can also be between the two arguments taking the higher one as its specifier, (15). In this case the probe can access it's specifier via *Cyclic Expansion* (Rezac 2003, Béjar and Rezac 2009). Rezac (2003) derives the seemingly

(14) *Icelandic dative-nominative constructions*:



(15) *Cyclic Expansion:*



upward probing pattern of cyclic expansion is the byproduct of the expansion of the phrase marker. When the probe's specifier is merged, a label for the resulting projection is created. According to Chomsky (2000), this label is identical to the head. The label of the projection accordingly contains the probe with its unvalued features and probes its specifier. In addition, movement can affect person restrictions that arise in a structure like (14), by moving the lower argument across the higher one closer to the probe (Anagnostopoulou 2003, Rezac 2008). In Icelandic, for example, scrambling the nominative object above the dative subject can alleviate person restrictions.

A combination of the pattern in (14) and argument movement derives the changed realization of IO in ***C*** (§4.1, Walkow 2012, t.a.). Cyclic expansion underlies person restrictions in ***A*** (§4.2).

4.1 Central Catalan: Argument Movement and Intervention

In ***C***, the PCC arises in a structure where DO has moved across IO deriving the DO-before-IO pattern evident in (3) and (10). The alternative realization of IO when cliticization is banned follows from the fact that IO fails to Agree with *v* in these contexts.

Walkow (2012, t.a.) shows that person restrictions in ***C*** arise in the syntactic structure in Figure 1. DO and IO are introduced as complement and specifier of an applicative head in the complement of V (English: Pylkkänen 2002, Spanish: Cuervo 2003). DO moves to a position above IO, which is visible in DO-IO order between 3-clitics, and DO-IO order between non-clitic arguments (similarly for Spanish Cuervo 2003). The probe responsible for person restrictions is on *v*. The examples discussed here illustrate the S-PCC.

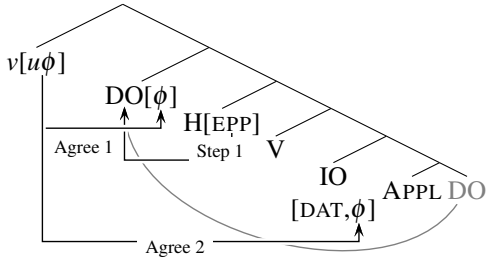


Figure 1: Syntactic structure of person restrictions in Catalan.

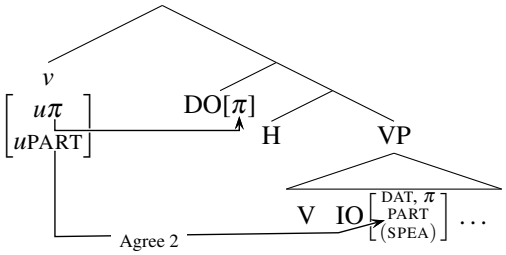


Figure 2: Convergent derivation for 1/2-IO+3-DO in strong PCC Catalan.

In combination with a probe specified as $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$, the structure in Figure 1 derives the clitic combinations where $\text{IO} \geq_{\text{local}} \text{DO}$ as in Figure 2. The probe Agrees with DO first, due to DO's movement over IO. Its [$u\pi$]-feature Agrees, leaving the [PART]-feature to Agree with IO (see Béjar and Rezac 2009 on the sufficiency of Agreeing in only one feature). Both arguments enter Agree and can cliticise. Since the probe only has $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$, the only combinations where the probe can Agree with both arguments are those where DO is 3, and IO is local person. This is how the S-PCC was originally stated (Bonet 1991, 1994).

The situation is different when DO's features are not a subset of IO's. I begin by discussing cases like (7/11) where IO is 3, and surfaces as a bare dative case marker, Figure 3. Again, *v*'s probe Agrees with DO before IO. Since 3-IOs only have the person feature that is shared by all other person categories, [π], DOs of all person categories block *v*'s probe from Agreeing with IO. Since [π]-features are outside the purview of (13), the derivation can converge despite IO's failure to enter Agree. As a result of failing to Agree though, IO's 3-feature fails to be realized morphologically, leading to the realization of IO as a bare dative case marker. This happens irrespective of whether DO is 3 or local person (see Walkow 2011, 2012 for other differences between contexts with 3-DOs and 1/2-DOs). The fact that the realization of IO is affected in person constraint environments follows from the syntactic structure where DO moves across IO. The realization of IO without person features is not the result of a last resort process, but a byproduct of regular derivational processes.

Finally, in combinations of two local person pronouns, the derivation does not converge at all, Figure 4. Movement has placed DO above IO, allowing DO to Agree with and value all of the probe's features. IO's [PART]-feature fails to Agree, in violation of (13). The derivation cannot converge as is. Since IO is the argument which fails to Agree, it makes sense that repair strategies for rescuing the derivation would be deployed on IO as in (6). It remains open at this point though why realization of DO as a strong pronoun is also a possibility in these person combinations.

Both the PCC itself and the alternative structures that arise when cliticization is banned can be derived in ***C*** from a syntactic structure where DO moves across IO and IO fails to Agree when it is not more local than DO. Whether this failure leads to ungrammaticality or reduced morphological realization follows from IO's feature specification.

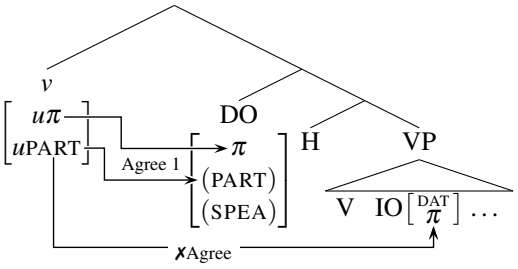


Figure 3: Convergent derivation for 3-IO+1/2/3-DO in strong PCC Catalan.

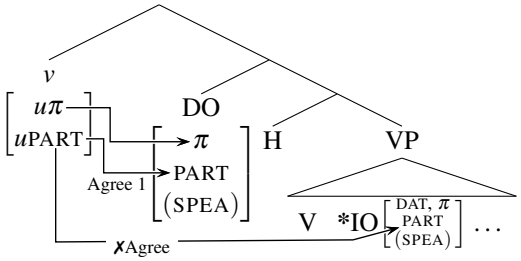


Figure 4: No convergent derivation for 2/1-IO+1/2-DO in Strong PCC Catalan.

4.2 Classical Arabic: Cyclic Expansion and Head Movement

In ***C***, the PCC arises in causative constructions with two independent probes, one of which can Agree with the direct object and the causee by cyclic expansion. The alternative realization of DO arises from the interaction the syntactic Agree relations of the probes and their relation to morphological realization.

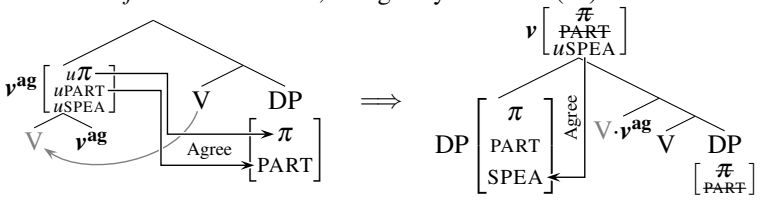
Walkow (in rev.) argues that verbs like *ʔaʕtˤaː*, 'give,' in ***A*** are causatives with the structure in (16), where (i) v^{caus} takes (at lest) v^{ag} as its complement, (ii) head movement raises V to v^{ag} and v^{caus} (shown in gray), and (iii) both v^{ag} and v^{caus} carry ϕ-probes.

(16) $\Big[\ \mathrm{V}\cdot v^{ag}\cdot \boldsymbol{v}^{\mathbf{caus}}_{[u\phi]}\ \big[\ \mathrm{DP}^{causee}_{[\mathrm{ACC}]}\ \big[\ \mathrm{V}\cdot \boldsymbol{v}^{\mathbf{ag}}_{[u\phi]}\ \big[\ \mathrm{V}\quad \mathrm{DP}^{DO}_{[\mathrm{ACC}]}\ \big]\big]\big]\Big]$

From its base position, v^{ag} Agrees first with with DO, and then by cyclic expansion with the causee. Together with a probe that is specified as $\left[\begin{smallmatrix} u\pi,\ u\mathrm{PART} \\ u\mathrm{SPEA}\end{smallmatrix}\right]$, this derives the U-PCC as discussed in Section 4. The realization DO as a free pronoun in person effect environments follows from the presence of two probes and the way the Agree-relations of the two probes feed morphological realization as clitics.

The person combination that differentiates S-PCC and U-PCC is illustrated in (4a) vs. (9): the higher argument is 1 and the lower one 2. The derivation of this combination is illustrated in (17). From its base position v^{ag}'s probe Agrees with DO, valuing its [$u\pi$]- and [uPART]-features (Step

(17) *Derivation for ʔa-ʕtˤaː-niː-ka*, 'He gave you to me' (4a):

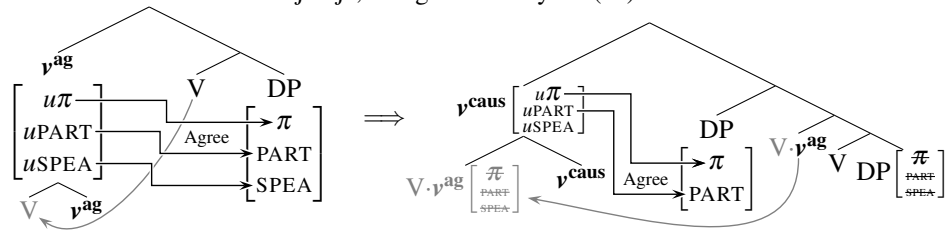


1). This leaves the probe's [uSPEA]-feature active, unlike in the parallel configuration in the S-PCC, Figure 4. After v^{ag}'s specifier is merged and a new label of the resulting projection is computed and the [uSPEA]-feature can Agree with v^{ag}'s specifier. Thanks to the greater complexity of the probe, Agree with 2 and 1 in that order is possible. All other combinations where the causee is more local than DO follows the same logic.

Two more remarks are in place about unvalued features on probes. In combinations like Figure 2, v^{ag} will be left with an unvalued [uSPEA]-feature. More generally, the probe on v^{caus} does not Agree at all when v^{ag} Agrees with both arguments. Both of these are unproblematic. Béjar and Rezac (2009) propose that probes are licensed if at least one of their features has successfully Agreed. Preminger (2011a) more generally argues that a probe's failure to Agree successfully never leads to ungrammaticality. v^{caus}'s failure to Agree then is unproblematic.

When the higher argument is not more local then the lower one, v^{ag}'s probe cannot Agree with both arguments, as illustrated in (18) for an example with a 1-DO and a 2-causee. Due to the structure of person categories in Table 1, DO deactivates any features on the probe that it shares with the causee. This applies independently of whether local person arguments are involved or 3-ones. In these cases, v^{caus}'s probe is the Agrees with the causee.

(18) Derivation for *ʔaʕtˤaː-ka ʔɪjːaː-ja*, 'He gave me to you' (5a):



How do the syntactic relations in (17) and (18) translate into the morphological realization of (17) as the clitic combination in (4a) and (18) as a causee clitic and a free DO pronoun? The

fundamental difference between them is that there is only one valued probe in *v*-domain in (17), while there are two in (18). Furthermore, the argument that cliticizes in (18) is the one that the highest probe in the *v*-domain has Agreed with. I propose that cliticization in ***A*** is the morphological expression of the Agree-relations of the syntactically highest valued probe in the *v*-domain. In (17), that is v^{ag}'s probe. Since v^{ag} has Agreed with both DO and the causee, both cliticize. In (18) on the other hand, the highest valued probe is v^{caus}'s, and accordingly only its goal, the causee, cliticizes. DO in such contexts is realized as a free pronoun in its normal case, because unlike IOs in Figure 4, DOs in ***A*** never fail to Agree and so do not run afoul of the PLC in (13). The only thing that fails in (18), is that the Agree relation between v^{ag} and DO fails to feed cliticization.

5 Discussion

This paper has shows that that (i) a Cyclic Agree system can derive the PCC if the probe accesses the lower before the higher argument, (ii) the specifications of the probe as either $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ or $\left[\begin{smallmatrix} u\pi,\ u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$ derive the S-PCC and U-PCC respectively, (iii) that the PCC and restrictions on combinations of 3-pronouns follow from the same system, (iv) the different syntactic structures in which PCC can arise affect the shape and place of the strategies used to realize PCC-violating person combinations, and (v) some of these strategies follow from regular derivational processes.

The discussion here has focussed on the specifications $\left[\begin{smallmatrix} u\pi \\ u\text{PART} \end{smallmatrix}\right]$ and $\left[\begin{smallmatrix} u\pi,\ u\text{PART} \\ u\text{SPEA} \end{smallmatrix}\right]$ and their relation to S-PCC and U-PCC, but left out the simplest specification $[u\pi]$. Béjar and Rezac (2009) argue that this is the person specification of T in Icelandic, but adopt Anagnostopoulou's (2003) proposal that T has an additional number probe. In clitic restrictions, a probe with only $[u\pi]$ would rule out any clitic combinations, because a probe could never Agree with two arguments. This situation arises in later stages of ***A***, where no clitic combinations were possible. One could speculate that this loss clitic combinations arose from a change in the specification of the probes in *v*P to $[u\pi]$. Shlonsky (1997:207) reports a similar situation for Cairene and Palestinian Arabic, where either one of the internal arguments can cliticize, but no clitic combinations are possible. Intriguingly, the two varieties differ in how they realize pronoun combinations along the lines that ***C*** differs from ***A***. Cairene Arabic changes the realization of the recipient, while Palestinian Arabic uses ***A***'s strategy of realizing DO as a free pronoun. These data suggest that the absence of clitic combinations is a non-person sensitive form of clitic restrictions, and a probe specified as $[u\pi]$ can derived it in the proposal here.

Returning to the relation between Multiple and Cyclic Agree, a Multiple Agree system like Nevins (2007) cannot derive the restrictions on 3-pronouns syntactically. Any parameterization of Multiple Agree allows a probe to Agree with two arguments that have the same person specification. Such a system does not offer a unified explanation for why the same strategies are used to realize combinations of 3-pronouns and PCC-structures involving third person recipients. A Multiple Agree system also cannot derive the different strategies of realizing banned person combinations from differences in underlying structure. The parameterizations of Multiple Agree rely on a $\left[v[u\phi]\ [\text{IO} \ldots \text{DO}]\right]$-structure. So when Multiple Agree fails, it will always affect the licensing of DO, never IO.

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