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The Person Case Constraint

The syntactic encoding of perspective

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Abstract We propose a theory of the person restrictions in clitic double object constructions, a phenomenon known as the *Person Case Constraint* (PCC). In our proposal, the PCC is concerned with the encoding of perspective, and is, as such, a syntax-semantics interface phenomenon. A phase-based Person-Constraint, triggered by an interpretable person feature on the Applicative head, is responsible for the grammatical marking of the indirect object as a point-of-view center. Variation in the values of the interpretable person feature are shown to have counterparts in logophoric roles. The Person-Constraint has several clauses, which are subject to parametric variation, and which account for the range of cross-linguistic variation in PCC effects. The clauses of the P-Constraint are regulated by a theory of markedness, making predictions about how widely attested and robust the different types of PCC grammars are.

Keywords Person case constraint · Person hierarchy · Person agreement · Logophoricity · Perspective · Point of view

1 Introduction

In a number of typologically diverse languages, structures with two objects show person restrictions when the two objects are clitic pronouns or when they trigger verbal agreement. This phenomenon has come to be known as the *Person Case Constraint* (PCC) after Bonet (1994), and several different varieties of PCC effects have been

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documented cross-linguistically. The literature has generally treated the phenomenon as morphological and/or syntactic: accounts range from explanations in terms of constraints on morphological outputs (Bonet 1991, 1994; Perlmutter 1971; Tucker 2013), to (optimality-theoretic) modeling of alignment constraints, including alignment between hierarchies (Rosen 1990; Artstein 1998; Gerlach 2002; Sturgeon et al. 2011; Doliana 2013), to syntactic analyses centered on the (im)possibility of person agreement between a probe on a verbal head and the two objects (Béjar and Rezac 2003, 2009; Anagnostopoulou 2003, 2005; Nevins 2007, 2011; Adger and Harbour 2007; Walkow 2012; a.o., see Anagnostopoulou 2017, for a recent overview).

We suggest that the PCC should be re-conceptualized as a syntax-semantics interface phenomenon. The core ideas of our proposal are: 1) the PCC is semantically rooted in the grammatical marking of perspective and this interpretative aspect of the phenomenon is universal; 2) the cross-linguistic variation in PCC effects is the result of a syntactic agreement mechanism that (i) manipulates person features whose values are semantically motivated and have correlates in logophoric roles, and (ii) is subject to markedness constraints, resulting in asymmetries among PCC grammars. Aspects 1) and 2) of our theory are organically linked through the workings of a *P*(*erson*)*-Constraint*, which marks the indirect object as a *point-of-view center* and further regulates the person features of the indirect and direct object in accordance with language-specific parameter settings, ensuring the features of the indirect object are semantically fitting to its point-of-view role.

With respect to 1) above we argue that the PCC effects are triggered by an *interpretable* person feature on a functional head associated with the encoding of perspective. That functional head is the Appl(icative) head, which introduces the indirect object argument. In addition to the thematic role that Appl assigns to the indirect object, the interpretable person feature on Appl marks the indirect object as a particular type of perspectival center, a *point-of-view center*: it denotes an individual whose point of view is adopted in the grammatical description of the underlying event (cf. Charnavel and Mateu 2015). First and second person arguments (1P and 2P) represent speech act participants, and as such are universally privileged for the status of being point-of-view centers, though different grammars may make further distinctions between the two. Thus, there is an affinity between indirect objects in double object constructions with clitics, the arguments grammatically marked as point-of-view centers, and 1P/2P, the person features most suitable for point-of-view centers, though how precisely this affinity is realized varies among different grammars. We encode the universal feature of the PCC—the marking of the indirect object as a point-of-view-center—as a clause of a P-Constraint on Appl domains triggered by the interpretable person feature on Appl.

Aspect 2) of our theory accounts for the cross-linguistic variation observed in PCC effects through the implementation of a syntactic agreement mechanism, encoded in the above-mentioned P-Constraint. Two points are particularly notable concerning the treatment of variation. (i) We posit that the value of the interpretable person feature on Appl can vary among a small set of specifications that are semantically appropriate for the logophoric role of point of view. Agreement with the interpretable person feature on Appl directly constrains the person features of the indirect object, and so, depending on the value of the interpretable person feature in individual grammars,

the indirect object can be restricted to just 1P, or more broadly to 1/2P, or it can also include third persons (3Ps), provided they are suitable candidates for perspectival centers (i.e., they are not inanimate). A second, *uninterpretable* person feature on Appl agrees with the direct object, and through a mechanism that compares the values of the two person features on Appl (namely, the P-Constraint), the person features of the direct object are appropriately constrained as well. (ii) The clauses of the P-Constraint that concern agreement with the indirect and direct objects have default and marked settings, introducing an additional source of variation, and importantly, making predictions of how robust or fragile the different PCC effects are.

Three lines of research are predecessors to our theory of the PCC as encoding point of view. The first concerns person-sensitivity effects in the alignment of external and internal arguments, expressed as direction marking (e.g., in Algonquian languages, DeLancey 1981, among many others). It was first proposed in the functionalist literature that person-sensitive alignment effects in direct/inverse languages reflect the grammatical marking of viewpoint (DeLancey 1981).[1] The idea that direction marking involves point of view is developed in generative terms in Bliss (2005, 2013) and Wiltschko (2014), and in terms directly comparable to the analysis developed here, in Zubizarreta and Pancheva (2017), where the P-Constraint was first introduced. Extending the perspective-based approach to the PCC allows for a uniform account with person-sensitive alignment in direct/inverse systems.

The second line of research motivating the proposed link between PCC and point of view concerns an interpretative effect in double object constructions with clitics, discovered by Roca (1992), and further elaborated on and named the *Clitic Logophoric Restriction* (CLR) by Charnavel and Mateu (2015), who propose an account for it based on the idea that the indirect argument in double object constructions with clitics is a point-of-view center. The authors also extend their proposal to one type of PCC effect known as the strong PCC. We adopt the idea that the indirect object clitic is a point-of-view center and that this logophoric role is central to understanding the PCC from Charnavel and Mateu (2015), and we offer an account that covers all attested varieties of PCC. While ultimately we suggest that the CLR and the PCC are partly distinct phenomena, we retain from Charnavel and Mateu (2015) the proposal that a central aspect of both is the grammatical marking of the indirect object clitic as a point-of-view center.

Finally, we view the interpretable person feature that underlies the PCC (and direct/inverse systems) as the formal counterpart of *interpretable* tense and aspect features. Here we are inspired by Ritter and Wiltschko (2014) and Wiltschko (2014), who suggest that the categories of tense-aspect and person are alternative ways for realization of functional structure in the inflectional domain of the clause in different languages. In the spirit of this idea, we suggest that the encoding of person-based perspective is the core function of interpretable person features on functional heads—Appl in the case of the PCC, Infl and v in direct/inverse alignment (Zubizarreta and

[1] DeLancey (1981) extends his proposal about the marking of viewpoint to person-based split ergativity (e.g., in Kham, DeLancey 1981; Dyirbal, Dixon 1979). The essential similarity of these two types of person-sensitive systems of inflectional realization of external and internal arguments—direction marking and person-based split ergativity—has long been recognized (Dixon 1979; DeLancey 1981; Alexiadou and Anagnostopoulou 2006, a.o.), although see Legate (2014) for a morphological syncretism account of split ergativity based on nominal type.

Pancheva 2017)—just like the encoding of temporal perspective is the key role of interpretable tense and aspect features.

2 Person-sensitivity effects

2.1 Argument alignment and the Person Hierarchy

As an illustration of the PCC, consider the case of French. The hierarchical arrangement of the indirect and direct objects in double object constructions has to match the relative prominence of 1P/2P > 3P: the hierarchically lower direct object can only be 3P, while the prominence of 1P/2P arguments makes them suitable only for the structurally higher indirect object position (Perlmutter 1971; Rezac 2011, among many others).

(1) a. Elle {*te* / *me*} *le* présentera. *French*
she 2SG 1SG 3SG.MASC.ACC will.introduce
'She will introduce him to you/me.'
b. *Elle {*te* / *me*} *lui* présentera.
she 2SG 1SG 3SG.DAT will.introduce
'She will introduce you/me to him.'

Originally observed in Romance (Perlmutter 1971; Kayne 1975; Bonet 1991, a.o.), the PCC has also been documented for Warlpiri (Hale 1973); Greek (Warburton 1977; Bonet 1991; Anagnostopoulou 2003, 2005); the Slavic languages (Migdalski 2006; Bhatt and Šimík 2009; Medová 2009; Sturgeon et al. 2011); Classical Arabic (Fassi Fehri 1993; Walkow 2012); the Bantu languages (Duranti 1979); the Kiowa-Tanoan languages Kiowa (Adger and Harbour 2007) and Southern Tiwa (Rosen 1990); Kambera, a Malayo-Polynesian language (Klamer 1997, 1998; Haspelmath 2004; Georgi 2008; Doliana 2013); Yimas, a Ramu-Lower Sepik language of Papua New Guinea (Foley 1986), and many others (see Haspelmath 2004; Anagnostopoulou 2017). The PCC is observed with both clitics and agreement affixes.

The PCC is part of a broader phenomenon of person-sensitivity effects in argument structure realization. While the PCC regulates the person features of direct and indirect objects, in direction-marking languages inflectional morpho-syntax tracks the relative prominence of the external and internal argument in terms of person features (Silverstein 1976; DeLancey 1981; Klaiman 1992; Aissen 1997, 1999; Nichols 2001; Bruening 2001, 2005; Bliss 2005, 2013; Zúñiga 2006; Béjar and Rezac 2009; a.o.; see Jacques and Antonov 2014 for a recent overview). The similarities between the PCC and direct/inverse alignment have been pointed out by Haspelmath (2004), Anagnostopoulou (2005), Bianchi (2006), Béjar and Rezac (2009), and Nevins (2011). Alexiadou and Anagnostopoulou (2006) and Coon and Preminger (2012) also note that person-based ergative splits show parallels to the PCC (and direct/inverse systems).

Both the PCC and the person-based alignment systems can be described in terms of a Person Hierarchy as in (2), where arguments corresponding to speech act participants, 1P and 2P, are considered more prominent than those corresponding to non-speech participants, 3P (see (2a), thought to be a universal constraint), and where fur-

ther distinctions could be made between participants and between non-participants on a language-particular basis, as in (2b,c).[2,3]

(2) Person Hierarchy
   a. 1P/2P > 3P
   b. 1P > 2P
   c. 3P Proximate > 3P Obviative

The relevance of clause (2a) of the Person Hierarchy to the PCC can be seen in the French example in (1): combinations of 1/2P and 3P arguments can only be realized with the former being the indirect object and the latter the direct object. Clauses (2b, c) are not relevant for French: combinations of 1P and 2P arguments are prohibited, and there are no proximity restrictions on 3P arguments. This variety is known as the *strong PCC*.

The relevance of clause (2b) can be seen in a variety of PCC known as the *ultra-strong* (Nevins 2007), found among a well-represented group of speakers of Spanish and Catalan. The ultra-strong PCC ranks 1P higher than 2P in that it allows the 2P but not the 1P to be the direct argument in double object constructions. For speakers of Spanish who have the Ultra-Strong PCC, examples like (3) are possible, but not ambiguous. Two participant clitics can co-occur, but despite the fact that they do not show a distinction between dative and accusative case, the 1P clitic has to be understood as the indirect object.[4]

(3) El *te* *me* recomendó (a mí). *varieties of Spanish*
he 2SG 1SG recommend (to me)
'He recommended you to me.'
not: 'He recommended me to you.'

Finally, some languages make a distinction between 3P arguments as far as the PCC is concerned, in accordance with (2c). So-called *leísta* dialects of Spanish use the dative clitic *le* for animate direct objects. Ormazabal and Romero (2007: 321, ex. (16a–b)) note that in a certain *leísta* dialect this clitic cannot co-occur with an indirect object clitic, triggering a PCC effect, (4b). This *leísta* dialect uses the accusative clitic in this context so as to avoid a PCC violation; (4a).

(4) a. *Te* *lo* di. (*a leísta Spanish dialect*)
2SG 3SG.INANIM.ACC gave
'I gave it/him to you.'

[2]Various names and characterizations have been given to such hierarchies of person and other categories of reference, e.g., Empathy Hierarchy (DeLancey 1981: 644), Animacy Hierarchy (Comrie 1989:128), Hierarchy of Reference (Zwicky 1977), among others. See Lockwood and Macaulay (2012) for a recent overview.

[3]The proximate/obviative distinction in 3Ps is influenced by animacy, as well as by pragmatic factors such as topicality and salience (Jacques and Antonov 2014: 304). Even in the absence of special proximate/obviative marking, we understand the underlying distinction to be one of 'mental proximity,' i.e., suitability to be a perspectival center.

[4]Other speakers of Spanish either do not accept such examples (Bonet 1991; Ormazabal and Romero 2007), or find them ambiguous (Bonet 1991), which suggests that they have the strong PCC or yet another variety, known as the *weak* PCC. These cases will be discussed later in the paper.

b. **Te le* di.
2SG 3SG.ANIM.ACC gave
'I gave him to you.'

The above data suggest that languages may equate animacy with proximate-marking and inanimacy with obviative-marking, and thus make a distinction between 3P proximate and 3P obviative arguments, in conformity with clause (2c) of the Person Hierarchy.

The three types of distinctions in (2a, b, c) and the inherent asymmetry among them in terms of their universal or language-specific status are widely recognized in the literature on direct/inverse systems, e.g., Zúñiga (2006) and Jacques and Antonov (2014), but not in formal accounts of the PCC. We believe that this should be remedied, and we develop an account centered on markedness relations between a small number of agreement parameters and between the feature values they manipulate. As a result, our account predicts that certain varieties of PCC effects should be more widely attested in languages and be more robust among speakers, while other varieties should be restricted in their cross-linguistic distribution and be relatively less stable. The parameters we posit are also directly applicable to direct/inverse inflectional systems (Zubizarreta and Pancheva 2017), allowing us to formally unify the two phenomena.

We emphasize that while the Person Hierarchy captures the types of person-sensitivity effects observed in the PCC and direct/inverse systems and their language-universal/specific nature, it is only a descriptive generalization and we do not adopt it as a primitive of grammar. We seek to derive it from more fundamental principles. Ultimately, our analysis does not make reference to the hierarchy in (2), but it captures its essence, through the link with the encoding of perspective: the asymmetry among persons stems from their suitability for being perspectival centers. This essential nature of person-sensitivity effects is lost in analyses of the PCC in terms of syntactic agreement triggered by uninterpretable features. Our account on the other hand preserves the interpretative import of the Person Hierarchy, while rendering it epiphenomenal.

2.2 Anti-logophoricity effects in clitic double object constructions

Roca (1992) observes that in clitic double object constructions in Spanish the accusative clitic cannot be bound by an animate antecedent. Compare (5) and (6) (Ormazabal and Romero 2007: 327–328, ex. (31b, 32b)): the animacy of the matrix subject in (5) makes it an impossible binder for the accusative clitic, while the same configuration, but with an inanimate subject, allows binding in (6).[5]

(5) Mateo$_i$ piensa que *se* *lo*$_{*i/j}$ entregaste a la policía. *Spanish*
Mateo thinks that DAT 3SG.ACC handed.2SG to the police
'Mateo thinks that you handed him over to the police.'

[5]Roca (1992) further notes that the effect only holds when the indirect object clitic is 3P, but not when it is 1P or 2P.

(6) El paquete$_i$ especifica que *se* *lo*$_i$ entregues al portero.
the package specifies that DAT 3SG.ACC hand-SUBJ. 2SG to-the doorman
'The package specifies that you should hand it over to the doorman.' *Spanish*

However, Charnavel and Mateu (2015) demonstrate that binding is not the correct explanation for the facts in (5)–(6). They show that even in the absence of c-command, when no binding is involved, the accusative clitic cannot be co-referential with a DP denoting an attitude holder. The semantic effect is illustrated in (7)–(8) from Spanish (Charnavel and Mateu 2015: 11, ex. (21b) and (22b), shortened); the authors give parallel examples from French.

(7) *Según el niño$_i$, las maestras *se*$_k$ *lo*$_i$ encomendarán, a la
according to the boy the teachers DAT ACC.3MSG entrust.FUT.3PL to the
asistenta$_k$.
assistant
'According to the child, the teachers will entrust him to the assistant.'

(8) *La carta del prisionero$_i$ explica que *se*$_k$ *lo*$_i$ entregaron
the letter of.the prisoner explains that DAT ACC.3MSG hand.PST.3PL
al juez$_k$.
to.the judge
'The letter of the prisoner explains that they handed him over to the judge.'

Given the facts of (7) and (8), it must not be binding per se that creates a problem with *Mateo* being an antecedent for the accusative clitic in (5), but the fact that *Mateo* refers to an individual whose perspective—that of a belief-holder—is represented in the sentence. In (6) binding of the accusative clitic does not lead to unacceptability because the antecedent, being inanimate, does not represent an attitude holder. Further evidence for the claim that the relevant factor is the interpretation of the accusative clitic as a perspectival holder rather than its animacy, comes from the fact that only *de se* interpretation of the accusative clitic is ruled out in cases like (5) (this was first noted by Bhatt and Šimík 2009). Mateo has to think *about himself* that he was handed over to the police, for the sentence to be unacceptable. If Mateo's thought is about a person who he doesn't recognize as himself, then the sentence is acceptable. Charnavel and Mateu (2015) too point out that in (7) and (8) co-reference between the accusative clitic and the attitude holder (the boy/the prisoner) is prohibited only under *de se* interpretation.

Charnavel and Mateu (2015) name the phenomenon the *Clitic Logophoric Restriction* (CLR) and explain it in terms of a perspectival clash. The authors propose that the indirect and direct object clitics form part of a single logophoric domain, and that the possible realization of perspectival centers within this domain is guided by the principle that only elements that are non-adjacent on a posited hierarchy of perspectival centers as in (9) can appear jointly within the domain.

(9) *discourse participant* > *empathy locus*[6] > *attitude holder*

According to Charnavel and Mateu (2015), the CLR obtains because the indirect object clitic is an *empathy locus* and so, if the direct object clitic is interpreted as an *attitude holder*, two elements adjacent on the scale in (9) will appear in the same logophoric domain. Charnavel and Mateu (2015) further propose to unify the CLR with the strong PCC (as Roca 1992; Ormazabal and Romero 2007; and Bhatt and Šimík 2009 have also attempted to do). Perspectival clash with respect to the hierarchy in (9) is invoked here as well. The co-occurrence of two discourse participants (1P and 2P), or of a discourse participant and an empathy center (i.e., a 1P/2P accusative clitic and a 3P dative clitic) would lead to a clash between elements in the upper part of the hierarchy in (9) and thus will be precluded, deriving the strong PCC pattern.

The interpretive effects discovered by Bhatt and Šimík (2009) and Charnavel and Mateu (2015) strongly suggest that the PCC is connected to semantic issues of perspective taking—in fact, Charnavel and Mateu (2015) propose as much for the strong PCC. The analysis of the PCC that we develop acknowledges this link. We adopt from Charnavel and Mateu (2015) the idea that the indirect object in double object constructions in the relevant languages is a perspectival center, and propose that the syntactic encoding of this semantic notion is responsible for the person-sensitivity effects in PCC configurations. We do not think the CLR and the PCC should be unified along the lines suggested by Charnavel and Mateu (2015). The two phenomena are related but nevertheless distinct. They have a common core, which consists of an interpretable person on an Appl head marking the indirect object as a point-of-view center. From this point on the two phenomena diverge. The CLR is a semantic phenomenon instantiating a universal semantic constraint on the selection of a point-of-view center. The PCC, beyond the semantically motivated values of the interpretable person features, involves a syntactic mechanism, subject to parametric variation, which constrains the person features of the indirect and direct object. We do not aim to develop here a full theory of the anti-logophoricity effects that arise in double object constructions with clitics, however we offer some suggestions at the end of the paper. The core of this paper is dedicated to a theory of the PCC, which also makes a prediction as to which PCC grammars should show CLR effects.

To sum up the discussion in this section, there are two key aspects of the PCC that we intend our theory to capture. First, as the literature on direct/inverse systems and person-based split ergativity has discovered, there are asymmetries among the person distinctions that are implicated in the alignment of arguments: the ranking 1/2P > 3P is universal, and languages may or may not make further distinctions among participants and among 3Ps. This asymmetry is also found in the case of the PCC, and to capture it, we posit parameters that have default and marked values. Second, there are person-sensitive interpretative effects associated with double object

[6] *Empathy* is defined as "the speaker's identification [...] with a person who participates in the event that he describes in a sentence" (Kuno and Kaburaki 1977: 628). The notion of *empathy locus*, the event participant with whom the speaker identifies (Kuno 1987), is thus very similar to the notion of point-of-view center that we use. We prefer the term *point-of-view center* because it is also applicable to discourse participants, not just event participants, because it specifies the nature of the phenomenon by evoking perspective, and because it is suggestive of links with the temporal perspective provided by viewpoint aspect.

structures with clitics, i.e., CLR effects, inviting attempts at unification with the PCC. If point of view is behind the CLR phenomenon, it is tempting to seek a role for it in the PCC, particularly as point of view has also been implicated in direct/inverse alignment and person-based split-ergativity.

3 A Person Constraint on applicative domains

We follow much of the formal literature on the syntax of PCC effects in assuming that clitic combinations in languages with PCC effects are instances of double object constructions where indirect objects are introduced by an Appl(icative) head which takes the VP as a complement; the Applicative projection is itself a complement to agentive v, which introduces the external argument (Anagnostopoulou 2005; Béjar and Rezac 2003; Rezac 2006; Nevins 2007, 2011; Adger and Harbour 2007, a.o.[9]).

We further assume that the presence of the clitics signals an agreement relation with the Appl head. We abstract away from the question of whether the clitics are the arguments themselves or whether they are only the spell-out of an agreement relation, with (possibly null) DPs saturating the argument slots. Quite likely there is variation among the languages we have covered here, having to do with the obligatoriness or optionality of clitic doubling, and whether case is shared by the clitic and the doubled DP. Ultimately, this issue is orthogonal to our concerns here.

The general outline of our proposal is as follows. The Appl head bears an interpretable and valued person feature, which has two roles: (i) it defines a phase, and (ii) it triggers a P(erson) Constraint, a mechanism which regulates the alignment of arguments in that phase and identifies a perspectival center, via agreement with the interpretable person feature on the head of the phase, as stated in (10).

(10) The DP that agrees with the interpretable person feature on the phase head is a perspectival center within that phase.

The first role of the interpretable person feature is to delimit the domain of person-sensitive restrictions by defining the ApplP as a phase. Phases are units of cyclic computation (Chomsky 2001, 2008) and a natural domain over which interface constraints like the P-Constraint can be stated. Which syntactic constituents constitute phases is under debate (see Bošković 2014, a.o.). Our hypothesis is that a head that introduces an interpretable person feature defines a phase (in addition to whatever other grammatical determinants of phases there may be). The interpretability of the person feature on the Appl head mediates the mapping of a DP at the phase edge onto a logophoric entity, crucially, an interface notion. Thus, we suggest that the Appl phrase in clitic double object constructions in languages with PCC effects defines a phase. (We abstract away from issues of PF-linearization.)

Before turning to the second role of the interpretable person feature, we clarify the feature values we will be working with. We adopt the person-related feature specification of Nevins (2007), augmented with a [proximate] feature, as in (11). The asymmetry between 1P/2P and 3P arguments is captured by the + vs. – specification of a

[9] Some authors, e.g., Walkow (2012), posit that the Appl head is even lower, a complement to V, with the indirect object in its specifier and the direct object its complement.

[participant] feature. The two participant arguments are further distinguished through a [± author] feature. The proximate/obviative distinction is independently needed for the typology of direct/inverse systems (e.g., Aissen 1997). The notion of proximity, like that of 1P, 2P and 3P, is related to the speech situation, understood in terms of perspective, rather than spatial location: proximate arguments are the ones suitable to be perspectival centers. *1P and 2P arguments are inherently proximate, being part of the speech event. 3P arguments may or may not be proximate, depending on context*. Proximate 3Ps are grammatically marked as having a perspective on the described event. The features are involved in an implicational hierarchy: a positive specification for [author] entails a positive specification for [participant] and for [proximate], and a positive specification for [participant] entails a positive specification for [proximate]. We will also assume that *in languages that do not morphologically mark 3P arguments as proximate or obviative, 3P arguments are marked* [± *proximate*] *only in the presence of another 3P argument*. (As we will see, this assumption receives support from the animacy constraint observed in the *leísta* dialect described by Ormazabal and Romero).

(11) a. 1P: [+ proximate], [+ participant], [+ author]
b. 2P: [+ proximate], [+ participant], [− author]
c. 3P proximate: [+ proximate], [− participant], [− author]
d. 3P obviative: [− proximate], [− participant], [− author]

We turn next to the second role of the interpretable person feature, namely setting in motion the P-Constraint. We state the P-Constraint in its most general form in (12). The P-Constraint was defined in Zubizarreta and Pancheva (2017) and applied to an analysis of direct/inverse systems. In such systems, the interpretable person feature is present on v and/or on Infl. In the case of the PCC, the relevant head that hosts the interpretable person feature is Appl.

The P-Constraint has several components—domain of application, P-prominence, P-uniqueness, and P-primacy—each subject to possible parametric variation, as we discuss below. We will see this variation instantiated in the PCC effects we discuss in Sect. 4.

(12) *P-Constraint on phases α headed by an interpretable p(erson)-feature*
a. The interpretable person feature is present on all heads of a certain functional category (default), unless restricted. (*Domain of application*)
b. There must be an n-valued D located at the edge of α that enters into an agreement relation with the n-valued interpretable person feature on the head of α. n is [+proximate] (default) or restricted to [+ participant] or [+author]. (*P-Prominence*)
c. There can be at most one DP in α eligible to agree with the interpretable p-feature on the head of α. (*P-Uniqueness*)
d. If there is more than one DP that can agree with the interpretable p-feature on the head of α, the DP marked [+author] is the one that agrees. (*P-Primacy*)

P-Prominence is the most integral clause of the P-Constraint and is always active. It constrains both the interpretation and the person specification of the DP which

agrees with it, which, for reasons that we explain below, is the indirect object by default, in case the interpretable person feature is on Appl. The interpretable component of the person feature on Appl thus determines the interpretation of the indirect object as a perspectival center, as highlighted in (10). The value of the interpretable person feature on Appl constrains the possible person values of the indirect object. Because of the interpretative requirements of perspective encoding, the possible values of the interpretable person feature on Appl (*n* in (12b)) are [+proximate], [+participant], and [+author]. This does not mean that a 2nd person, being [−author], or a 3rd person, being [−participant], cannot be perspective centers; rather, the interpretable person feature on Appl cannot look for such negative values. The most general value specification is [+proximate], since any [+proximate] DP can be a perspective center, and we suggest that this value is the default value for PCC grammars. Thus, in grammars that instantiate the default option, indirect objects can be 1P, 2P or 3P. More marked values for the interpretable person feature on Appl are [+participant] and [+author], and we will see these values instantiated in certain varieties of PCC grammars, but such varieties are expected to be more marked, with consequences for learnability and inter-speaker variation.

We emphasize that the requirement for a positive value of the interpretable person feature on Appl is motivated by semantics rather than morpho-syntax. We suggest that the three positive values [+proximate], [+participant], and [+author] correspond to the logophoric notions of *pivot, self*, and *source* in Sells (1987), and that the agreement with the interpretable person feature on Appl determines the logophoric role of the indirect object clitic. According to Sells (1987), *pivot* refers to an individual (an event participant or speech participant) whose point of view is adopted in the description of the event (this is our notion of *point-of-view center*), *self* refers to an attitude holder, and *source* refers to the speaker. The logophoric roles can overlap. The speaker is simultaneously a *source* and a *self*: a *source* by definition and a *self* as it is an attitude holder with respect to the propositional content of the utterance. The speaker is inherently a *pivot* as well: in neutral event descriptions it is the speaker's point of view which is represented, and even in cases when another individual is marked as a *pivot*, the speaker adopts this individual's point of view, i.e., the speaker's point of view is still represented. Similarly, we suggest that the addressee is a *self*, since by virtue of participating in the speech event, it is an attitude holder with respect to the propositional content of the utterance, and it can be a *pivot* as well.

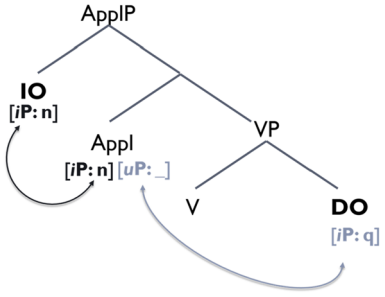
The P-Prominence clause identifies the logophoric role of the indirect object clitic as a *pivot* (point-of-view center); this is why the default value of the interpretable person feature on Appl is [+proximate]. With this default specification of the interpretable person feature on Appl, the indirect object can be 1P, 2P or 3Ps. Individual grammars may place stricter requirements on the logophoric role of the indirect object as a self (attitude holder) or a source, in addition to the requirement that it be a pivot (as we discussed above, the logophoric roles can overlap), and this is accomplished through the more restricted values of [+participant] and [+author]. In such restricted grammars, the indirect object can be 1/2P or just 1P, respectively. A more detailed discussion of the semantic issues can be found in Sect. 6.

The P-Uniqueness clause in (12c) is next in importance for the P-Constraint. When active, it ensures that the DP that becomes the perspectival center is featurally distinct

within the phase. The default option is for P-Uniqueness to be active. We suggest that this is so because of a preference for determinism over optionality in syntax. In some PCC grammars, P-Uniqueness is not active; this is another source of the cross-linguistic variability behind the PCC. However, grammars without an active P-Uniqueness component appear to be highly marked in that they constitute a dialect (or idiolect) of languages with a certain type of PCC.

P-Uniqueness involves considerations of the person features of both the direct and indirect object. We suggest that the evaluation of features is formally implemented as two agreement relations, each triggered by a person feature on Appl. One is the (valued) interpretable person feature, which triggers the P-Constraint, and enters into an agreement with the indirect object. The interpretable person feature is present only in PCC grammars. The other feature is an uninterpretable and unvalued person feature, which enters into an Agree relation (Chomsky 2000, 2001) with the direct object, and is thereby valued. We assume that this uninterpretable person feature is universally available, at least in the case of languages with direct object clitics. As a result of the two agreement relations, the features of both the direct and indirect object are encoded on Appl, as [*i*P: n] and [*u*P: q], see (13).[10] An active P-Uniqueness clause then reduces to the requirement, enforced locally on Appl, that the value of the two person features on Appl be distinct, i.e., that $n \neq q$. Specifically, if n is +proximate, q must be −proximate, and similarly for the other possible values of n as +participant, or +author.[11]

(13)



The third clause of the P-Constraint, P-Primacy in (12d), is conditional on P-Uniqueness, and is thus of less central status. It is responsible for finer-grained distinctions between participants in combinations of 1P and 2P arguments. P-Primacy, when applicable, always derives that 1P > 2P. In a sense, P-Primacy weakens

[10] The proposal that Appl has an *i*P and an *u*P bears resemblance to the analysis of collective nouns such as *committee* in Wurmbrand (2012): such nouns are said to have a set of interpretable and uninterpretable number features, the former plural and the latter singular ([*i*N: pl] and [*u*N: sg]), which can be dissociated in agreement.

[11] Note that n is not necessarily the most specific person feature of the indirect object. The interpretable person feature on Appl is independently valued, and so the agreement mechanism ensures compatibility with the person features of the indirect object, not full identity. For instance, a +proximate n value of *i*P on Appl is compatible with a [+author, +participant, +proximate] specification of *i*P on the indirect object. In contrast, the uninterpretable person feature on Appl is unvalued and so agreement fully matches the person features of the direct object. Consequently, P-Uniqueness can rule out configurations of indirect and direct object that only partially overlap in features.

P-Uniqueness, allowing the two objects in the Appl phase to be the same with respect to the value of the interpretable p-feature on Appl, but it nevertheless meets the spirit of P-Uniqueness by ensuring that the DP that becomes the perspectival center is featurally distinct within the Appl phase (i.e., by privileging 1P over 2P). Grammars with an active P-Primacy clause are somewhat more marked than grammars where P-primacy is not active. Just like P-Uniqueness, P-Primacy involves considerations of the person features of both the direct and indirect object. It too can be implemented formally in a local fashion through a comparison of the values of the interpretable and uninterpretable person features on Appl.

There is also language variation with respect to the Domain of application of the interpretable person feature that triggers the P-Constraint. As stated in (12a) the default option is that *all* relevant heads—all Appl heads in the case of the PCC—bear an interpretable person feature. As we will see, however, in one case it is necessary to deviate from the default and posit an interpretable person feature *only on some* Appl heads in a language. Such a deviation from the default is clearly a marked option. This restriction on the Domain of application is enacted as a presupposition on the interpretable p-feature in the relevant languages. For instance, in some languages, in addition to having the restricted value [+author], the interpretable person feature also has a presupposition that it can appear on Appl heads only if ApplP has a 1P argument (direct or indirect object). A general requirement to maximize presuppositions (as widely accepted in the semantics literature) would then ensure that this interpretable p-feature is added to Appl heads when the conditions are met.

In sum, the P-Constraint incorporates several potential sources of variation and markedness in PCC grammars: (i) the value of the interpretable p-feature on Appl specified in the P-Prominence clause ([+proximate] being the default, and [+participant] and [+author] the more marked options); (ii) whether P-Uniqueness is active (the default) or not; (iii) whether P-Primacy is active or not (the default); and (iv) whether the interpretable person feature is present on all Appl heads (the default) or only on some of them. We emphasize that the features manipulated by the P-Constraint have a counterpart in the logophoric roles of *pivot*, *self* and *source*, providing a natural link between the interpretative, and universal, aspect of the PCC—encoding point of view—and the agreement mechanism that is behind the cross-linguistic variation in PCC effects. The clauses of the P-Constraint and their relative markedness also reflect the interpretative aspects of the PCC, as they ensure that the most appropriate argument in the ApplP domain is marked as the point of view center (with the appropriateness metric being subject to some cross-linguistic variation). Thus, the two aspects of our theory, summarized in (10) and (12), should not be viewed as separable: the mechanics of (12) are formulated to reflect the range of variation allowed by (10), while without the semantic generalization in (10), the P-Constraint in (12) would be arbitrary.

In the next section we illustrate the different varieties of PCC that have been reported in the literature, and the settings of the P-Constraint that capture them. We note that the observed varieties match the predictions that the P-Constraint makes about possible PCC effects, including markedness conditions.

4 Typology and a formal analysis of PCC effects

In its general form, the PCC regulates the person features on the indirect and direct object, with an apparent affinity between indirect objects and 1P/2P, and between direct objects and 3P. Varieties of PCC discussed in the literature result from the restrictions listed in (14).

(14)
a. the direct object has to be 3P (strong PCC)
b. if there is a 3P argument, it has to be the direct object (weak PCC)
c. the direct object has to be 2P or 3P (*me*-first PCC)
d. the direct object has to be 2P or 3P, and if there is a 3P argument, it has to be the direct object (ultra-strong PCC)
e. the direct object has to be 3P, and the indirect object has to be 1P or 2P (super-strong PCC)

The above PCC varieties should be understood as generalizations about individual grammars rather than languages. The Romance languages are known to show dialectal variation among several types of PCC (Perlmutter 1971; Bonet 1991; Anagnostopoulou 2017; Bianchi 2006, a.o.). Furthermore, Spanish, whether of the strong, ultra-strong or weak variety, prohibits the co-occurrence of two 3P clitics (**le-lo*), giving rise to what Perlmutter (1971) called the *spurious se* (*se-lo*). We propose to relate the so-called *spurious se* to the PCC, in line with Walkow (2012). We also address the animacy restriction found in varieties of *leísta* Spanish, as well as in languages like Mohawk (Ormazabal and Romero 2007). The animacy effect amounts to another restriction, not found in (14): the direct object has to be 3P inanimate. Thus, PCC varieties can be reduced to a small number of parameters.

Below we illustrate the various PCC effects.[12] We use the notation $<n, m>$ to indicate the combination of person features of the indirect and direct object, in that order, regardless of the actual linear order of clitics or agreement markers. The linear order of indirect and direct objects doesn't seem to be a relevant factor in and of itself: PCC effects are observed both in languages where the direct object precedes the indirect object clitic, e.g., French, Maltese (Tucker 2013), Yimas (Foley 1991), and also in languages where the order is the reverse, e.g., Spanish, Greek, Kambera (Klamer 1997, 1998).[13,14]

[12] We only focus on PCC effects in indicative clauses. Some authors have noted that PCC restrictions don't obtain in non-finite clauses (e.g., Albizu 1997: 2 on Catalan and Basque; Nevins and Săvescu 2010: 187 on Romanian). We believe that such facts support the view that PCC restrictions reflect the grammatical encoding of perspective, but we cannot offer an account of different types of clauses here.

[13] The order of accusative and dative clitics in French and Spanish noted here concerns 3Ps. 1P and 2P clitics show case syncretism and always precede 3P clitics. See Nicol (2005) on the order of clitics in Romance languages and dialects, and on historical change in Romance.

[14] Czech and Slovenian have been claimed to allow a re-ordering of the typical (for Slavic) linear order indirect object – direct object, with consequences for the type of PCC effects (Medová 2009; Stegovec 2015). We do not provide an account here of how such reorders work, though the affinity with inverse systems is suggestive, and we briefly return to the issue in Sect. 5.

4.1 The strong, ultra-strong, and weak PCC family

The default setting of P-Prominence to a [+proximate] value for the interpretable person feature on Appl defines a family of PCC varieties: the strong, super-strong and weak PCC. They differ from one another in the setting of P-Uniqueness and P-Primacy.

4.1.1 Default PCC grammar: Strong PCC

Recall that we defined the default settings of the P-Constraint as in (15). These settings give us precisely the variety known as the strong PCC.

(15) *P-Constraint*: *strong PCC*

a. The interpretable person feature is present on all Appl heads. (*Domain of application*)

b. The interpretable p-feature on Appl is valued [+proximate] (*P-Prominence*)

c. There can be at most one DP in α eligible to agree with the interpretable p-feature on the head of α. (*P-Uniqueness*)

The strong version of the PCC, defined by Bonet (1991: 182) as in (14a), requires that the direct object be 3P. It prohibits 1P and 2P combinations, while allowing combinations of two 3Ps.

Strong PCC effects have been extensively discussed in the case of French (Perlmutter 1971; Anagnostopoulou 2005; Haspelmath 2004; Nicol 2005; Rezac 2011, a.o.). In configurations with 1P/2P and 3P objects, the 3P has to be the direct object, as was already illustrated in (1). Additionally, two 3Ps can co-occur, but 1P and 2P cannot, see (16).[15]

(16) a. Elle *le* *lui* présentera. *French*
she 3SG.MASC.ACC 3SG.DAT will.introduce
'She will introduce him to him/her.'

b. *Elle *te* *me* présentera.
she 2SG 1SG will.introduce
'She will introduce you to me/me to you.'

Languages with the strong PCC include Greek (Anagnostopoulou 2003, 2005); Kiowa, a Kiowa-Tanoan language (Adger and Harbour 2007); Basque (Bonet 1991; Haspelmath 2004); Georgian (Bonet 1991); Maltese (Haspelmath 2004; Tucker 2013); Southern Tiwa (Rosen 1990; Haspelmath 2004); and Shambala, a Bantu language (Duranti 1979). Additionally, strong PCC effects have been documented for some speakers of Classical Arabic (Walkow 2012), as well as varieties of Catalan, and Spanish (languages that are usually considered to have the ultra-strong PCC, discussed in the next section). Examples (17) and (18), from Bonet (1991: 39, ex. (27a)) and Ormazabal and Romero (2007: 316, ex. (3b)), respectively, illustrate strong PCC

[15] French 1P and 2P object clitics show syncretism between accusative and dative case; only 3P clitics have distinct forms for the two cases. The accusative 3P clitic precedes the dative 3P clitic in the clitic cluster.

effects for some speakers of Catalan and Spanish, i.e., for such speakers these examples are not acceptable.[16]

(17) *Te' m van recomanar. *Catalan*
2SG 1SG have recommended (strong-PCC variety)
'They recommended you to me.'

(18) *Pedro *te me* envía. *Spanish*
Peter 2SG 1SG send-3sg (strong-PCC variety)
'Peter sends me to you.'

Given that the strong PCC is derived by the default settings of the P-Constraint, it is to be expected that this variety should be so well represented among the languages with documented PCC effects. It is also noteworthy that no significant speaker variation has been reported for strong PCC languages like French and Greek, suggesting a rather stable pattern.

It should be clear how the strong PCC variety is derived by (15). Because the interpretable p-feature on Appl is [+proximate], 3P (if marked as [+proximate]) as well as 1P/2P clitics (which are inherently [+proximate]) can be indirect objects. Recall that to be a perspectival center, an argument must be [+proximate] (i.e., a speech participant or discourse proximate). Because P-Uniqueness is active in strong PCC grammars, the indirect and direct object cannot both be [+proximate], hence configurations of two [+participant]-marked arguments are precluded. P-Uniqueness also excludes combinations of two [+proximate] 3Ps, allowing only a [+proximate] 3P indirect object and a [−proximate] direct object, though this distinct marking of the arguments cannot typically be seen overtly (see Sect. 4.1.5 for discussion of when it can).[17]

4.1.2 A departure from the default setting of P-Primacy: Ultra-strong PCC

Recall that by default, the P-Prominence clause specifies the value of the interpretable p-feature as [+proximate], and P-Uniqueness is active, while P-primacy is not. In a minimal departure from these settings, P-Primacy would be active, and this will result in an ultra-strong PCC grammar.

(19) *P-Constraint*: *Ultra-strong PCC*

a. The interpretable person feature is present on all Appl heads.
(*Domain of application*)

[16] 1P and 2P clitics in Catalan (as in Romance more generally) do not show a distinction between accusative and dative case, only 3P clitics do. The linear order of clitics is 2P-1P-3P.

[17] A number of authors have pointed out similarities between the strong PCC effects found in French and Greek and agreement restrictions found in Icelandic (Boeckx 2000; Anagnostopoulou 2003, 2005, 2017; Béjar and Rezac 2003; Bianchi 2006; Ormazabal and Romero 2007, a.o.). In the presence of quirky dative subjects, agreeing nominative arguments in Icelandic have to be 3P (Sigurðsson 1996; Taraldsen 1995). The restriction can be seen both in monoclausal structures without external arguments (experiencer unaccusatives and passives), and in structures with embedded infinitives under experiencer verbs. We do not have space here to illustrate the facts of Icelandic nor provide a proper analysis. We just note that our account can be extended to Icelandic virtually unchanged, except for the position where the interpretable person feature resides: a v that introduces an experiencer argument, rather than Appl.

b. The interpretable p-feature on Appl is valued [+proximate] (*P-Prominence*)
c. There can be at most one DP in α eligible to agree with the interpretable p-feature on the head of α. (*P-Uniqueness*)
d. If there is more than one DP that can agree with the interpretable p-feature on the head of α, the DP marked [+author] is the one that agrees. (*P-Primacy*)

The ultra-strong PCC was documented by Fassi Fehri (1988, 1993) for Classical Arabic (see also Walkow 2012), Perlmutter (1971: 21) for some speakers of Spanish, and Bonet (1991: 179) for some speakers of Catalan.[18] The name ultra-strong is from Nevins (2007); sometimes this variety is referred to as *strictly descending* (Sturgeon et al. 2011). It allows combinations of 1P and 2P clitics, but only in the $<1, 2>$ order, and it bans 3P from the indirect object position when the direct object is 1P or 2P.

Example (20), from Catalan (Bonet 2008: ex. (2, 1)), illustrates the interaction of 1P and 3P objects, confirming PCC effects.

(20) a. El director, *me l'* ha recomanat la Mireia. *Catalan*
the director, 1SG 3SG.ACC has recommended the Mireia
'As for the director, Mireia has recommended him to me.'
b. *Al director, *me li* ha recomanat la Mireia.
to-the director, 1SG 3SG.DAT has recommended the Mireia
'As for the director, Mireia has recommended me to him.'

When it comes to the co-occurrence of 1P and 2P—the clitic combinations that distinguish between several varieties of PCC—there is variation among speakers of Catalan. Some find the combination ungrammatical (as in (17)), evidently showing strong PCC effects. Others allow the combination, but only as $<1, 2>$, i.e., with the 1P interpreted as the indirect object and the 2P as the direct object, as expected under the ultra-strong PCC variety. For such speakers (21) is acceptable, but only with the interpretation in (21b). Still other speakers allow both $<1, 2>$ and $<2, 1>$ orders, i.e., for them examples like (21) are acceptable and ambiguous (Bonet 1991: 67, ex. (46)), see also Bonet (2008). Evidently, the grammar of such speakers is of the weak PCC variety, which is discussed in Sect. 4.1.3.

(21) a. *Te' m* van recomanar per a aquesta feina. *Catalan*
2SG 1SG have recommended for this job
a. 'They recommended me to you for this job.'
b. 'They recommended you to me for this job.'

[18] Ultra-strong PCC effects have also been documented in Slavic. Sturgeon et al. (2011) provide experimental data suggesting that Czech is of the ultra-strong PCC variety. The authors further report that corpus data, confirmed with native-speaker consultants, support a claim made in Medová (2009) that the otherwise ungrammatical Acc-Dat order obviates PCC violations. Because of this, Sturgeon et al. (2011) do not endorse the view that Czech has PCC effects, as these are traditionally understood. Bhatt and Šimík (2009), on the other hand, classify Czech as having weak PCC.

The settings of the P-Constraint in (19) are the same as those for the strong PCC in (15) as far as the Domain of application, the P-Prominence and the P-Uniqueness clauses are concerned. This captures the fact that the two variaties of PCC are alike except for the possibility of $<1, 2>$ configurations in the case of the ultra-strong PCC. This difference is captured through clause (19c), which gives P-Primacy of 1P over 2P, thus allowing $<1, 2>$ orders yet prohibiting $<2, 1>$ ones. We suggest that P-Primacy systematically selects the [+author]-marked argument to enter into agreement with the interpretable p-feature on Appl because the system always looks for positive features. (Recall that the P-Prominence clause also specifies the value of the interpretable person feature to the positive specifications of [+proximate], [+participant], or [+author]).

Formally, the ultra-strong PCC is a marked grammatical option, as it involves a non-default setting of the P-Primacy clause. To acquire the more marked grammar, learners need positive evidence, and such evidence comes in the form of $<1, 2>$ configurations.

4.1.3 A departure from the default setting of P-Uniqueness: Weak PCC

A non-default setting of the P-Uniqueness clause, while keeping the other clauses of the P-Constraint with their default setting, results in a weak PCC grammar.

(22) *P-Constraint*: *Weak PCC*

a. The interpretable person feature is present on all Appl heads.
(*Domain of application*)

b. The interpretable p-feature on Appl is valued [+proximate]
(*P-Prominence*)

Bonet (1991: 182) originally formulated the weak PCC as a weaker version of the strong PCC, as in (14b) vs. (14a); the two varieties are the only ones she considered. The formulation in (14b) would also cover the ultra-strong version, which has subsequently been discussed by Nevins (2007) and others as a separate variety of PCC. We use the term 'weak' to exclude the ultra-strong effects, i.e., we use it only for varieties of PCC where both $<1, 2>$ and $<2, 1>$ are possible orders. The weak PCC seems to emerge only in languages that have ultra-strong varieties, i.e., where 1P/2P clitics co-occur in the input.

In some dialects of Spanish, configurations with 1P and 2P arguments are ambiguous: they allow both $<1, 2>$ and $<2, 1>$ interpretations (Perlmutter 1971). This is illustrated with the Spanish example below. The same holds for some dialects of Catalan (Bonet op.cit.) and some dialects of Italian (Bianchi 2006; Manzini 2012; Anagnostopoulou 2017).

(23) El *te* *me* recomendó (a mí). *Spanish*
he 2SG 1SG recommend (to me) (weak-PCC variety)
a. 'He recommended you to me.'
b. 'He recommended me to you.'

In such dialects of Spanish, as in all varieties of Spanish, $<3, 1>$ and $<3, 2>$ configurations are prohibited, as can be seen in (24) (Bonet 1991: 42, ex. (29a)).

(24) **Me le* recomendaron. *Spanish*
1SG 3SG.DAT recommend
'They recommended me to him.'

The domain of application and the P-Prominence conditions in (22) are the same as those for the strong and ultra-strong PCC. Correspondingly, <3, 3> configurations are available in the Catalan and Italian weak PCC varieties (we return to Spanish in Sect. 4.1.6), as are <1, 3> and <2, 3> configurations. Where the settings in (22) differ from those for the strong and ultra-strong PCC is in the absence of the P-Uniqueness clause. Given that P-Primacy is conditional on P-Uniqueness, it too is not applicable in (22), in contrast to the settings for the ultra-strong PCC. Because of the absence of the P-Uniqueness and P-Primacy 1P and 2P can co-occur in both <1, 2> and <2, 1> orders. The absence of P-Uniqueness raises the question of what precludes configurations such as <3, 1> and <3, 2>. If the 3P indirect object could be marked [+proximate], P-Prominence will be satisfied, and in the absence of P-Uniqueness, these orders should be allowed. Recall however that 3P are not inherently [+proximate] but can be marked as such only in the context of another 3P. In the absence of another 3P, the 3P indirect object in <3, 1> and <3, 2> cannot be marked proximate, leading to a violation of P-Prominence.

Formally, the weak PCC is a highly marked variety, even more so than the ultra-strong PCC, as it involves a non-default setting of the more central P-Uniqueness clause, namely, P-Uniqueness is inactive. It is thus to be expected that there will be significant variability among speakers. We thus hypothesize that the weak PCC might be more idiolectal than dialectal. Some learners would arrive at a weak PCC grammar on the basis of observing co-occurrences of 1P and 2P, and instead of positing an active P-Primacy clause, they would choose the more marked option of positing a non-active P-Uniqueness clause. It is clear that such learners need to be in a community of ultra-strong PCC speakers, which is consistent with the described distribution of weak PCC effects in Spanish, Catalan, Italian, as well as Czech.

4.1.4 CLR effects in the [+proximate] PCC family

We proposed that the semantic role of P-Prominence is the interpretation of the indirect object as a perspectival center. We thus make the prediction that CLR effects should be present in strong, ultra-strong and weak PCC grammars, where <3, 3> configurations involve the presence of an interpretable [+proximate] person feature on Appl.

Charnavel and Mateu (2015) have noted that CLR effects obtain in French, which has the strong PCC, as well as in strong PCC varieties of Spanish. We have found CLR effects in Spanish strong and ultra-strong varieties, as well as in weak PCC varieties of Catalan and Spanish. Bhatt and Šimík (2009) report CLR effects in weak varieties of Czech. The prediction that strong, ultra-strong and weak PCC grammars lead to CLR effects in <3, 3> configurations is therefore met.

4.1.5 Animacy restrictions in the [+proximate] PCC family

Some strong PCC grammars exhibit animacy effects. Certain varieties of *leísta* Spanish, as seen in (4), as well as languages such as Mohawk and KiRimi,

place a stronger restriction on the direct objects: it has to be not just 3P but *inanimate* 3P (Ormazabal and Romero 2007). We suggest that in the *leísta* dialect of Spanish described by Ormazabal and Romero (2007), all animate clitics are *inherently* marked [+proximate]. Clearly this need not be so in other languages (including in other *leísta* dialects of Spanish), and there could be languages that distinguish between animate 3Ps, marking some as [+proximate] and others as [−proximate], through overt proximate/obviative morphemes. In such cases, there will be no animacy PCC restrictions per se, and animate 3Ps will be allowed in direct object position as long as they are marked as obviative. The default settings of the P-Constraint can capture the facts of *leísta* Spanish. The P-Prominence clause requires agreement with a [+proximate] DP. A [+proximate] feature is present syntactically on 1P and 2P arguments, as well as animate 3P arguments. P-Uniqueness needs to be operative as well, to prevent [+proximate] direct objects (and also combinations of 1P and 2P). As a result of this setting of P-Prominence, and its joint operation with P-Uniqueness, two [+proximate] arguments cannot co-occur in the Appl phase, correctly ruling out <1,3animate>, <2,3animate> and <3animate, 3animate> orders (as well as $<1, 2>$ and $<2, 1>$ orders). Configurations such as <3animate, 3inanimate> are correctly allowed.

The animacy restriction is expected to be compatible with the strong and ultra-strong PCC, but not with the weak PCC. This is perhaps counterintuitive, given that on the surface, both the ultra-strong and weak PCC allow local, and thus animate, pronouns as direct objects. However, our account makes the prediction that the ultra-strong PCC should pattern with the strong PCC with respect to animacy constraints. The two varieties have the same settings of P-Prominence and P-Uniqueness, so they both rule out <1,3animate>, <2,3animate> and <3animate, 3animate> orders as these involve two [+proximate] arguments. P-Primacy is active in the case of the ultra-strong PCC, but it regulates only configurations of local arguments. So it will allow $<1, 2>$ orders even though they involve two [+proximate] arguments, while still showing animacy effects in configurations with 3P direct objects. The weak PCC, on the other hand, given the inactivity of P-Uniqueness, cannot express animacy restrictions. This does not mean that *leísta* dialects cannot be of the weak PCC variety, only that they cannot also have animacy effects.

4.1.6 Spurious se in the [+proximate] PCC family

Spanish prohibits the co-occurrence of two 3P clitics. For such structures to surface, the indirect object clitic needs to be changed to the clitic *se*. This is known as the *spurious se* rule (Perlmutter 1971; Bonet 1991, 1995, a.o.). The following example from Spanish (Nevins 2007: 275, ex. 4, 5) illustrates this restriction. If the offending dative clitic *le* in (25) is changed to the clitic *se*, grammaticality is restored. The facts are the same regardless of the type of PCC effects the particular variety of Spanish exhibits—whether strong, ultra-strong, or weak.[19]

(25) A Pedro, el premio, {* *le* */se* } *lo* dieron ayer. *Spanish*
to Pedro the prize 3SG.DAT DAT 3SG.ACC gave-pl yesterday
'As for Pedro, the prize, they gave it to him yesterday.'

In the literature, *<3, 3> effects and their repairs by *se* are usually treated as distinct in nature from PCC effects. This is so for Perlmutter (1971) and Bonet (1991, 1995), for whom both types of effects are morphological, but are not related to one another. For Anagnostopoulou (2003) and Nevins (2007, 2011) the *<3, 3> effect in Spanish is purely morphological—the result of a post-syntactic dissimilation rule deleting the person feature from the 3P dative clitic—and not related to the PCC effects, which for them arise as the result of agreement in narrow syntax.

We diverge from these approaches and we follow Walkow (2012) instead in treating *<3, 3> effects as linked to PCC effects. We suggest that the prohibition is due to the incompatibility in Spanish (and in the relevant Catalan dialects) between the features [+proximate] and [−participant]. The incompatibility is morphological, and language particular; in other languages, e.g., French, 3P indirect object clitics are easily marked [+proximate]. Coming back to Spanish (and the varieties of Catalan), the indirect object clitic needs to be marked [+proximate] to agree with the interpretable person feature on Appl; since [−participant] is not compatible with such specification, [−participant] is deleted, resulting in a clitic that does not formally have a 3P specification, although it can be used for 3P reference (and indeed is only used for 3P reference). And given that a [+proximate] feature on the 3P indirect object is required by our account for the strong, ultra-strong and weak PCC grammars, we predict that the *spurious se* rule obtains in all these varieties.

4.2 A departure from the default setting of P-Prominence: Super-strong PCC

The ultra-strong PCC was analyzed above as a minimal deviation from the default settings of the P-Constraint (in that it only adds a P-primacy clause). The weak PCC is a more radical departure from the default in that it abandons the default P-uniqueness altogether. We now turn to a different kind of major departure from the default PCC grammar that preserves the default P-uniqueness clause, but chooses a different value for the interpretable p-feature, as set in the P-Prominence clause. Consider the settings in (26), which define a variety of PCC called super-strong, and which differ from the settings of the P-Constraint for the strong PCC in (15) only in the more restrictive value of the interpretable p-feature, [+participant].

[19]The *<3, 3> prohibition is also present in various Catalan dialects (Bonet 1995; Walkow 2012). In Standard Catalan, the *<3, 3> prohibition holds only when the dative is 3P singular; when the 3P dative is plural, it can co-occur with a 3P accusative (see Bonet 1991: 74). Prohibited orders can be realized by substituting the dative clitic by the clitic *hi*. This clitic is analyzed by Anagnostopoulou (2003); Nevins (2007) and Rezac (2011) as a locative clitic, i.e., non-agreeing in person. Bonet (2008) and Walkow (2012) treat *hi* as a dative clitic, also without person specification. Regardless of the exact status of *hi*, its use amounts to a deletion of the person feature from the dative clitic, which is in agreement with our suggestion that [+proximate] and [−participant] are incompatible in the relevant dialects.

(26) *P-Constraint*: *Super-strong PCC*

a. The interpretable person feature is present on all Appl heads. (*Domain of application*)

b. The interpretable p-feature on Appl is valued [+participant] (*P-Prominence*)

c. There can be at most one DP in α eligible to agree with the interpretable p-feature on the head of α. (*P-Uniqueness*)

The super-strong PCC, named by Haspelmath (2004), is the least well-known variety of PCC, and for this reason we describe it in some detail below, with examples from Kambera (Malayo-Polynesian). It has also been observed in an unrelated language Matsigenka (an Arawak language of southeastern Peru; see O'Hagan 2014, who describes the person restrictions but does not identify them as super-strong).

The PCC in Kambera has been documented by Klamer (1997, 1998) and has also been discussed in Haspelmath (2004), Georgi (2008) and Doliana (2013). Kambera is a head-marking language: definite arguments are cross-referenced on the predicate (verb, noun, or a prepositional phrase) by clitics specified for person, number and case (Klamer 1998: 47, 61). The DPs cross-referenced by the clitics are optional. Kambera pronominal clitics distinguish nominative, accusative, dative and genitive case (Klamer 1997: 897, 1998: 62). We are not concerned here with non-verbal predicates, and we also put aside the question of the grammar of subject clitics in verbal predicates.

Kambera has no lexical ditransitive verbs; all ditransitives are formed with the help of an applicative suffix *ng*, e.g., *wua* 'give X', *wua.ng* 'give X to Y' (Klamer 1998: 146–147). In ditransitive structures, both the indirect and the direct objects are marked with dative clitics.[20] Word order alone is indicative of grammatical role: the indirect object precedes the direct object (Klamer 1997: ex. (18e.iii), ex. (27iii)).

Kambera double object constructions allow only the combination of 1P/2P indirect objects and 3P direct objects; any other combination, including the <3, 3> orders allowed by the strong PCC, are precluded (Klamer 1997: 903, 1998: 64, 81). The following examples from Kambera illustrate the super-strong PCC. The permitted combinations are <1, 3> and <2, 3> (27a, b). The combinations <3, 3>, <3, 1>, and <1, 2> (27c, d, e) are not acceptable.

(27) a. Na- wua *-ngga* *-nya*. *Kambera*
3SG.NOM- give -1SG.DAT(IO) -3SG.DAT(O)
'He gives it to me.' (Klamer 1997: ex. (19c))

b. Na- wua *-nggau* *-nja*.
3SG.NOM- give -2SG.DAT(IO) -3PL.DAT(O)
'He gives them to you.' (Klamer 1997: ex. (19c))

c. *Na- wua *-nja* *-nya*.
3SG.NOM- give -3PL.DAT(IO) -3SG.DAT(O)
'He gives it to them.' (Klamer 1997: ex. (20a))

[20]The applicative suffix *ng* is likely the source for the dative case form of the direct object in ditransitives, as direct objects in mono-transitives are typically marked accusative.

d. *Na- wua *-nya* *-ngga*.
3SG.NOM- give -3SG.DAT(IO) -1SG.DAT(O)
'He gives me to him.' (Klamer 1997: ex. (20b))

e. *Na- wua *-ngga* *-nggau*.
3SG.NOM- give -1SG.DAT(IO) -2SG.DAT(O)
'He gives you to me.' (Klamer 1997: ex. (20c))

It is sometimes suggested that the PCC does not place restrictions on the person features of the indirect object (Albizu 1997: 2; Ormazabal and Romero 2007: 317). Kambera shows that this is not so. The settings of the P-Prominence clause to [+participant] in (26) in effect encode that the indirect argument has to be 1P or 2P.

The joint result of the particular specification of the first two clauses of the P-Constraint, Domain of application and P-Prominence, is that <3, 3> orders are ruled out: the domain-of-application clause makes the P-Constraint applicable to <3, 3> orders, and the P-Prominence asks of such configurations that they have a 1P/2P indirect object, something that they clearly violate. Furthermore, the P-Uniqueness clause in (26c) dictates that the direct object cannot be 1P/2P since such a person specification would make it eligible for satisfying P-Prominence just like the indirect object. Thus we derive the fact that configurations of 1P and 2P arguments are not acceptable in the super-strong PCC. Finally, the P-Primacy clause in the general statement of the P-Constraint is not applicable here, so no distinctions are made between 1P and 2P.

As a marked grammatical option, the super-strong PCC would require evidence for learners, but unlike the case of the ultra-strong and weak PCC, such positive evidence would not come from the distribution of clitics themselves: the unacceptability of <3, 3> orders is not a positive presence in the input. (In the case of the strong PCC, there is no positive evidence for the unacceptability of combinations of 1P and 2P, but such evidence is not needed because the default specifications of the P-Constraint preclude such combinations.) A common assumption is that learners don't set non-default parameters of grammar based on negative evidence. We propose that learners of a super-strong PCC grammar make use of evidence provided by the gaps in the paradigm. As we discuss in more detail in Sect. 5, when the indirect object is 3P, both Kambera and Matsigenka allow only one clitic, co-referencing the direct or indirect object but not both, i.e., these languages either fail to show agreement with the direct object, or with the indirect object. On the other hand, grammatical <1, 3> and <2, 3> orders systematically show both clitics present, i.e., they exhibit agreement with both objects. We suggest that learners are sensitive to such gaps in the clitic distribution patterns and consider them as evidence (i.e., indirect negative evidence) in the acquisition of the super-strong PCC grammar.

4.3 A departure from the default setting of P-Prominence and Domain of application: *Me-first* PCC

Given the logic of our account so far, it is to be expected that the value of the interpretable person feature in the P-Prominence clause could be restricted even further, to [+author]. We indeed find a variety of PCC with such a setting, the so called *me-first* PCC first discussed by Nevins (2007), except it also involves another departure from the default, this time in the settings of the Domain of application. The remaining

clauses of the P-Constraint are in their default settings: P-Uniqueness is active, and P-Primacy is not. The settings of the P-Constraint in the case of the *me-first* PCC are given in (28) below.

(28) *P-Constraint*: *Me-first PCC*

a. The interpretable person feature is present only on heads of Appl phrases with at least one DP with a [+author] feature. (*Domain of application*)

b. The interpretable p-feature on Appl is valued [+author]. (*P-Prominence*)

c. There can be at most one DP in α eligible to agree with the interpretable p-feature on the head of α. (*P-Uniqueness*)

Given that very restrictive setting of the Domain of application, it follows that this type of grammar will generate a bigger set of clitic combinations than the other grammars. The *me*-first PCC only disallows configurations of 2P/3P indirect objects with 1P direct objects, and allows all other combinations, most notably 3P indirect objects and 2P direct objects, which is a violation of the weak, strong, super-strong and ultra-strong PCC.

Nevins (2007) offers Romanian as an example of the *me*-first PCC (see also Farkas and Kazazis 1980; Săvescu 2007; Ciucivara 2011).[21,22] Bulgarian shows the same pattern.[23] Configurations such as $<3, 2>$ are allowed, while $<3, 1>$ and $<2, 1>$ combinations are not acceptable.[24]

[21] Nevins and Săvescu (2010: 187) write that "clusters with a 3rd person dative clitic are uniformly unacceptable, regardless of number." We have indeed found speakers for whom this is the case but have also confirmed with other speakers that the order $<3, 2>$ is acceptable.

[22] Farkas and Kazazis (1980: 76–77) note that ethical datives are less acceptable than goal datives in $<3, 2>$ combinations (but not for all speakers), and they attribute this to the fact that ethical datives are more natural empathy loci than goal datives, which in turn are more natural empathy loci than themes, accounting for PCC effects. However, it is generally believed that ethical dative clitics do not give rise to PCC effects (Perlmutter 1971; Anagnostopoulou 2003; Bianchi 2006; Juitteau and Rezac 2007; Rezac 2011, a.o.) and they are analyzed as being higher in the structure (Bosse et al. 2012; Charnavel and Mateu 2015). We thus assume that ethical datives are not associated with an interpretable p-feature. Furthermore, on our account $<3, 2>$ configurations in *me*-first grammars are not subject to the P-Constraint. Therefore, we consider the effect observed by Farkas and Kazazis (1980) to be independent of the PCC.

[23] According to the judgements of one of the authors and as confirmed by 4 native speaker consultants, though reports in Haspelmath (2004) suggest otherwise.

[24] Romanian and Bulgarian present a complication with plural direct object clitics (as noted by Nevins 2007 for Romanian). The orders $<3, 2>$ and $<1, 2>$, which are acceptable when the accusative clitic is singular (29a), become unacceptable when the accusative clitic is plural. The $<3, 1>$ and $<2, 1>$ orders remain unacceptable. It appears that Bulgarian has a strong PCC grammar ($<3, 3>$ orders are allowed) while Romanian has a super-strong PCC grammar (prohibiting $<3, 3>$ orders) with plural accusatives clitics. Because of such complications, Ciucivara (2011) argues that Romanian does not exhibit PCC effects. Nevins and Săvescu (2010) attribute the facts to the syncretism between accusative and dative case that 1P and 2P plural clitics exhibit in Romanian (the same is true for Bulgarian). We do not develop here an account of the role of number in PCC effects, but note that similar differences between singular and plural have been described for other languages with PCC effects and direct/inverse systems. In Shambala, which has the strong PCC, combinations of a plural and singular 3P require the plural 3P to be the direct object (Duranti 1979). Nevins and Sandalo (2011) report that number affects the direct/inverse system of Kadiwéu.

(29) a. Preporâčaha { *mu* /*mi* } *te* *Bulgarian*
recommended.3pl { 3SG.MASC.DAT/1SG.DAT} 2SG.ACC
entusiazirano.
enthusiastically
'They recommended you to him/me enthusiastically.'

b. Preporâčaha {* *mu* /* *ti* } *me*
recommended.3pl { 3SG.MASC.DAT / 2SG.DAT }1SG.ACC
entusiazirano.
enthusiastically
'They recommended me to him/you enthusiastically.'

The order <3, 2> has also been reported for Polish (Cetnarowska 2003). Sturgeon et al. (2011) cite corpus examples of <3, 2> orders in Czech, which suggest that some speakers of Czech have a *me*-first rather than an ultra-strong PCC grammar. Manzini (2012) notes that there are instances of <3, 2> orders in Italian; thus at least for some speakers this language too may be subject to the *me*-first constraint.

Concerning the question of how a *me*-first grammar is learned, we suggest that the presence of strong (or super-strong) PCC effects with plural direct object clitics is evidence for positing a PCC grammar; learners then additionally posit the *me*-first settings for configurations with singular object clitics in light of positive evidence such as the acceptability of 3 > 2 orders. The *me*-first grammar involves two departures from the default settings of the P-Constraint, and so it is not surprising that variation among speakers may be observed, as seems to be the case in Romanian.

We find evidence for non-default setting of Domain of application in CLR effects, or rather, in their absence. Recall that the interpretable person feature on Appl is responsible for the interpretation of the indirect object as a perspectival center. We thus make the prediction that CLR effects will be present only in case the interpretable person feature is present on Appl. In our account, the *me*-first PCC treats <3, 3> configurations—the environment where CLR effects obtain—differently than the strong, ultra-strong and weak PCC varieties. In the *me*-first grammar, <3, 3> configurations are exempt from the application of the P-Constraint, since the interpretable person feature is present only on Appl heads with a 1P argument. *Me*-first grammars therefore should not show CLR effects. This is not so in strong, ultra-strong and weak PCC grammars, where <3, 3> configurations involve the presence of an interpretable person feature on Appl, and where CLR effects are expected and, as we noted in Sect. 4.1.4, attested.

Data from Bulgarian confirm the prediction that a *me*-first PCC grammar does not result in CLR effects. In (30) the accusative clitic can co-refer with the attitude holder and be interpreted *de se*.[25,26]

[25] Judgments are confirmed by 5 native speakers. We have also confirmed the absence of CLR effects with 1 native speaker of Romanian.

[26] Recall that when the direct object is plural, Bulgarian additionally prohibits <3, 2> and <1, 2> configurations (see fn. 24), suggesting a strong PCC setting. If indeed the plural paradigm is strong, we would expect CLR effects to obtain. Results here are inconclusive and require more investigation. 2 native speakers do not find (i) acceptable, but 3 native speakers do.

(30) Scenario: Ivan and Maria are engaged. He is going to dinner to her parents' house tonight. He will meet them for the first time.

Toj$_i$ misli če tja šte *im* *go$_i$* predstavi prosto kato prijatel,
he thinks that she will 3PL.DAT 3SG.ACC introduce just as friend
ne kato godenik.
not as fiancé
'He$_i$ thinks that she will introduce him$_i$ to them just as a friend and not as a fiancé.'

4.4 3P restrictions and [+participant]/[+author] grammars

In Sect. 4.1.5 we discussed animacy restrictions in the family of [+proximate] grammars, explaining how our account predicts that such restrictions can obtain in strong and ultra-strong PCC varieties (as indeed attested) but not in weak PCC varieties. Our account also makes the prediction that a [± proximate] distinction among 3Ps cannot obtain in super-strong and *me*-first grammars. The joint effect of an active P-Uniqueness clause and a P-Prominence clause specified [+proximate] rules out [+proximate] 3Ps direct objects while allowing [−proximate] 3Ps. In the case of the super-strong and *me*-first PCC, the value set by the P-Prominence clause is [+participant] or [+author], respectively, so 3P arguments cannot be differentiated based on [± proximate] features.

We can also ask whether the *me*-first PCC can be combined with a prohibition on the co-occurrence of two 3P clitics of the kind found in Spanish (*spurious se*) and varieties of Catalan (see Sect. 4.1.6). To derive such a *<3, 3> effect, all Appl phases need to be subject to the P-Constraint, and the P-Prominence clause needs to be set with respect to the value [+proximate]. Clearly, these two settings are incompatible with the *me*-first settings. We thus predict that such a variety of PCC is not possible. Accounts which treat the *<3, 3> effect as an independent constraint do not make this prediction.

4.5 Possible settings of the P-Constraint: Attested and predicted varieties of PCC

In the previous sections, we discussed the observed varieties of PCC effects, and we showed how the settings of the P-Constraint can account for the attested patterns, as well as make predictions for what are some impossible varieties. Specifically, our

(i) *Scenario*: Ivan and Boris are going to dinner to Maria's house. They will meet her husband for the first time.

(*) Te$_i$ misljat če tja šte *mu* *gi$_i$* predstavi prosto kato kolegi, ne kato
they think that she will 3SG.DAT 3PL.ACC introduce just as colleagues not as
prijateli.
friends
'They$_i$ think that she will introduce them$_i$ to him just as colleagues and not as a friends.'

account predicts that *<3, 3> effects of the kind observed in the *spurious se* phenomenon are incompatible with *me*-first PCC grammars, but are possible in strong, ultra-strong and weak PCC grammars (super-strong PCC grammars independently preclude the combination of two 3P arguments). The latter prediction is met, as the *spurious se* is attested in strong, ultra-strong and weak PCC varieties of Spanish. The former prediction is consistent with the facts of the *me*-first grammars in Bulgarian and Romanian. We emphasize that these predictions derive from our model, but not from a more general appeal to the P-Hierarchy in (2). Descriptively, it is possible to combine a *me*-first grammar with a *<3, 3> restriction, without violating the P-Hierarchy, so the prediction of our account that such a combination is ruled out is not trivial.

Our account also predicts that animacy/proximity effects could obtain in the case of the strong and ultra-strong PCC, but not in the case of the super-strong, weak, and *me*-first PCC. The predicted split between the PCC varieties is surprising from a purely descriptive point of view. It's logically possible for 3P arguments to show an animacy/proximity split in the super-strong, weak, and *me*-first PCC. Here too our account makes substantive predictions.

We now look into the settings of the P-Constraint to see how they further delimit possible variation in PCC effects. The different combinations that are needed to account for the varieties of PCC that have already been attested, allow for additional possible grammars (PGs) that have not been described in the literature; we list these as well.

The strong, ultra-strong and weak PCC form a family of PCC varieties, in the sense that, with Domain of application and P-Prominence set to their defaults, they exhaust all possible other settings of the remaining clauses of the P-Constraint. The three PCC varieties furthermore differ in markedness, since P-Uniqueness and its dependent P-Primacy clause have default and marked settings. The strong PCC instantiates the default settings of these two constraints, the ultra-strong PCC is marked because it has a non-default setting of P-Primacy, and the weak PCC is even more marked because it instantiates a non-default setting of the more central P-Uniqueness clause.

(31) Domain of application: All ApplPs
P-Prominence: [*i*P: +proximate]

a.	P-Uniqueness active	
i.	P-Primacy not active	strong PCC
ii.	P-Primacy active	ultra-strong PCC
b.	P-Uniqueness not active	weak PCC

A similar family, defined by a default setting of Domain of application, but a restricted setting of P-Prominence, is exemplified by the attested super-strong PCC and the predicted PG1 and PG2. We can think of PG1 as a counterpart of the ultra-strong PCC, and of PG2 as a counterpart of the weak PCC, within that family of PCC varieties with a [+participant], rather than a [+proximate] setting of P-Prominence. Just like the super-strong PCC, PG1 and PG2 prohibit 3P indirect objects, but unlike the super-strong PCC, they allow 1P and 2P clitics to co-occur, in either just the <1, 2> order (PG1) or in both <1, 2> and <2, 1> orders (PG2). And similarly to the ultra-strong and weak PCC, PG1 and PG2 differ in their marked status. A PG1 grammar

actually exists within direct/inverse systems, e.g., Guaraní, which has 1P/2P clitics (with 1 > 2 order) but lacks 3P clitics; see Zubizarreta and Pancheva (2017). Since the weak PCC is highly marked, we don't necessarily expect its counterpart PG2 to be observed among existing languages.

(32) Domain of application: All ApplPs
P-Prominence: [*i*P: +participant]

a.	P-Uniqueness active		
	i.	P-Primacy not active	super-strong PCC
	ii.	P-Primacy active	PG1
b.	P-Uniqueness not active		PG2

The most restrictive setting of P-Prominence, [+author], leads to two families of PCC effects, depending on whether it is combined with a default Domain of application, as in (33), or with a restricted one, as in (34). P-Primacy is not relevant in these cases, as it regulates combinations of 1P and 2P arguments that would otherwise be ruled out by P-Uniqueness. Given the [+author] setting, P-Uniqueness has no effect on 1P–2P combinations in these two families. P-Uniqueness is relevant only in the case of two 1P arguments, prohibiting their co-occurrence in PG3 and *me*-first. The question arises whether the non-default setting of P-Uniqueness is instantiated in these two families, i.e., whether there are counterparts of the weak PCC variety, which here allow combinations of two 1P arguments. We think this is not the case, for the following reason. In the case of the weak PCC, we suggested that the non-default setting of P-Uniqueness is posited, as a highly marked option, by learners who are exposed to the ultra-strong PCC variety, and who therefore encounter instances of 1P-2P combinations, which they then interpret as violations of P-Uniqueness (rather than as expressions generated by the joint application of P-Uniqueness and P-Primacy). In the case of the two families in (33) and (34), however, learners will not encounter combinations of two 1P arguments, which they can then interpret as being generated by a non-default setting of P-Uniqueness. Or, in other words, because these families do not have counterparts of the ultra-strong PCC, they also are not predicted to have counterparts of the weak PCC.

(33) Domain of application: All ApplPs
P-Prominence: [*i*P: +author]

a.	P-Uniqueness active	PG3

(34) Domain of application: Restricted
P-Prominence: [*i*P: +author]

a.	P-Uniqueness active	*me*-first

Finally, the question arises of whether a restricted Domain of application, can be combined with all settings of P-Prominence, i.e., not just with a [+author] setting as in (34), but also with a [+participant] and [+proximate] settings. We suggest that restricting the Domain of application is the most marked option, and is available only under the condition that the restricted application matches the feature value set in P-Prominence. The *me*-first PCC meets this requirement, as the domain of application

is restricted to ApplPs with a [+author]-marked argument. The only remaining other option, restricting the domain of application to ApplPs with a [+participant]-marked argument and setting P-Prominence to [+participant], results in grammars that on the surface are the same as those in (31) above, where both Domain of application and P-Prominence are set to their defaults (as the reader can easily verify). Differences emerge in combinations of 3P arguments. CLR effects obtain in the family in (31) but are predicted not to surface in any grammars with restricted Domain of application and P-prominence set to [+participant].

To sum up, our account captures the attested PCC effects and makes predictions that several other PCC varieties are possible. These predictions empirically distinguish our account from the previously proposed syntactic accounts based on agreement. We return to this point in Sect. 7.

5 'Direct' and 'inverse' alignment in PCC grammars

5.1 'Direct' orders: The indirect object agrees with the interpretable p-feature

The thematic relationship between Appl and the indirect object gives that argument a privileged status with respect to agreeing with the interpretable person feature on Appl. Partly this is so for purely structural reasons—the indirect object is at the phase edge, in a local configuration with Appl. But also, we believe that the nature of the thematic role—an *affected* goal or experiencer of the event—makes the indirect object particularly suitable to become *a point-of-view center*. The affectedness property of indirect objects in double object constructions (e.g., Oehrle 1975; Demonte 1995, a.o.; see Bosse et al. 2012; Bar-Asher Siegal and Boneh 2015 for recent formal characterizations of affectedness) has an interpretative effect highlighting the indirect object as the natural point-of-view center not unlike how viewpoint aspectual operators zoom-in on certain temporal intervals. This property is present even in languages that do not have PCC effects, and thus no interpretable p-features on Appl, such as English.[27] But in languages that do have a grammatical mechanism for marking perspective, i.e., for grammatically designating an argument as the point-of-view center within the Appl phase, that argument coincides naturally with the argument highlighted by the thematic relation. The default state of affairs is for the indirect object to enter into a formal agreement relation with the interpretable p-feature and be grammatically designated as the point-of-view center within the Appl domain. Thus, in the absence of any further syntactic operation (the counterpart of inverse marking), the only felicitous derivation is the one where the Appl head agrees with the argument that it introduces in its specifier, checking its own interpretable person feature against the interpretable person feature of the indirect object.

The privileged status of the indirect object with respect to the P-Prominence clause of the P-Constraint appears to present a challenge for a unified view of the PCC and

[27] Though see Anagnostopoulou (2003) and Haspelmath (2004) for claims that there are differences in acceptability between weak pronouns in double object structure in English that are suggestive of PCC effects.

direct/inverse systems. After all, in direct/inverse alignment languages, either the external argument or the internal argument enters into an agreement relation with the interpretable p-feature on v (and Infl), as we stated in Sect. 3, when we introduced the notion of the P-Constraint (also in Zubizarreta and Pancheva 2017, we propose an analysis of direct/inverse alignment along those lines). We believe, however, that the problem is only apparent. The grammatical examples that conform to the PCC are the counterpart of direct orders in languages with direct/inverse alignment. In both cases the head hosting the interpretable p-feature, Appl or v, introduces an argument, and this argument is an affected goal, experiencer, or an agent—thematic roles particularly suitable for perspectival centers. By default, that argument agrees with the interpretable p-feature on the head, leading to grammatical structures conforming to the PCC and to direct orders, respectively.

In the next subsection we propose that two types of PCC 'repair' strategies are instances of inverse-like configurations in PCC grammars.

5.2 'Inverse' alignment in PCC grammars

There are several alternative strategies that can be used to avoid PCC violations, and the same strategies keep reoccurring in the languages discussed here. We discuss two such common patterns and we suggest that they instantiate the counterpart of inverse alignment within PCC grammars. A third inverse-like pattern may involve the structural reordering of the indirect and direct object clitics; we do not discuss this pattern here, but see Stegovec (2015) for discussion of Slovenian and Anagnostoupoulou (2008) for discussion of German.

5.2.1 Anti-agreement

Anti-agreement, i.e., lack of agreement with the direct object, has been argued to be a type of inverse marking in some direct/inverse systems (e.g., Béjar and Rezac 2009 on Kashmiri; É. Kiss 2013 on Hungarian). In cases where the direct object is higher than the external argument on the P-hierarchy, the direct object can fail to agree with the verb. The examples from Kashmiri (from Béjar and Rezac 2009: 65, ex. (29a, b)) illustrate anti-agreement in inverse orders. Only in (35a), in the direct paradigm, does the auxiliary agree with both arguments. In the inverse paradigm, (35b), only the external argument shows agreement with the auxiliary.[28]

(35) a. bɨ chu-s-ath tsɨ parɨna:va:n. *Kashmiri*
I.N be-M.SG.-1.SG.N-2.SG.E/A you.N teaching
'I am teaching you.'

b. tsɨ chu-kh me parɨna:va:n.
you.N be-M.SG.-2.SG.N I.D teaching
'You are teaching me.'

[28]The non-agreeing direct object also appears in the dative, rather than in the unmarked, nominative case. A further complication arises in past/perfective sentences, which follow an ergative pattern. See Béjar and Rezac (2009: 64–67).

We see the same mechanism of anti-agreement at play in the case of the PCC. In head-marking languages such as Kambera and Matsigenka, the clitic cross-referencing the direct object can be omitted *if and only if* its person features will trigger a PCC violation. In non-head-marking languages such as Greek and Classical Arabic, the direct object can be expressed as a free pronoun rather than a clitic. The presence of a clitic indicates an agreement relation with Appl (Anagnostopoulou 2003, 2005, a.o.), and thus its absence constitutes anti-agreement. And in some dialects of French the direct object clitic can be omitted altogether. Below we illustrate the anti-agreement strategy in some of the different types of languages and varieties of PCC.

An example of anti-agreement from Kambera can be seen in (36b) (Klamer 1998: 64, ex. (42a)). Note that the direct object in (36) is introduced by the definite singular article *na* and is therefore definite and thus expected to trigger agreement, yet it is not cross-referenced by a clitic in (36b). Recall that Kambera has the super-strong PCC and <3, 3> orders are prohibited. (Similar patterns are found in Matsigenka; see O'Hagan 2014: 7, ex. (18); 20, ex. (36)).

(36) a. *I ama na- wua *-nja* *-nya*$_j$ *Kambera*
ART father 3SG.NOM- give 3PL.DAT(IO) 3SG.DAT(O)
[na heu na njara]$_j$.
ART one.CL ART horse
'Father gives them one horse.'

b. I ama na- wua *-nja* [na heu na njara].
ART father 3SG.NOM- give 3PL.DAT(IO) ART one.CL ART horse
'Father gives them one horse.'

In Greek, free pronouns can rescue violations of the strong PCC. Thus in (37) (Anagnostopoulou 2005: 203, ex. (5)) a 3P indirect object clitic co-occurs with a 2P accusative full pronoun, and the sentence is acceptable. (Similar facts are found in Classical Arabic; Walkow 2012: 58, ex. (44)).[29]

(37) Tha *tu* stilune esena. *Greek*
FUT 3SG.MASC.GEN send.3PL PRON.2SG.ACC
'They will send you to him.'

The anti-agreement strategy reveals that we should view the structure over which the P-Constraint applies in more restricted terms, as concerning *only the DPs within the phase that agree with Appl*, or more concretely, with the interpretable and uninterpretable p-features on Appl. If the direct object does not agree with Appl—an agreement relation that is manifested as cliticization—it is excluded from the do-

[29]The anti-agreement strategy is also available in the case of *<3, 3> violations in dialects of Catalan. <3, 3> orders are realized by deleting the person feature from the accusative clitic. A combination of *els* '3pl.acc', and *li* '3sg.dat', results in the combination [*əlzi*] which Bonet (1995: ex. (4c)) argues is the 3pl.dat /*lzi*/. In other words, the person feature of the accusative clitic has been deleted, and only the number feature survives, and it is spelled-out on the dative clitic. Such facts lend support to a uniform analysis of PCC and *<3, 3> effects, as noted by Walkow (2012).

main of application of the P-Constraint, even though it remains in the Appl phase.[30] The above examples of anti-agreement retain the Appl structure—this is clearly seen in the dative form of the direct object clitic in Kambera in (36), the result of the realization of applicative *ng* on that clitic (fn. 20)—which suggests that the interpretable p-feature on Appl is also present (similarly, the applicative *ni* in Matsigenka is present in cases of anti-agreement). This at least is the most economical assumption: an Appl head in the relevant languages always hosts an interpretable p-feature. The P-constraint is satisfied, as in each case the indirect object agrees with the interpretable p-feature, satisfying P-Prominence, and the other clauses of the P-Constraint are satisfied by virtue of the indirect object being the only DP in the domain of application, as determined by the featural content of the Appl head.

5.2.2 Lack of agreement with the indirect object

Another strategy of avoiding PCC violations involves lack of agreement with the *indirect* object. There seem to be two such cases: failure of indirect object agreement in an Applicative structure, where such agreement is normally expected, and the use of an alternative to the Applicative structure, analogous to the prepositional dative structure in English, where agreement with the verb is not expected in the first place. Usually, we cannot tell the two cases apart, as Appl morphology is typically non-overt, though we start our discussion with some clearer examples.

In Kambera, the indirect object can be expressed as a locative phrase, in which case it is not cross-referenced with a clitic on the verb, see (38a, b) (Klamer 1998: 221, ex. (118a,b)).

(38) a. *Ngàndi *-nya* *-ngga* i ngguru. *Kambera*
take -3SG.DAT(IO) -1SG.DAT(O) ART teacher
'Take me to the teacher.'

b. Ngàndi *-ngga* lai ngguru.
take -1SG.DAT(THEME) LOC teacher
'Take me to the teacher.'

The question arises whether (38b) is analogous to prepositional datives in languages like English, i.e., whether the Appl head is altogether missing. Note that the direct object is marked dative rather than accusative. Klamer (1998: 217) gives the applicative form of the verb in (38) as *ngàndi.ng* 'take to Y'. The source of dative case on the direct object in (38b) is likely the applicative *ng* (see fn. 20), apparently still present even when the indirect object is expressed in a locative phrase. Thus, it is unwarranted to analyze (38b) as a repair strategy that blocks the Appl construction and allows the

[30]The question arises as to what Case mechanism licenses the non-agreeing object. We leave this issue unresolved, as it is independent of our main concern, but note the separation of case and agreement in recent syntactic research. Another question concerns the uninterpretable p-feature on Appl. Here we can follow Preminger (2014), who suggests that failed agreement (with an uninterpretable probe) need not lead to ungrammaticality.

PP counterpart in such cases (e.g., Béjar and Rezac 2009). Rather this seems to be a case of *an Applicative structure without agreement with the indirect object*.[31,32]

Given the overt morphological evidence of the presence of an Appl head in the above cases, it is possible to assume that an interpretable p-feature is present as well, and that the P-Constraint is satisfied through an agreement between Appl and the direct object. This would make the direct rather than the indirect object the perspectival center. Such alternative structures would thus be analogous, in the relevant sense, to inverse configurations in direct/inverse systems. Alternatively, it could be that the interpretable p-feature is absent in such "repaired" Appl structures, which would entail absence of a grammatically-encoded perspectival center. At this point, we have no way of empirically evaluating these alternatives, and we will not pursue this issue further.

In the Romance languages, PCC violations can be avoided by expressing the indirect object as a full pronoun. In such cases too the indirect object is not involved in agreement. Importantly, the structure with the free pronoun is otherwise not available, unless the pronoun is stressed (Perlmutter 1971; Kayne 1975; Postal 1990; Rezac 2006, 2011, a.o.). In inverse-like configurations (i.e., so called 'PCC repairs') the indirect object pronoun need not be emphatic. We illustrate below with examples from French (similar facts obtain in Catalan, see Walkow 2012: 66, ex. (52)).

(39) a. *Lucille *te* *leur* présentera. *French*
Lucille 2SG 3PL.DAT will.introduce
'Lucille will introduce you to them.' (Rezac 2011: 93, ex. (1d))
b. Lucille *te* présentera à elles.
Lucille 2SG will.introduce to them
'Lucille will introduce you to them.' (Rezac 2011: 93, ex. (1e))

(40) a. Lucille *la* *leur* présentera. *French*
Lucille 3SG.ACC 3PL.DAT will.introduce
'Lucille will introduce her to them.' (Rezac 2011: 93, ex. (1a))

[31] A similar case is found in Matsigenka. Benefective verbs with a 1P/2P direct object (a PCC violation) can be realized through an alternative strategy that involves the use of a benefective pro-form *ashi*, with the verb agreeing only with the direct object (O'Hagan 2014: 20–21, ex. (37)).

[32] It is worth pointing out that the absence of a clitic cross-referencing the indirect object in Kambera and Matsigenka is not simply a morpho-phonological phenomenon. Kiowa, a language discussed in Adger and Harbour (2007), shows PCC effects even when a gap in its agreement paradigm leaves the agreement for the indirect object null. In Kiowa, the strong PCC effect is seen on the form of the obligatory agreement prefix, a portmanteau morpheme expressing combinations of the ϕ-features of the subject, indirect and direct objects. 3P animate plural indirect objects do not trigger *phonologically overt* agreement, yet they trigger abstract agreement and also PCC effects (see (ia) and (ib), (Adger and Harbour 2007: ex. (33, 34))).

(i) a. *Kɔ́ígú *em-* pɔɔhíítɔɔ *Kiowa*
Kiowas I:you.sg bring.FUT
'I'll take you to the Kiowas.'
b. Kɔ́í-em *em-* pɔɔhíítɔɔ
Kiowa-LOC I:you.sg bring.FUT
'I'll take you to the Kiowas.'

b. *Lucille *la* présentera à elles.
Lucille 3SG.ACC will.introduce to them
'Lucille will introduce her to them.' (Rezac 2011: 93, ex. (1b))

The fact that structures with unstressed free pronouns, as in (39b), are available only in cases where a clitic pronoun would lead to a PCC violation (see (39a) and (40)), suggests that such structures do have an Appl head, i.e., they are not an instance of a PP construction. In the absence of agreement between the interpretable p-feature on Appl and the indirect object, the agreement is with the direct object, which makes such structures formally parallel to inverse configurations.

In summary, when combinations of direct and indirect objects would result in a PCC violation, two alternative ways are commonly available cross-linguistically: lack of agreement with the direct or indirect object. We submit that both these strategies are counterparts of inverse alignment in direct/inverse systems.

6 Interpretative issues

6.1 Person-based point of view

The *interpretable* person feature on Appl grammatically encodes the fact that the indirect object clitic is a perspectival center, specifically a point-of-vew center. We understand the term as it is used by Sells (1987: 455), where it is called *pivot*: it "represents the one from whose point of view the report is made." When the pivot is a participant of the described event, the notion coincides with the *empathy locus* in the sense of Kuno (1987), but it is otherwise a more general term that can also be applied to the speaker.

Point of view can be lexically encoded, as in the case of the two Japanese verbs for 'give.' In (41a) the event is described from the point of view of the speaker or of Taro, whereas in (41b) the point of view is that of Hanako (Kuno 1987: 246). The lexical specification leads to grammatical person-sensitivity effects: (41a) can have a counterpart with a 1P subject, whereas (41b) cannot, as (42) illustrates. In other words, when the speaker is an event participant, another event participant cannot be the pivot.

(41) a. Taro-ga Hanako-ni okane-o *yar*-u. *Japanese*
Taro-Nom Hanako-Dat money-Acc give-Pres
'Taro gives Hanako money.'
b. Taro-ga Hanako-ni okane-o *kure*-ru.
Taro-Nom Hanako-Dat money-Acc give-Pres
'Taro gives Hanako money.'

(42) Boku-ga Hanako-ni okane-o { *yar*-u / * *kure*-ru }. *Japanese*
I-nom Hanako-dat money-acc give-pres give-pres
'I give Hanako money.'

The notion of *pivot* also plays a role in the licensing of long-distance reflexives. Sells (1987: 464) gives the following contrast from Japanese, arguing that the antecedent of *zibun* needs to be a *pivot*: the use of *come* in (43a) suggests the speaker

presents the event description from the point of view of Takasi's spatio-temporal location, making Takasi a *pivot*, and thus a suitable antecedent for the reflexive; the use of *go* in (43b) on the other hand suggests a perspective away from Takasi's location, and so in this case Takasi is not a *pivot* and cannot be an antecedent for *zibun*.

(43) a. Takasi$_i$ wa [Yosiko ga zibun$_i$ o tazunete-*kita* node] *Japanese*
Takasi Top [Yosiko Subj self Obj visit-came because]
uresigatta.
happy
'Takasi$_i$ was happy because Yosiko came to visit him$_i$.'

b. *Takasi$_i$ wa [Yosiko ga zibun$_i$ o tazunete-*itta* node] uresigatta.
Takasi Top [Yosiko Subj self Obj visit-went because] happy
'Takasi$_i$ was happy because Yosiko went to visit him$_i$.'

6.2 Logophoricity

Sells (1987) unifies the notion of point of view with that of another perspectival phenomenon, the interpretation of logophoric pronouns. Some languages have specialized pronouns, known as *logophors*, that need to have an attitude holder as an antecedent (Clements 1975; Pearson 2015, a.o.). In (44a) the logophoric pronoun *yè* obligatorily takes the attitude holder *Kofi* as an antecedent, and it would not be licensed outside of contexts that provide such an antecedent. In contrast, the regular pronoun *e* in (44b) appears outside of attitude reports, and it may have the matrix subject *Kofi* as an antecedent, but does not have to.

(44) a. Kofi nya be me-kpo *yè*. *Ewe*
Kofi knew that 1sg-see LOG
'Kofi$_i$ knew that I saw him$_i$.'

b. Kofi se Kɔku wò-no *e* dzu-m.
Kofi heard Koku pron-be 3sg insult-A
'Kofi heard Koku insult him.'

There is cross-linguistic variation in the types of attitude predicates that allow their subjects to be antecedents for logophoric pronouns: in some languages only verbs of saying do so, whereas in others, a wider class of attitude predicates, e.g., verbs of thought, knowledge (as in (44a)), can license logophors (Sells 1987; Culy 1994). Sells (1987) proposes that the cross-linguistic variation is due to the specific logophoric role the antecedent of logophoric pronouns is required to play. Specifically, these logophoric roles are *source*, "the one who makes the report", and *self*, "the one whose mind is being reported" (Sells 1987: 455). The roles can overlap, i.e., the speaker is both a *source* (as the author of the utterance) and a *self* (as the content of the utterance describes his/her belief). Similarly, an attitude holder may have more than one role, so the subject of *say* is both a *source* and a *self*, while the subject of *know* is just a *self*. According to Sells, logophoric pronouns need their antecedent to be at least a *self*, but some languages may place the stricter requirement of *source*. In languages where logophors are restricted to embedded clauses under verbs of saying, the antecedent needs to be a *source*, whereas in languages such as Ewe, where a wider class of attitude predicates can license logophors, the antecedent needs to be a *self*.

Of particular relevance for us is the fact that Sells (1987) considers *pivot* to be another logophoric notion. *Pivots* also participate in the implicational relation among logophoric roles: the speaker is not just a *source* and a *self* but may also be a *pivot*, if the event described by the matrix clause is presented from the speaker's point of view (as is typically the case). An attitude holder (the subject of *think*, *know*, *say*, etc.) may also be a *pivot* in addition to a *self* (and possibly also a *source*, if it is the subject of *say*), if it is the person from whose point of view the event in the embedded clause is described (quite analogously to the speaker in the case matrix clauses). *Pivots* do not license logophoric pronouns—since the antecedent of a logophoric pronoun needs to be at least a *self*—but they may license long-distance antecedents such as *zibun* (see (43)). *Source* and *self* are also appropriate roles for antecedents of long-distance reflexives in languages such as Japanese and Icelandic. Given the overlapping of roles, we may say that *zibun* needs at least a *pivot* as its antecedent, but can also take as an antecedent an argument that is also a *self* (so both *self* and a *pivot*, as the subject of *know, think*), or one that is *source*, *self* and *pivot* (the subject of *say*). Similarly, so-called logophoric reflexives in English (Zribi-Hertz 1989; Reinhart and Reuland 1993) as in (45) are known to interact with point of view; they too can be said to need a *pivot* as an antecedent (and recall, with respect to (45a), that the speaker is a *pivot* for Sells 1987).

(45) a. This letter was addressed only to myself.
(Reinhart and Reuland 1993: ex. (27a))

b. The queen demanded that books containing unflattering descriptions of herself will be burned. (Reinhart and Reuland 1993: ex. (45c))

To sum up, for Sells (1987) the three notions of *source*, *self* and *pivot* are all aspects of logophoricity, construed more broadly than just the licensing of logophoric pronouns in languages such as Ewe. On this broader view, logophoricity concerns perspective-based anaphora.[33] Cross-linguistic variation in the licensing of logophoric pronouns, on the one hand, and of long-distance reflexives, on the other, stems from grammatical requirements about the logophoric role of the antecedent.

We can think of the indirect object clitic that agrees with the interpretable person feature on Appl as a logophoric pronoun construed very broadly. Clearly it is not a 'pure' logophor (Culy 1994) like Ewe *yè*, nor is it a logophoric reflexive, nor is it in need of a linguistic antecedent. But it is a pronoun that needs to be interpreted as a point-of-view center (a *pivot* in Sell's terms). Furthermore, the notion of *pivot* and the other logophoric notions of *source* and *self* are useful in capturing the cross-linguistic variation seen in the settings of P-Prominence. Analogously to reflexives without clause-mate antecedents (long distance and logophoric reflexives), which need at least a *pivot* as a licenser, but may have *source* or *self* in that role as well, indirect object clitics in different PCC varieties need to be interpreted at least as *pivots* (point-of-view centers), but may have stricter interpretive requirements as well. The default, most general setting of P-Prominence imposes the *pivot*-requirement, the

[33]The unifying view is not meant to deny differences between 'pure' logophoricity and the licensing of reflexives without clause-mate antecedents. See Culy (1997) and Oshima (2007) for discussion.

more restrictive settings of P-Prominence also ask for a *pivot*, but one that is additionally a *self*, or a *self* and a *source*.

(46) [*i*P: n]: referent is a *pivot*
- a. n = [+proximate]: referent must be at least a *pivot*
- b. n = [+participant]: referent must be at least a *self*
- c. n = [+author]: referent must be *source*, which is also a *self*

The identification of speaker with *source* follows Sells (1987) directly. It may be less obvious why the addressee (2P) would be a *self*, and here we depart slightly from Sells' definition, which states that *self* is "the one whose mind is being reported" (Sells 1987: 455). We take the logophoric notion of *self* in attitude reports to be about an attitude towards a proposition, without the requirement that the attitude be reported. By virtue of participating in the speech event and hearing the speaker's utterance, the addressee forms an attitude towards the propositional content of the utterance (a thought, belief, doubt, etc.). Given that the PCC cases we have been discussing obtain in matrix contexts, this attitude is not further specified as to whether it is a thought, belief, doubt, etc., but it is nevertheless present, making the addressee (2P) a *self*, along with the speaker (1P).

The possible feature values of the interpretable person feature on Appl are thus not arbitrary, but are semantically linked to the logophoric notions of *pivot*, *self* and *source*, notions that are also applicable in the analysis of variation in other person-based perspectival phenomena.

6.3 The connection to the CLR effects

While it is not our goal to account for the CLR phenomenon, we can nevertheless offer some preliminary suggestions here. Recall the basic facts about the CLR: in double object constructions with clitics, when the indirect object clitic is 3P, the direct object clitic cannot refer to an attitude holder and be interpreted *de se*. See the Spanish examples in (47) (from Roca 1992: 58). Of particular relevance here is the distinction between 1P/2P and 3P indirect object clitics: only the latter lead to unacceptability.

(47) a. *Luis$_i$ creyó que María *se*$_k$ *lo*$_i$ presentaría (a sus padres$_k$).
Luis believed that Maria DAT 3SG.ACC introduce to her parents
'Luis believed that Maria would introduce him to them (her parents).'

b. Luis$_i$ creyó que María *me* *lo*$_i$ presentaría.
Luis believed that Maria 1SG 3SG.ACC introduce
'Luis believed that Maria would introduce him to me.'

It is tempting to try to reduce the CLR to the PCC, and all previous accounts of the CLR have attempted to do so, but none succesfully. We think that a fruitful avenue to explore would be as follows. Rather than reducing the CLR to the PCC, we think the correct approach is to acknowledge that they are partially different phenomena, but they share a common core, with each other and with the Japanese facts in (42). We formulate this common requirement, which we name the Point-of-view Principle, as in (48):

(48) Within a logophoric domain marking point of view, if there are attitude holders among the event participants, one of them has to be the point-of-view center.

The Point-of-view Principle in (48) expresses an affinity between the logophoric roles of *self* and *pivot*. It states in effect that in the presence of a *self*, a non-*self* argument cannot be chosen as the *pivot*. In other words, an individual who has a perspective on a proposition, i.e., an attitude such as thought, belief, knowledge, etc., (a *self*) needs to be chosen, when available, as the individual from whose point of view the event that the proposition references is described (the *pivot*). In *Luis believed that Maria will introduce him to them*, the attitude holder *Luis* and the non-attitude holders *Maria* and *them* are all event participants of the event described in the embedded clause, but if one of them is to be selected as a point-of-view center, *Luis* has to be that argument. In other words, having one type of perspective (attitude) confers privilege in the attribution of another type of perspective (point of view).

The Point-of-view Principle is a semantic requirement, and individual grammars can ensure, at various points in a derivation, that it is met once the semantic component is reached. In the case of the CLR, the relevant domain is the ApplP, as determined by the interpretable person-feature on Appl; the same feature syntactically marks the indirect object clitic as a point-of-view center. In the CLR cases in (47a), there is no violation in narrow syntax, until the semantic component is reached. There, the 3P accusative clitic is interpreted as the attitude holder, while the 3P indirect object clitic is interpreted as the point-of-view center (since it has been marked as such by the P-Constraint), leading to a violation of (48), in the absence of a PCC violation. The Bulgarian counterpart of (47a) is not a CLR violation because the indirect object clitic is not marked as a point-of-view center in the absence of a morpho-syntactically 1P accusative clitic. When the indirect object is 1P or 2P, as in (47b), it denotes an attitude holder, albeit an attitude holder with respect to the speech event, not the matrix attitude event. Apparently this is sufficient to meet the requirement in (48) and so (47b) does not violate the CLR. Turning to cases where both event participants in the Appl domain are speech participants, as in (49), the requirement in (48) is also satisfied, because the point-of-view center is an attitude holder (here the speaker), and the CLR is not violated.

(49) Tu$_i$ crees que María *te*$_i$ *me* presentaría.
you believed that Maria 2SG 1SG introduce
'You believed that Maria would introduce you to me.'

In the case of the PCC, the relevant domain for evaluating (48) is also the ApplP, as determined by the interpretable person-feature on Appl. In all PCC varieties, the morpho-syntactic mechanism behind the P-Constraint, while independent of the Point-of-view Principle, ensures that (48) is met by the time the semantic component is reached. In other words, the P-Constraint results in a syntactic representation that is optimally interpretable.

Finally, in the case of the Japanese verbs *give*, the relevant domain for evaluating (48) is the *v*P; the verb *kure-* 'give' lexically encodes the fact that the indirect object is a point-of-view center, and a 1P external argument then violates the Point-of-view

Principle in (48), resulting in unacceptability (see (42)). The licensing of *zibun* in (43) also obeys the Point-of-view Principle in (48). In (43a), the attitude holder *Takasi*—the antecedent of *zibun*—is the point-of-view center, marked as such by the verb *come*, and (48) is satisfied. But in (43b), because of the use of *go*, the attitude holder *Takasi* is not the pivot, leading to a violation of the Point-of-view Principle in (48), and ungrammaticality.

We leave a further exploration of the suggested approach to the CLR and other related logophoric phenomena for future research. There are links between the CLR and the PCC but the two are not reducible to the same general phenomenon. What is important for our goals in this paper is that the CLR independently motivates the analysis of the PCC as a syntax-semantics interface phenomenon concerned with the encoding of perspective.

6.4 Person-based vs. temporal-based perspective

We highlight the conceptual similarity between the point-of-view role played by the indirect object clitic and that of the temporal notion of *reference time* (Reichenbach 1947). The reference time is an abstract temporal argument that is situated relative to the event time, on the one hand, and to the speech time, on the other, by tense and aspect functional heads that take null time-denoting pronominals as arguments. The formal ordering relations encoded on the functional heads establish that the temporal perspective in a sentence such as *John had already talked to Mary* is with respect to a time preceding the speech time and following the event time. Similarly, the role of the interpretable person feature on functional heads such as Appl is to assign person-denoting arguments relative prominence. It identifies the indirect object as the point-of-view center—the person counterpart of the temporal notion of reference time—and it further formally keeps track of whether the point-of-view center is an event participant or not, on the one hand, and a speech participant or not, on the other, in order to provide a person-based perspective on the described event. These formal relations establish from what individual's perspective the event is described. For readers who might worry that the usefulness of this notion remains unclear, we note that similarly the usefulness of the notion of reference time is also not obvious for simple tense-aspect forms such as the ones seen in *John was in LA*, and it becomes clear only when we look at more complex tense-aspect expressions such as the perfect, or perfective/imperfective distinctions (*e.g.*, *John has read the book, John was reading the book, John read the book*).

7 Comparison with prior syntactic accounts of the PCC

There have been a number of previous syntactic accounts of PCC effects, most focused just on the core distinctions between weak and strong PCC (Anagnostopoulou 2005; Béjar and Rezac 2003, 2009), some on the strong and ultra-strong PCC (Walkow 2012) and some covering a wider range of PCC effects including weak, strong, *me*-first and ultra-strong PCC (Nevins 2007), and super-strong, strong, and weak PCC (Haspelmath 2004; Doliana 2013). No account addresses all varieties of

PCC discussed here. We do not attempt a detailed comparison with each of these approaches. Our goal instead is to re-frame the phenomenon. The main way in which our account diverges from previous formal syntactic approaches is in the suggestion that the locus of the PCC effect is an *interpretable* p-feature on the Appl head, which triggers the P-Constraint, resulting in the interpretation of the oblique argument as a point-of-view center in the Appl phase. Previous syntactic approaches centered on agreement localize the PCC effect to an *uninterpretable* person feature, which triggers the familiar Agree operation of Chomsky (2000) (Béjar and Rezac 2003, 2009; Anagnostopoulou 2005; Nevins 2007, 2011; Adger and Harbour 2007; Walkow 2012, a.o.). While these accounts reduce PCC effects to regular Agree relations involved in case-licensing and agreement, making the PCC a phenomenon of narrow syntax, we propose that the PCC effects are grounded in the grammar of logophoricity and are associated with interpretative effects (building on work by Charnavel and Mateu 2015), thus placing the PCC phenomenon at the interface of syntax and semantics. We further emphasize the formal parallels between the encoding of point of view in the domain of person, on the one hand, and tense and aspect on the other.

Apart from the major conceptual difference noted above, our account shares some key aspects with the previous syntactic accounts of PCC phenomena. Like Béjar and Rezac (2003, 2009), Anagnostopoulou (2005), Adger and Harbour (2007), and Nevins (2007, 2011), we take PCC effects to arise as the result of person-agreement involving two clitic pronouns in the domain of a single head. Neither we, nor the previous accounts treat the Person Hierarchy as a primitive of the system, yet we all derive its effects. Like Anagnostopoulou (2005) and Nevins (2007), we treat the PCC varieties as the result of parametric differences, and like Nevins (2007) in particular, we employ the same syntactic mechanism to account for the different versions of the PCC, with parametric variation centered on feature values. Since for us the P-Constraint is triggered by the person features on the relevant phase head, different parameter settings of the P-Constraint are localizable as different feature specifications on the head, in the spirit of Nevins (2007), though for us the presence or absence of the P-Uniqueness clause, and its dependent P-Primacy clause, is an additional source of variation. Finally, like Anagnostopoulou (2005), Béjar and Rezac (2003, 2009) and Nevins (2011), we propose that PCC effects and direct/inverse alignment are essentially the same phenomenon.

As far as the syntactic details are concerned, our analysis is similar to some of the previous syntactic accounts, but it diverges from others. First, we already noted that the relevant head for us is Appl rather than transitive v, as it is for Anagnostopoulou (2005), Béjar and Rezac (2003), and Nevins (2007). Adger and Harbour (2007) and Béjar and Rezac (2009), on the other hand, localize the PCC effects on the Appl head, like we do. Second, much of the previous syntactic literature is concerned with the mechanics behind the PCC effects. Two general approaches can be identified in this respect, *Multiple Agree* found in Anagnostopoulou's (2005) account of the weak PCC, and in Nevins' (2007, 2011) account of several varieties of PCC, and *Split Agree* (or *Cyclic Agree*) found in Béjar and Rezac (2009). On the Multiple Agree approach, person-agreement obtains between each of the two objects and the probe. On the Split Agree approach, the probe first seeks to enter an agreement relation with the direct

object, in its c-command domain, and only if that search is not successful (i.e., the direct object is 3P), the search domain is extended upwards, to establish agreement with the indirect object. While the mechanics of our account are very different, we are more in line with the spirit of the Split Agree approach, as we propose that only one argument enters an agreement relation with each person-feature on Appl.

Clearly, the theoretical landscape concerning the PCC is rich and varied. The accounts make different empirical predictions. We already clarified that in addition to accounting for the attested variation in PCC grammars, we also predict several additional possible grammars and several impossible grammars. We hope that future research can verify these predictions. Below we note some of the empirical issues that arise for the prominent alternative accounts with respect to the already attested varieties of PCC effects.

7.1 Multiple Agree

7.1.1 Anagnostopoulou *(2005)*

Anagnostopoulou's is one of the early influential syntactic accounts of the PCC. Here the person-sensitivity effects arise because both objects enter into checking relations with the same head, transitive v. In the relevant cases, the direct object is not able to check its person feature, and thus, it is not able to receive structural case, as checking of all ϕ-features of a DP is assumed to be necessary for structural case licensing. 3P direct objects never run into this problem, because they are posited to have no person features, whereas 3P indirect objects have a negatively specified person feature. (This particular feature configuration is also found in Adger and Harbour 2007).

The parametric difference between the strong and weak PCC (the only varieties Anagnostopoulou discusses) lies in the availability of Multiple Agree. In languages with the strong PCC, Multiple Agree is not available. The indirect object, being closer to v, checks the person feature on v, leaving only a number feature available for the direct object. If the direct object is 3P, i.e., without a person feature, there will be no problem for structural case licensing. If the direct object is 1P/2P, however, it will not be able to receive case, as its person feature will not be checked against v. In languages with the weak PCC, Multiple Agree is available, and thus transitive v agrees in person both with the oblique indirect object and with the direct object, allowing the co-occurrence of 1P and 2P. Multiple Agree further requires matching of the $+/-$ values of person, and so is precluded in the case of a 3P indirect object and a 1P/2P direct object, as these have opposite values of the person feature.

It is not clear how this account can be extended naturally to the other varieties of PCC attested cross-linguistically. The super-strong PCC would be a challenge, as nothing in the account places restrictions on the person specification of the *indirect* object. The same logic applies to *<3, 3> effects that are observed with other varieties of PCC (as in the spurious *se*). Perhaps it can be said that in the relevant languages, the person feature on the probe v only seeks a *positive* value of person, or alternatively, that both 3P direct and indirect objects lack a person feature and so the uninterpretable person feature on v remains unchecked. The *me*-first variety of PCC is even more challenging, as it prohibits 1P direct objects, but allows 2P direct

objects, and the two are not distinguished in Anagnostopoulou's system. Neither the presence nor the absence of Multiple Agree can differentiate between the two types of direct objects. Similar considerations apply in the case of the ultra-strong PCC, which allows <1, 2> orders but prohibits <2, 1> orders. It is clear that new conditions need to be added to the initial system of Anagnostopoulou (2005) to account for the range of PCC varieties.

7.1.2 Nevins *(2007)*

For Nevins (2007), Multiple Agree is involved in all varieties of PCC, but the person features on the probe differ. In the four varieties of PCC that he discusses, the search is relativized to contrastive values, or to marked values, of [participant] and [author]. A feature is contrastive within a set of other features if both its + and – values may occur within the set. For example, the feature [author] is contrastive when it co-occurs with [+participant], since both [+author] and [–author] are possible realizations ([+participant, +author] yielding 1P, and [+participant, –author] 2P). The same feature [author], however, is not contrastive when it co-occurs with [–participant], since only [–author] is a possible realization ([–participant, –author] defining 3P). Nevins further specifies that the positive values of [participant] and [author] are marked.

Additionally, two conditions on Multiple Agree are set. *Contiguous Agree* requires that there be no interveners in the domain of Agree that have a different value for the feature being probed for. *Matched Values* requires the same value, + or –, for the feature being agreed with (essentially, as in Anagnostopoulou 2005).

Four varieties of PCC are accounted for. In the case of the strong PCC, the probe is a contrastive value of [author]. Contiguous Agree mandates that there cannot be a non-contrastive value of [author] in the domain of Agree, and so <3, 1> and <3, 2> orders are precluded, given that in the context of [−participant] (3P), [author] is not contrastive. Matched Values further precludes <1, 2> and <2, 1> configurations, because they have different +/– specification for [author].

In the remaining three varieties of PCC that Nevins discusses, the probe searches for marked, i.e., positive, values (of [author], [participant], or both). The requirement of Matched Values is therefore trivially met. In the case of the weak PCC, the probe value is [+participant]. There cannot be [−participant] in the search domain: <3, 1> and <3, 2> thus violate Contiguous Agree and are ruled out. In the case of the *me*-first PCC, the probe value is [+author]. There cannot be [–author] DPs that intervene, so no <2, 1> or <3, 1> orders are allowed. Finally, in the case of the ultra-strong PCC, the probe value is [+participant, +author]. Contiguous Agree is violated in <2, 1> and <3, 1> cases, because [–author] intervenes, and in <3, 1> and <3, 2> cases, because [–participant] intervenes.

The super-strong PCC cannot really be accounted for under this approach. <3, 3> orders cannot be ruled out by Contiguous Agree or by Matching Values, since the [participant] and [author] values of the two objects are identical. Positing a [+participant] probe will rule out <3, 3> orders but also, incorrectly, will allow <1, 2> and <2, 1> orders, as in the case of the weak PCC. The inability to capture the super-strong PCC is the main empirical problem that the account faces. Related

to it is the need to treat *<3, 3> cases like the *spurious se* as unrelated to the PCC phenomenon.

An additional empirical difficulty arises in the case of animacy effects as in *leísta* Spanish and Mohawk. Introducing a [proximate] feature to the system will not be enough: a probe searching for [+proximate] will incorrectly allow animate 3P direct objects and disallow inanimate ones, while also incorrectly allowing <1, 2> and <2, 1> combinations; and a probe searching for a contrastive value of proximate (which is contrastive only in the context of [−participant]) will wrongly rule out <1, 3> and <2, 3> configurations, as they violate Contiguous Agree.

7.2 *Split Agree*: Béjar and Rezac (2003, 2009)

Béjar and Rezac (2003, 2009) aim to account for the strong PCC (and its similarities with dative-nominative constructions in Icelandic and direct/inverse systems). A key ingredient in their account is that only one object can enter into person agreement with the relevant functional head (transitive v in Béjar and Rezac 2003; Appl in Béjar and Rezac 2009). A second key ingredient is the requirement that 1P and 2P arguments must be formally licensed via an agreement relation with a functional head, as in (50). This is an additional requirement to any ϕ-agreement mechanism initiated by functional heads.

(50) *Person Licensing Condition* (PLC) (Béjar and Rezac 2003)
Interpretable 1st/2nd person features must be licensed by entering into an Agree relation with an appropriate functional category.

According to Béjar and Rezac (2003), strong PCC effects obtain when the direct object is 1P or 2P, because then the PLC is violated. The person feature on v probes first, fails to agree with the direct object because the indirect object is a defective intervener (following Chomsky 2000). Cliticization by the indirect object removes the intervention, and so number agreement between the probe in v and the direct object becomes possible, but the absence of person agreement between v and the direct object violates the PLC. Only 3P direct objects are allowed as they do not need to enter into person agreement with v (having no person features).

The mechanism behind strong PCC effects is somewhat different in Béjar and Rezac (2009), but the two key ideas of their previous account are retained: only one of the objects can enter into person agreement with the probe, and the PLC in (50) needs to be satisfied. A probe on the Appl head searches *down* in its c-command domain, probes the direct object, and checks all features if the direct object is 1P/2P, becoming inactive for further Agree with the indirect object. If the direct object is 3P, the probe searches *upwards* and agrees in person with the indirect object. Béjar and Rezac (2009) thus use *feature relativized locality*: a probe for a feature [uF] only sees the closest goal with a feature [F] in its search space. A DP less specified than a probe will match only a subset of the probe's features, leaving an *active residue* that will trigger *upwards agree*.

Béjar and Rezac (2003, 2009) do not discuss other varieties of PCC, and it is not clear to us how the accounts can be extended to the full range of effects observed cross-linguistically.

8 Conclusions

A point of departure in this paper was to acknowledge an important result from Charnavel and Mateu (2015) that the PCC phenomenon is linked to perspective taking. We have proposed a theory of the PCC, the core of which is a phase-based P-Constraint that regulates the grammaticalization via agreement of what is to be interpreted as the perspective center within the Appl phase (i.e., *point-of-view center*). The P-Constraint is proposed in Zubizarreta and Pancheva (2017) to account for direct/inverse alignment, and its application to the PCC allows us to bring together under a unified analysis person-sensitivity across different structural domains in different languages.

Another goal of the paper was to show that the P-Constraint captures well the variability that exists within and across languages with respect to the PCC. This is accomplished naturally through the setting of several parameters: varying the person feature in the P-Prominence clause of the P-Constraint, as well as the presence or absence of P-Uniqueness and its dependent P-Primacy clause, and also a default or restricted setting of Domain of Application.

We have also made some preliminary remarks on the formal similarity between the person and temporal domains. The ultimate goal would be a deeper understanding of the grammatical marking of perspective with respect to these two event parameters.

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