

Dissociating the Person Case Constraint from its “repair”

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Abstract

In French ditransitive sentences, certain person combinations of the two internal arguments cannot be expressed with two co-occurring clitics (a phenomenon referred to as the Person Case Constraint or PCC). To fill the interpretational gap created by this restriction, there is an alternative construction characterized as a “repair”, where the goal is realized as an independent phrase. The fact that the double-clitic construction and the repair construction are in complementary distribution led to a proposal of an interface algorithm that provides a way to repair a non-convergent structure. This article proposes an alternative account of the PCC, and claims that the complementarity between the PCC and its repair is instead accidental and is an artefact of the feature structure of arguments. The proposed account explains the unavailability of certain clitic combinations and some repairs independently, without resorting to a trans-derivational device like the previously proposed algorithm.

Keywords: Person Case Constraint (PCC), PCC repair, features, valuation, Merge

Résumé

Dans les phrases ditransitives en français, certaines combinaisons de personne dans les deux arguments internes ne peuvent pas être exprimées avec deux clitiques concomitants (un phénomène nommé la “Person Case Constraint” ou PCC). Pour combler la lacune interprétative créée par cette restriction, il existe une construction alternative désignée “réparation”, dans laquelle l’objet indirect est réalisé par un syntagme nominal indépendant. Le fait que la construction à deux clitiques et la construction de réparation soient en distribution complémentaire a mené à la proposition d’un algorithme d’interface, qui offre un moyen de réparer une structure non convergente. Cet article propose une autre analyse de la PCC et affirme que la complémentarité entre la PCC et sa réparation est plutôt accidentelle, découlant de la configuration des traits des arguments. La proposition explique, de manière indépendante, l’indisponibilité de certaines combinaisons de clitiques et de certaines

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réparations, sans recourir à un mécanisme trans-derivational comme l'algorithme proposé précédemment.

Mots-clés: Contrainte de cas et de personne (PCC), réparation PCC, traits, attribution de valeur, Merge

1. INTRODUCTION

The Person Case Constraint (PCC) is a crosslinguistically observed restriction on the possible person combinations of two concurrent arguments in a weak form (clitics, or agreement morphemes).¹ Because logically possible sentences are unexpectedly found to be ungrammatical, this restriction has attracted much attention in the literature (Bonet 1991, Albizu 1997, Béjar and Rezac 2003, Anagnostopoulou 2003, Adger and Harbour 2007, Nevins 2007, Rezac 2011, Pancheva and Zubizarreta 2018, among many others). For these ungrammatical sentences, languages use different strategies to fill the interpretational gap created by the PCC. These alternative constructions are called repairs (Bonet 1994, 2008). The name “repair” appears to be the right characterization of these constructions, as their purpose, at least on the surface, is to provide a way to express a meaning that is otherwise blocked by the PCC. This apparent dependency between the PCC and its repair led Rezac (2011) to propose an interface algorithm, which supplies a means of amending a non-convergent derivation. This article claims that there is no such transderivational dependency, and instead presents an account that treats the PCC and its “repair” independently, while still explaining their complementary distribution. Section 2 presents the basic pattern of the PCC, using French ditransitive sentences as an example, and Béjar and Rezac’s (2003) account of this pattern. A repair construction for the French ditransitives, as well as its distribution, is discussed at the end of this section. Section 3 presents Rezac’s (2011) Interface Algorithm analysis of the PCC repair, and points out some of the challenges for this account, including a pattern called the weak PCC. In section 4, I propose a new syntactic mechanism, which I call *Incremental Valuation*. Section 5 shows how Incremental Valuation accounts for the distribution of the PCC and its “repair”, and demonstrates that it is better equipped to explain not only the weak PCC pattern but also newly observed inter-speaker variation in the distribution of PCC repairs in French.

2. THE PCC AND ITS “REPAIR” IN FRENCH

PCC effects are observed in different types of constructions including transitives, unaccusatives, causatives, and ditransitives in several languages (see Rezac 2011 and references therein). This article focuses on French ditransitive sentences and

¹The following abbreviations are used in this article: 1P/2P/3P: 1st/2nd/3rd person; ACC: accusative; AN: animate; DAT: dative; DEF: definite; F: feminine; IA: inanimate; INDEF: indefinite; INF: infinitive; NEG: negation; #: number; π : person; PL: plural; REFL: reflexive; SG: singular.

PCC effects found between the *THEME* and the *GOAL* when these arguments are both expressed as pre-verbal clitics. [Section 2.1](#) lays out the basic pattern of the PCC, and [section 2.2](#) discusses how Béjar and Rezac (2003) explain this pattern using a syntactic mechanism called *Split Agree* and an interface condition called the *Person Licensing Condition*, which is relevant for Rezac's (2011) analysis presented in [section 3](#). Finally, in [section 2.3](#), I present an alternative construction used in place of the ungrammatical sentences (or a so-called PCC "repair") and its distribution.

2.1 Ditransitives in French and the PCC

In French, the PCC is observed in ditransitive sentences with two internal-argument clitics. The restriction is such that a first person (1P) or second person (2P) accusative clitic is banned in the presence of a co-occurring dative clitic (Perlmutter 1971, Kayne 1975, Bonet 1991, among others), as shown in (1) and (2).

(1) French (PCC-compliant sentences)

- a. Elle {nous/vous} le présentera. (1/2 > 3)
 she us/YOU.DAT him.ACC will.introduce
 'She will introduce him to us/you.'
- b. Lucille la leur présentera. (3 > 3)
 Lucille her.ACC them.DAT will.introduce
 'Lucille will introduce her to them.' (Rezac 2011: 2,93)

(2) French (PCC-violating sentences)

- a. *Elle {me/te} {te/me} a présenté. (*1/2 > 2/1)
 she me/you you/me has introduced
 (Int.) 'She introduced you/me to me/you.' (adapted from Nicol 2005: 160)
- b. *Lucille {nous/te} leur présentera. (*3 > 1/2)
 Lucille us/you.ACC them.DAT will.introduce
 (Int.) 'Lucille will introduce us/you to them.' (Rezac 2011: 180,93)

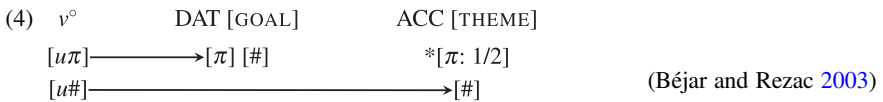
The accusative clitic represents the *THEME* argument, and the dative clitic represents the *GOAL* argument (*GOAL* > *THEME*). As shown in (1), whenever the accusative clitic is third person (3P), the sentences are grammatical no matter which person appears as the dative clitic. However, when the accusative clitic is either 1P or 2P as in (2), we obtain ungrammaticality irrespective of the person of the dative clitic. I refer to the grammatical sentences in (1) as PCC-compliant sentences, and those barred by the PCC in (2) as PCC-violating sentences.

2.2 Split Agree and the Person Licensing Condition

Béjar and Rezac (2003) attribute the ineffability of certain clitic combinations to an interface condition called the *Person Licensing Condition* (PLC) defined as in (3).

- (3) Person Licensing Condition (Béjar and Rezac 2003)
 An interpretable 1P/2P feature must be licensed by entering into an Agree relation with a functional category

Under their approach, ungrammaticality results if the marked person feature (1P/2P) of the structurally lower argument (accusative/direct object) is not licensed as schematized in (4). Following Taraldsen (1995), Béjar and Rezac propose that the phi-probe is split into two components, a person probe ($u\pi$) and a number probe ($u\#$), which can independently establish an Agree relation with an argument.² According to their analysis, the person probe on v° probes first and Agrees with the dative argument, the closer potential goal. The dative argument, if it is a clitic, moves to a position higher than v° (=cliticization). The number probe subsequently initiates its search and finds the accusative argument – the dative argument, a potential intervener, having moved out of the search path – but the number probe cannot license the person feature of the argument.



Under this account, if the accusative argument is either 1P or 2P ($1/2/3 > 1/2$), then the marked person feature of that argument cannot be licensed, which leads to a crash at the interface. This analysis is useful in explaining the availability of an alternative construction, referred to as a “repair”, seemingly dependent on the PLC violation (Rezac 2011). The next section shows the apparent dependency between the PCC construction and the “repair” construction.

2.3 The PCC “repair”

For the ungrammatical, or PCC-violating, sentences in (2), there is an alternative construction, shown in (5), in which the dative argument is expressed as an independent prepositional phrase with a strong pronoun (*á* + strong pronoun) instead of a clitic. This alternative construction is referred to as a PCC “repair” (Bonet 1991, 1994, 2008; Rezac 2011). The interesting fact that Rezac (2011) brought to our attention is that no “repair” is available for the PCC-compliant sentences in (1), as is evident from the ungrammaticality of the sentences in (6).

- (5) PCC “repairs”
- a. Elle t’ a présenté à moi. (1 > 2)
 she you.ACC has introduced to me
 ‘She introduced you to me.’
- b. Elle m’ a présenté à toi. (2 > 1)
 she me.ACC has introduced to you
 ‘She introduced me to you.’ (adapted from Nicol 2005)
- c. Lucille nous/te présentera à eux. (3 > 1/2)
 Lucille us/you.ACC will.introduce to them
 ‘Lucille will introduce us/you to them.’ (Rezac 2011: 180,93)

²A similar analysis of the PCC where person and number features are each checked by a different argument is proposed by Anagnostopoulou (2003).

(6) “Repairs” for PCC-compliant sentences

- a. *Elle le présentera à nous/vous. (*1/2 > 3)
 she him.ACC will.introduce to us/you
 (Intended) ‘She will introduce him to us/you.’
- b. *Lucille la présentera à eux. (*3 > 3)
 Lucille her.ACC will.introduce to them
 (Intended) ‘Lucille will introduce her to them.’ (Rezac 2011: 2,93)

As shown in (5) and (6), the “repair” construction is used only to fill the interpretational gap created by the PCC.³ In other words, the PCC-compliant sentences with two clitics and the “repairs” with an *à*-phrase are in complementary distribution with respect to person combinations of the arguments, as shown in Table 1.

GOAL	THEME	DOUBLE CLITIC	“REPAIR”/ALTERNATIVE
1	3	✓ (1a)	* [%] (6a)
2	3	✓ (1a)	* [%] (6a)
3	3	✓ (1b)	* [%] (6b)
1	2	* (2a)	✓ (2 V à 1) (5a)
2	1	* (2a)	✓ (1 V à 2) (5b)
3	1	* (2b)	✓ (1 V à 3) (5c)
3	2	* (2b)	✓ (2 V à 3) (5c)

Table 1: The PCC and its “repair” in French (elicited judgements in brackets)

While Rezac (2011) reports that the sentences in (6) are ungrammatical, some native French speakers I consulted with (marginally) accepted them without any emphasis on the pronoun. As will be shown in section 5, my analysis accommodates these judgements as well. The next section presents Rezac’s (2011) analysis of the PCC repair, and identifies some of the challenges for the analysis.

3. THE INTERFACE ALGORITHM \mathfrak{R}

In order to account for the gap-filling behaviour of the PCC “repair,” Rezac (2011) proposes the Interface Algorithm \mathfrak{R} , defined as in (7).

- (7) Interface Algorithm \mathfrak{R} (Rezac 2011:210)
 An uninterpretable feature may enter the numeration only if needed for Full Interpretation of the syntactic structure built from it.

Essentially, this algorithm adds an uninterpretable person feature to the numeration so that the unlicensed nominals (i.e., 1st and 2nd person accusative arguments) can be licensed. This section briefly explains how this algorithm allows PCC repairs to emerge as the result of a PLC violation.

³Rezac (2011) reports that some varieties of French allow a locative clitic to appear in place of the dative clitic, and that this locative repair has the same distribution as the *à*-phrase repair in (5).

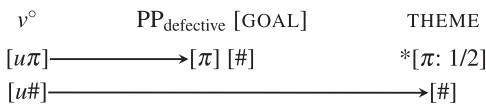
3.1 Full PPs vs. Defective PPs

An important component of Rezac’s (2011) analysis is that there are two types of prepositional phrases, defective PPs and full PPs. Because dative clitics in French behave differently from their *à*-phrase counterparts with a strong pronoun, Rezac (2011) takes these distinctive properties of dative clitics and prepositional datives to reflect a structural difference: dative clitics are defective PPs, and prepositional datives are full PPs. Dative clitics are defective in that the argument inside is visible to an external probe and, therefore, may act as an intervener. Prepositional datives or *à*-phrases, on the other hand, are full PPs and make the argument inside inaccessible to an external probe. The next section explains how this classification of PPs plays a role in Rezac’s (2011) analysis of the PCC repair.

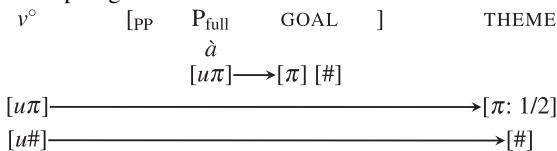
3.2 Global mechanism to derive the PCC “repair”

Rezac (2011) proposes that the PCC repair is not generated through a single derivation within the syntactic component. Rather, a dependency relation is established between two separate derivations by means of the interface algorithm. Specifically, the Interface Algorithm \mathfrak{X} introduces an additional person probe to a non-convergent derivation, which makes the PCC “repair” available. Given a PLC violation as discussed in section 2.2 and schematically shown again in (8a), \mathfrak{X} is activated, and inserts an uninterpretable person feature on the preposition of the defective dative PP, as in (9). The additional uninterpretable person feature strengthens the dative clitic to a full PP.

(8) a. PCC violation



b. PCC repair generation



This newly inserted probe licenses the GOAL argument within the PP. The higher argument, being in a full PP, is no longer an intervener for the person probe,⁴ and that probe can now license the lower argument (THEME) as shown in (8b). This analysis explains the complementarity between the PCC and its “repair”, because the repair

⁴Rezac (2011: 107,183) states that dative clitics can originate lower than the theme argument as in a prepositional dative construction; however, whether *à*-phrases in PCC repairs can also originate there is not clear. It does not make a difference for Rezac’s analysis, as *à*-phrases are full PPs, inaccessible to the probe on v no matter where they are.

arises as the result of a PCC violation. In other words, under this analysis, the PCC “repair” is truly a repair since its only purpose is to rescue a defective derivation.

3.3 Systemic problems with the Interface Algorithm \mathfrak{X}

The global mechanism discussed in the previous section seems to explain why the PCC “repair” is only available when the sentence violates the PCC. However, the analysis is not without problems. First, there are some systemic issues with the proposal. As pointed out by Rezac (2011) himself, it is not clear why a rescue mechanism similar to the Interface Algorithm \mathfrak{X} is not available for other types of ungrammaticality, like that in (9), which Rezac (2011: 19, (34)–(37)) calls *hard ungrammaticality*.

(9) *They showed her_{ACC} (*for) seven to be a prime.

In fact, the Interface Algorithm leads us to predict that all ungrammaticality caused by an unsatisfied feature should be repairable, which is clearly not the case. Second, it is also unclear what determines where the additional uninterpretable feature will be inserted. In the analysis presented in the previous section, the additional person probe was inserted on the preposition of the dative argument. However, the dative argument is successfully licensed in the original derivation (8a). The Interface Algorithm \mathfrak{X} could potentially have repaired the accusative argument, which was the source of the PLC violation, instead.⁵ At least in French, the option of repairing the accusative clitic is not available, and the reason is not clear.

3.4 The weak PCC: An empirical challenge for \mathfrak{X}

Rezac’s (2011) proposal also faces an empirical challenge. There are languages that allow 1/2.DAT > 2/1.ACC combinations but still ban 3.DAT > 1/2.ACC combinations (referred to as the ‘weak’ PCC, as opposed to the ‘strong’ version presented in section 2.1; see Heger 1966; Ashby 1977, Simpson and Withgott 1986, Schwegler 1990, Laenzlinger 1993, and Nicol 2005). Some varieties of French have the weak PCC pattern as shown in (10).⁶

(10) *French* (Weak PCC varieties)

- a. Elle {me/te} {t’/m’} a présenté. (2/1 > 1/2)
 she me/you you/me have introduced
 ‘She introduced me to you/you to me.’
- b. *Elle {me/te} lui a présenté. (*3 > 1/2)
 she me/you.ACC him.dat have introduced
 (Intended) ‘She introduced me to him.’ (Rezac 2011: 150)

⁵The accusative argument can appear as a strong pronoun post-verbally; however, there is contrastive focus or emphasis on the argument, which does not constitute a legitimate repair as there is a difference in the semantic content. Moreover, this type of emphatic strong pronoun is available for person combinations that do not cause a PCC violation.

⁶Additional types of PCC are identified in the literature. See Nevins (2007), Pancheva and Zubizarreta (2018), Stegovac (2019), and Yokoyama (2019) for a discussion of these.

Weak PCC varieties are problematic for the Interface Algorithm \mathfrak{R} because these varieties also allow the “repair” construction for 1/2.DAT > 2/1.ACC clitic combinations as shown in (11) despite the fact that these are licit clitic combinations in these varieties.

(11) *French* (Weak PCC varieties)

- a. Elle m' a présenté à toi. (2 > 1)
 she me.ACC has introduced to you
 ‘She introduced me to you.’
- b. Elle t' a présenté à moi. (1 > 2)
 she you.ACC has introduced to me
 ‘She introduced me to you.’

(Schwegler 1990: 99,229 n.53; Rezac 2011: 150)

The notion of “repair” is inapplicable here, as the double-clitic construction is also available for these person combinations; the sentences in (11) with the GOAL in a prepositional phrase are simply alternatives. On the surface at least, the PLC violation that should give rise to the “repair” construction is missing. Therefore, the Interface Algorithm \mathfrak{R} cannot explain why there is an overlap between the PCC and its “repair,” as shown in the box in Table 2.

GOAL	THEME	DOUBLE CLITIC	“REPAIR”/ALTERNATIVE
1	3	✓	*
2	3	✓	*
3	3	✓	*
1	2	✓	(10a) ✓ (2 V à 1) (11b)
2	1	✓	(10a) ✓ (1 V à 2) (11a)
3	1	*	✓ (1 V à 3)
3	2	*	✓ (2 V à 3)

Table 2: The weak PCC and its “repair”

Rezac (2011) acknowledges that the weak PCC pattern is potentially problematic for his analysis. The explanation he provides for the weak PCC is that the syntax only sees the strong PCC. Therefore, 1/2 combinations will activate the algorithm \mathfrak{R} and the repair is available for these combinations. He further suggests that 1/2.DAT > 2/1.ACC clitic combinations in (10a) are available because the dative argument in these sentences is something like a non-argumental ‘ethical dative.’ As Joutiteau and Rezac (2008) explain, ethical datives are optional, are not arguments, and do not contribute any truth-conditional meaning to the sentence. They identify the speaker or addressee as a “witness or vaguely affected party” (Joutiteau and Rezac 2008:Sec.1). Rezac’s (2011) claim is that in weak PCC languages, the sentences with the 1/2 clitic combinations in (10a) have a completely different configuration. These sentences escape the PCC because the dative argument, being non-argumental, does not participate in agreement with the probe on *v*. He also suggests that this non-argumental dative receives an idiomatic interpretation as an argument at LF.

Rezac's (2011) explanation makes incorrect predictions regarding participant argument combinations. If the 1/2 clitic combinations are allowed because the dative argument is actually non-argumental, then all the varieties with non-argumental/ethical datives, including the strong PCC varieties (see Jouitteau and Rezac 2008), should allow these clitic combinations. This falsely predicts a weak-PCC pattern for strong PCC languages. Furthermore, if something that is not argumental can be interpreted as an argument, then we expect that the *me lui* combination ($3 > 1$), which is ruled out by the PCC, should be available. There is no morphological case distinction for 1P and 2P clitics in French, so the 1P clitic *me* could well be a non-argumental 'dative' which is idiomatically interpreted as the THEME. However, to my knowledge, $3 > 1$ clitic combinations are rejected in all varieties of French. Therefore, while Rezac's (2011) Interface Algorithm analysis successfully captures the complementarity between the PCC and its repair found in the strong PCC varieties, it runs into problems with the weak PCC varieties, in which the "repair" construction is available for PCC-compliant clitic combinations.

4. PROPOSED SYNTACTIC MECHANISM: INCREMENTAL VALUATION

In this section, I propose a structure-building mechanism that allows two arguments to featurally engage with each other. As I explain in section 5, this proposal provides a means to capture both the PCC and its "repair", without invoking the idea that the latter is derivationally dependent on the former. The syntactic mechanism I propose, which I call *Incremental Valuation*, has two components. One is valuation-based Merge, which requires the transmission of some value between the two constituents being merged. The other is articulated person features. I explain these in turn before showing how Incremental Valuation works.

4.1 Featurally constrained Merge

I make two specific assumptions about the Merge operation. First, I assume that there is a featural constraint on Merge. Wurmbrand (2014) diverges from the traditional view that Merge is free (Chomsky 2000) and proposes that it is constrained, as in (12).

- (12) *Merge Condition* (Wurmbrand 2014)
Merge α and β if α can value a feature of β .

This means that the two syntactic objects participating in a Merge operation must be featurally asymmetric: one bears a valued feature ([F:val]) and the other bears an unvalued feature of the same type ([F:_]). I follow Wurmbrand (2014) and assume that Merge is triggered and constrained by feature valuation.

The second assumption comes from the idea of selection. Adger (2003) proposes that Merge has the property in (13), which is motivated by (c-)selection.

- (13) *Headedness* (Adger 2003: 72)
The item that projects is the item that selects.

In Adger's system, the selector has an uninterpretable (categorical) feature, which needs to be checked by an interpretable counterpart of the same feature. For

example, a transitive verb like *press* has an uninterpretable D-feature. That feature is checked and deleted upon merging with a DP like *the button*, which carries an interpretable D-feature. As stated in (13), the selecting verb projects as a result of this Merge operation. Although I do not assume c-selection as Adger (2003) does, I follow his general idea, and assume that a syntactic object whose feature is satisfied (or given a value) via a Merge operation projects along with all of its features.

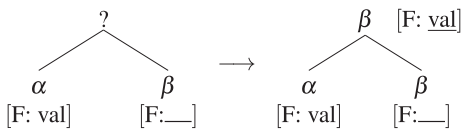
In addition to these two assumptions, I further assume that all the features of a projecting syntactic object (the selector) are carried up to the root of the constituent created by a Merge operation. The feature that triggered Merge will be replaced by a valued counterpart of that feature. The properties of Merge assumed in this article are summarized in (14).⁷

(14) *Valuation-based Merge*

- i. α and β Merge if and only if α has a feature that can value a feature of β
- ii. Valuation takes place between a valued feature [F:val] and an unvalued feature of the same type/attribute [F:_____]
- iii. The participating features must be at the root of α and β
- iv. The result of the operation is β projecting with a valued counterpart of the participating feature [F:val] along with other features that β bears

These properties are schematically illustrated in (15).

(15) *Valuation-based Merge* (α , β)



Even though the PCC cases that are under consideration here do not require it, I assume that only one type of feature can trigger a particular instance of Merge. The next subsection discusses the second component of the proposed feature system.

4.2 Articulated person features

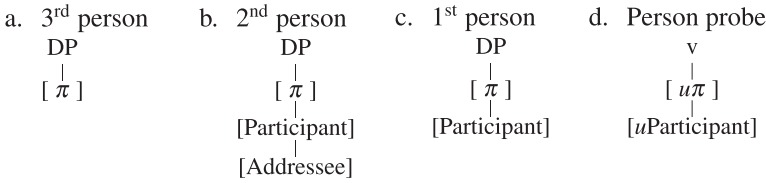
The second component of the proposed syntactic mechanism is articulated person features. Building on the φ -feature system developed by Harley and Ritter (2002), Béjar (2003) takes morphological φ -features to be visible to Agree (see also Béjar and Rezac 2009). Béjar proposes the person specifications in (16).

⁷Valuation-based Merge is similar to the idea of *Sel(ect)-Merge* (Adger 2010), but the two notions are different in that valuation-based Merge retains and projects all of the selector's features whereas Sel-Merge deletes the selectional features. Adger (2010) also proposes non-selectional Merge (named *HoP-Merge*), where certain functional elements are allowed to enter the derivation according to a pre-determined hierarchical order of categories; this second type of Merge is not part of the system proposed here.

(16) Person specifications

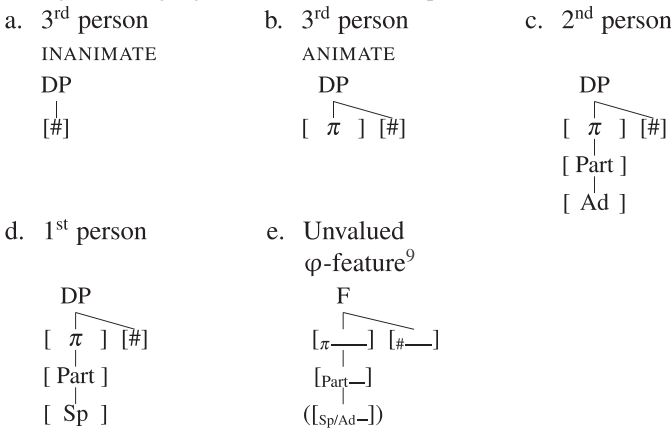
(Béjar 2003)

(cf. Harley and Ritter 2002, Béjar and Rezac 2009)



In this system, the person features are “articulated,” meaning that they are composed of dependent features in an entailment relation. [Addressee] ([Ad]) entails [Participant] ([Part]), which in turn entails [Person] ([π]). The person probe in Béjar’s (2003) system consists of uninterpretable counterparts of [π] and [Part], as in (16d). I adopt the idea that person features are structured as in (16), and are active in the syntax. However, the φ specifications I employ differ from (16) in two respects. First, there is an additional feature [Speaker] ([Sp]) that differentiates 1P from 2P (McGinnis 2005).⁸ Second, there is a featural animacy distinction in the third person. The proposed feature system employs the feature specifications in (17) for the strong PCC. As shown in (17), I make an animacy distinction in the 3P arguments, following Ormazábal and Romero (2007), Richards (2008), Adger and Harbour (2007), and Pancheva and Zubizarreta (2018).

(17) Strong PCC languages and their φ-feature specifications



⁸Yokoyama (2019) argues that the [Addressee] feature is necessary in addition to the [Speaker] feature in order to account for 1P-3P syncretism and that the availability of both features does not necessarily entail the presence of a clusivity distinction.

⁹Elizabeth Cowper (p.c.) points out that the dependent features of the person probe do not need to be structured this way as long as all the relevant features are present. In addition, I note that the system works without [Sp/Ad—] on the unvalued φ-feature. However, it is required for the morphological component to distinguish 1P agreement and 2P agreement elsewhere (e.g., *Je suis...* ‘I am...’ vs. *tu es...* ‘you(sg) are...’).

The 3P inanimate is specified only for [#] (number), while the 3P animate is also specified for [π] (person).¹⁰ 2P is inherently specified up to [Ad], and 1P is specified up to [Sp]. A crucial aspect of the proposed feature system is that it makes use of unvalued features instead of uninterpretable features. The difference between uninterpretable features and unvalued features is trivial in Chomsky's (2001) system, since uninterpretable features are necessarily unvalued. However, under the non-generation approach, which takes ungrammaticality to be non-generability (Preminger 2018), the distinction is important: uninterpretability is taken to cause a crash at the interface, while unvaluedness is simply the absence of a value. An unvalued feature is still legible for external systems (e.g., the insertion of a default agreement morpheme). Furthermore, as with the probe in Béjar's (2003) system, an unvalued φ -feature is "active" until all of its component features are saturated. Using both valuation-based Merge in (14) and articulated person features in (17) has an interesting consequence, which I discuss in the next subsection.

4.3 Incremental Valuation

An advantage of using articulated person features in the Cyclic Agree system (Béjar and Rezac 2009) is that a single probe can enter into an Agree relation with two arguments. Although similarities have been drawn between the PCC and direct/inverse patterns, which Cyclic Agree was originally proposed for (see, for example, Rezac 2011), Cyclic Agree is not designed to explain ungrammaticality and cannot simply be extended to the PCC cases. The syntactic system proposed here retains the above-mentioned advantage of Cyclic Agree, but also explains ungrammaticality in terms of non-generability. It allows arguments to interact with each other through the mediation of a single unvalued feature. With the additional mechanism of valuation-based Merge, this essentially means that arguments featurally engage with each other through Merge. This subsection spells out the exact mechanism, which I call *Incremental Valuation*.¹¹

An unvalued articulated φ -feature, as shown in (17e), is composed of dependent unvalued features. Valuation-based Merge, as described in (14), projects a syntactic object with a feature that has received a value, making the valued counterpart of the feature visible at the root. This means that the same unvalued φ -feature can be used more than once to trigger a Merge operation if the first instance of Merge does not fully saturate the composite φ -feature. In other words, one can have multiple arguments valuing the same unvalued φ -feature.¹² If, for example, a verb or a functional element with an unvalued φ -feature complex merges with a 3P inanimate argument,

¹⁰Note that this syntactic animacy distinction may not correspond to the biological animacy of the referent. In *leísta* Spanish, for example, when the syntax forces the use of an inanimate clitic, it can refer to a human being (Ormazábal and Romero 2007: fn.9).

¹¹I tentatively suggest that Incremental Valuation, along with some other independently desirable assumptions, is compatible with direct/inverse patterns, although a discussion of this question is outside the scope of this paper.

¹²The same unvalued φ -feature can potentially be valued by up to three arguments. The proposed syntactic system allows this, but to my knowledge, there is no element that

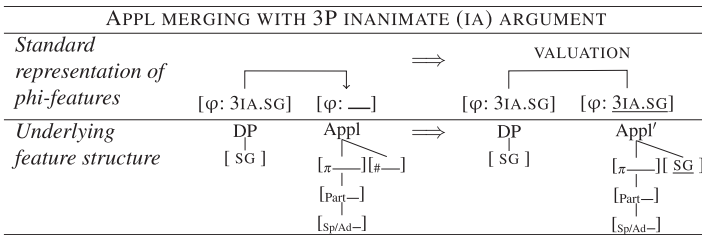


Figure 1: Initial Merge (Appl, 3IA.SG)

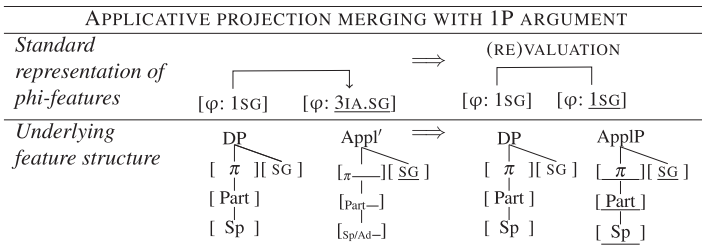


Figure 2: Subsequent Merge (1SG, Appl')

the argument values the number feature but leaves other features unvalued, as shown in Figure 1. These unvalued dependent features can later be valued by merging another argument that is more highly specified (i.e., 1P, 2P, or 3P animate). An example with a 1P argument is shown in Figure 2. Figures 1 and 2 show that the unvalued φ -feature can be incrementally valued by two arguments. What is perhaps already apparent is that this structure-building system prevents an argument from valuing an unvalued φ -feature that has already been valued by an equally or more highly specified argument.

For example, if the order of Merge operations in Figures 1 and 2 is reversed (i.e., $1sg \rightarrow 3IA.SG$), the second instance of Merge cannot take place as the unvalued φ -feature will have been saturated by the 1P argument. More specifically, all the dependent features of the unvalued φ -feature will be valued in the first instance of Merge. There is thus no value for the 3P inanimate argument to contribute to the derivation, making it impossible for the argument to come into the structure. It should be noted that it is not the exhaustion of the unvalued feature that makes the subsequent Merge impossible; rather, it is the lack of additional value to be given to the unvalued feature that makes Merge nonexecutable. For example, once an unvalued φ -feature is valued by a 3P animate argument, subsequent valuation by a 3P inanimate argument is impossible, not because the unvalued feature has been saturated by that point but because the second argument, being less specified, cannot provide any additional

semantically requires three arguments, assuming severed external arguments (Kratzer 1996). Therefore, such a structure would not receive a proper interpretation.

value to the unvalued feature. Three pieces of the proposed syntactic mechanism are summarized in (18).

(18) Proposed syntactic mechanism

i. *Articulated person features*

Any of the dependent features of an unvalued φ -feature can trigger Merge.

ii. *Valuation-based Merge*

Merge is necessarily triggered by valuation between the two uniting syntactic objects (SOs); no Merge operation is executable if no value can be transmitted between the two SOs.

iii. *Incremental Valuation*

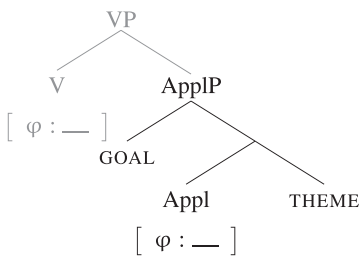
A particular unvalued φ -feature complex can be responsible for multiple instances of Merge.

Before presenting the details of how the proposed analysis accounts for the PCC and its “repair,” there are two additional assumptions that are crucial for the analysis, which I discuss in the next subsection.

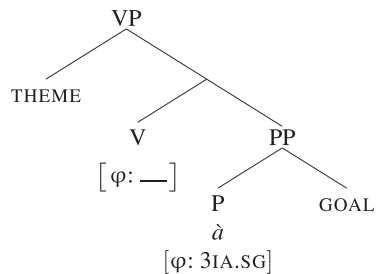
4.4 Additional assumptions

The proposed analysis contrasts with that of Rezac (2011) in that I assume two independently available structures – that is, neither is derived from the other – for the PCC sentences and their “repairs.” For the double-clitic construction, I assume a structure where the GOAL is higher than the THEME. Specifically, I assume Pykkänen’s (2008) low applicative phrase for this construction, where an Appl head with an unvalued φ -feature mediates the two arguments as shown in (19a). This is the structure proposed for the English double-object construction (e.g., *give* GOAL THEME) and is compatible with the scopal/superiority facts in English noted by Barss and Lasnik (1986) and Larson (1988).¹³ For the “repair” construction, I assume the Larsonian structure for the prepositional dative construction (e.g., *give* THEME *to* GOAL) where the THEME DP is higher than the GOAL argument, the GOAL is in a PP, and the THEME DP and the PP are mediated by the verb (with an unvalued φ -feature) as shown in (19b).

(19) a. Double-clitic construction



b. *à*-phrase “repair” construction



¹³As noted by Rezac (2011: 106, fn. 12), scopal facts in French are complicated, and the applicative-prepositional distinction is morphologically neutralized in Romance (p.121). Scopal facts also do not help in determining the structure with two clitics/pronouns.

Another crucial assumption is that *à* in French is a preposition inherently specified as 3P inanimate singular. This is motivated by the fact that locational PPs trigger 3P singular agreement both in English (20) and in French (21).¹⁴ Note that these sentences are intended to be predicational ('The place under the bed is good for hiding') and not existential ('There is a good place to hide under the bed').

(20) [_{PP}Under the bed] **is** a good place to hide. (Davies and Dubinsky 2001: (1b))
(cf. ?Under the bed is good for hiding.)

(21) [_{PP} Sous le lit] n'**est** pas un bon endroit pour se cacher
under the bed NEG.be.3SG NEG a good place for REFL hide.INF
'Under the bed is not a good place to hide.'

(Davies and Dubinsky 2001: (38b))

While one cannot rule out the possibility of default agreement in (20) and (21), resulting from failure of agreement (Béjar 2003, Preminger 2009), prepositions establish a relation between entities (they are of type $\langle e, \langle e, t \rangle \rangle$ in terms of Heim and Kratzer 1998). The relation might be locational (*in, on*), temporal (*at*), or directional (*to, from*) among other classes. Therefore, they do not denote a specific entity (*e*) or a set of entities ($\langle e, t \rangle$), and it is reasonable to assume that prepositions, which denote relations, are specified as inanimate. Finally, I also assume that French clitics are generated in argument positions and undergo cliticization (Anagnostopoulou 2004).

With all the machinery and assumptions laid out, the next section explains how Incremental Valuation explains the PCC pattern and the PCC "repair" pattern. The proposed account differs from that of Rezac (2011), in that the double-clitic construction and the "repair" construction are treated as independent. As will be shown, the present analysis does not run into the same problem as Rezac's (2011) account faces.

5. DISSOCIATING THE PCC FROM ITS "REPAIR"

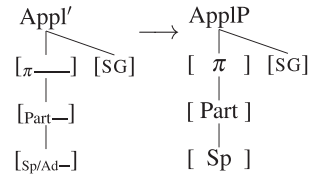
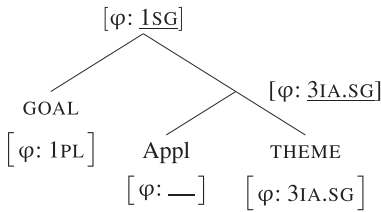
By exploiting the Incremental Valuation mechanism, we can explain the strong PCC and its "repair" in French without having to rely on interface conditions, or on the interface algorithm \mathfrak{R} proposed by Rezac (2011). This section first explains how the proposed syntactic mechanism generates only the grammatical sentences and not the ungrammatical sentences in the strong PCC varieties, looking at the four types of sentences: PCC-compliant sentences, PCC-violating sentences, PCC "repairs", and "repairs" for PCC-compliant sentences. Finally, I discuss how the same mechanism accounts for the weak PCC and its "repair" patterns.

¹⁴Davies and Dubinsky's (2001) analysis of these examples has an implicit DP shell on the prepositional phrase (i.e., [_{DP}[_D∅] [_{PP} under the bed]]). In terms of agreement, D itself is not specified for phi-features, so they must come from the PP inside. Since the number of the DP inside the PP does not necessarily control the agreement on the copula (e.g., *Under the tables is the best place to hide in this apartment*), the number must originate on the preposition itself. Davies and Dubinsky also provides a sentence where two PPs are coordinated and the copula exhibits plural agreement (*Under the bed and in the fireplace are not the best combination of places to leave your toys*); this rules out the possibility of default agreement.

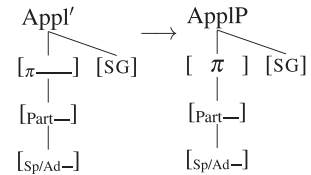
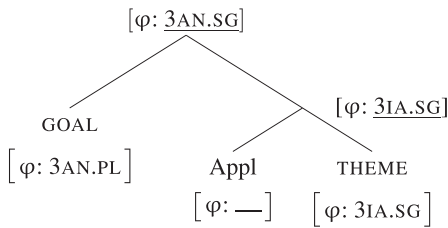
5.1 PCC-compliant sentences

As discussed in section 2.1, in French ditransitive sentences, when the THEME is 3P, both internal arguments can be expressed with co-occurring clitics as shown in (1). Partial derivations of (1a) and (1b) are shown in (22) and (23), respectively. The full representation of the resulting feature of each instance of Merge is shown on the right-hand side.

(22) ^{ok}*nous le* (1 > 3)



(23) ^{ok}*la leur* (3 > 3)¹⁵



In the case of the 1 > 3 combination in (1a) and (22), the 3P inanimate THEME provides a number value to the unvalued φ -feature on Appl, and the 1P GOAL later values all the remaining person features. Since both arguments can contribute at least one value to the unvalued feature, the derivation is successful. The same is true for the 3AN>3IA combination in (1c) and (23),¹⁶ where the 3P animate GOAL passes the $[\pi]$ value to the unvalued φ -feature on Appl. In all cases (1a,b), there is at least one value that the second argument (GOAL) can provide to the unvalued φ -feature on the mediating head, which allows the argument to enter the derivation. Therefore, these sentences are generable with the proposed syntactic mechanism. As a natural consequence of the Incremental Valuation system proposed here, the 3IA>3IA, 3IA>3AN, and 3AN>3AN combinations are non-derivable. This explains the general tendency for an applicative argument to be animate without stipulating that an argument

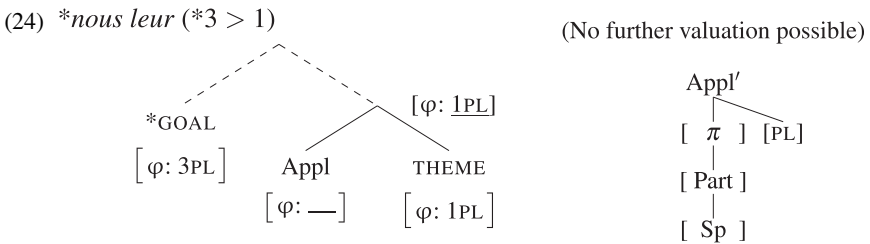
¹⁵I consider the structure in (24) to be the one for ditransitive constructions with two full DPs (ex. *Elle présentera Jean à Marie*). The prepositional element *à* in this case is actually a case marker (Miller 1992).

¹⁶As noted in fn.10, a 3P inanimate argument may refer to a person.

introduced by Appl is necessarily animate or specified for [Participant] (Adger and Harbour 2007: 21,25–6).

5.2 PCC-violating sentences

When the *THEME* is a local person (1P/2P) in a double-clitic construction, on the other hand, the structure is ungrammatical as shown in (2). The *THEME* argument in (2a,b) is either 1P or 2P, and as was shown in (17c,d), 1P and 2P arguments are fully specified. Since the *THEME* is the first argument to enter the derivation, when it merges with Appl, it saturates the unvalued φ -feature on the head, leaving no unvalued dependent features. Since valuation-based Merge can take place only between two syntactic objects with appropriate features for valuation, the *GOAL* argument, regardless of its person, cannot enter the derivation after Appl’s unvalued φ -feature has been fully saturated. A partial derivation of (2b) is shown in (24).



The unvalued φ -feature in (24) is exhausted by the first instance of Merge; therefore, this structure (i.e., Appl') cannot merge with the *GOAL*. The PCC-violating sentences therefore cannot be generated with the system at hand.

5.3 PCC “repairs”

For the ungrammatical double-clitic sentences in (2a,b), it has been established that there is an alternative construction with the *GOAL* realized as a PP instead of a preverbal clitic. As shown in (5a-c), the 1P/2P *THEME* argument is still a clitic, but the *GOAL* is in a postverbal PP. With the assumed structure for the PCC “repair” construction (19b), the PP merges first with the verb bearing an unvalued φ -feature, and the *THEME* argument comes in later. The preposition *à* is inherently specified as 3P inanimate under the present assumptions, which conceals the phi-features of its complement (i.e., the *GOAL* argument).¹⁷ The PP merges with the verb and values only the

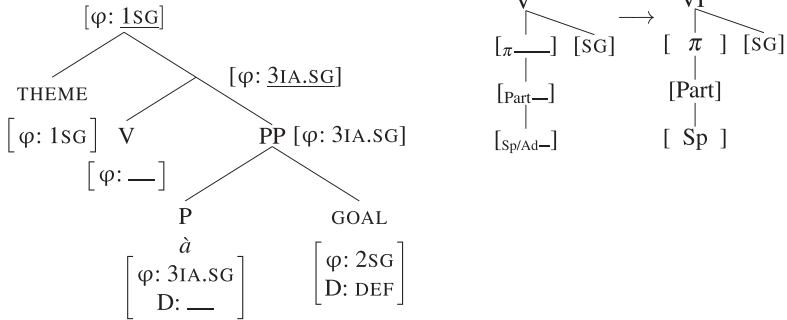
¹⁷I assume that the *GOAL* and the preposition Merge in order to value some feature other than phi-features. Here, I use a D-feature with definiteness as the value. If we look in another language, we find definiteness agreement between a preposition and its nominal complement as shown in (i).

- (i) a. le clan b. leis a' chloinn
- with.INDEF children.F.DAT with.DEF the children.F.DAT
- ‘with children’ ‘with the children’

(*Scottish Gaelic*; Byrne 2002: 31; cited in Robinson 2008: (9))

number feature. Since the person features are still unvalued, 1P or 2P arguments can come into the derivation as the *THEME* to value the person features, as shown in the partial derivation of (5b) in (25). As a result, regardless of the person of the *GOAL* argument, 1P and 2P can be the *THEME* argument.¹⁸

(25) *okm(e) ... à toi (2 > 1)*



As was the case with PCC-compliant sentences, the “repair” sentences in (5) can be generated, because both internal arguments have values to contribute to the unvalued φ-feature on the verb.

5.4 “Repairs” for PCC-compliant sentences

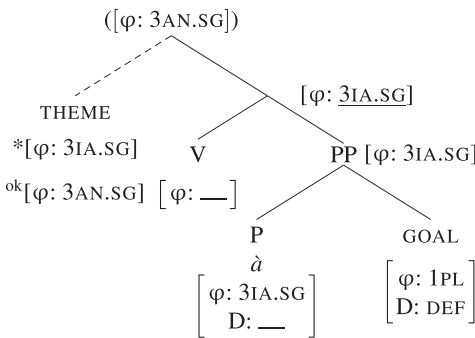
Finally, the “repair” construction is not available for the PCC-compliant sentences, as shown in (6). The inherent specification of *à* as 3P inanimate is crucial again, as it prevents the phi-features of the *GOAL* argument from valuing the unvalued φ-feature on V. The φ-feature of the preposition, specified as 3P inanimate, is instead carried up to the PP node through valuation-based Merge,¹⁹ and values the unvalued φ-feature on V first. Since the number feature has been valued by the PP, a 3P inanimate *THEME* cannot then enter the derivation, as shown by the failed derivation of (6a) in (27). No matter what the *GOAL*’s person is, a 3P inanimate *THEME* is impossible in this structure; this explains the previously reported unavailability of repairs for 1/2/3 > 3 argument combinations.

¹⁸The locative repair in French briefly mentioned in Footnote 3 can be explained if the locative clitic *y* is considered to be a PP, specified as 3P inanimate and generated in the same position as an *à*-phrase. A similar analysis can also be applied to repair strategies found in other languages (see Yokoyama 2019).

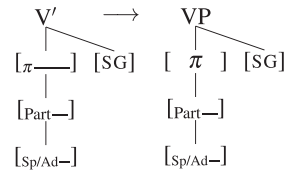
¹⁹If prepositions bear phi-features, as suggested here, it is conceivable that they bear the unvalued variant of the φ-feature in some languages. This makes an interesting prediction: for PCC languages with prepositional phi-agreement, prepositional repairs for 1P/2P argument combinations are available in weak PCC languages but not in strong PCC languages. I leave this prediction to be tested.

A question remains as to why the *THEME* must be featurally inanimate – that is, only specified for [#], not [π] – if it is 3P, for those speakers who reject the *à*-phrase “repairs” for PCC-compliant argument combinations in (6).²⁰ I attribute this to the fact that the default interpretation of the *THEME* argument is inanimate. Although this does not fully explain why there is such a restriction, it seems that the restriction is relaxed for some speakers. As noted in section 2.3, there are at least some French speakers that accept the sentences in (6). I claim that for these speakers, the *THEME* argument can be animate (i.e., specified for both [π] and [#]), and this makes it possible for the *THEME* to value the unvalued φ -feature on the verb after it has been valued by a PP specified as 3P inanimate, as shown in (26). Therefore, the present analysis of the PCC and its “repair” accommodates these judgements. This new observation is problematic, however, for Rezac’s (2011) global mechanism, as the double-clitic construction and the “repair” construction are not in complementary distribution for these speakers.

(26) *%le ... à nous (1 > 3)*



(Successful if *THEME*=animate)



To summarize, in the present analysis, we can attribute all the cases of ungrammaticality to non-generability of the derivation. The double-clitic construction and the “repair” construction are treated independently, but it can still explain the apparent complementarity between them in strong PCC varieties. The “repairs” are not dependent on the presence of a PCC violation in the proposed account, and the apparent complementarity is a coincidence that derives from the feature specifications of the arguments. The following subsection shows that the proposed syntactic mechanism explains even the weak PCC pattern.

5.5 The weak PCC

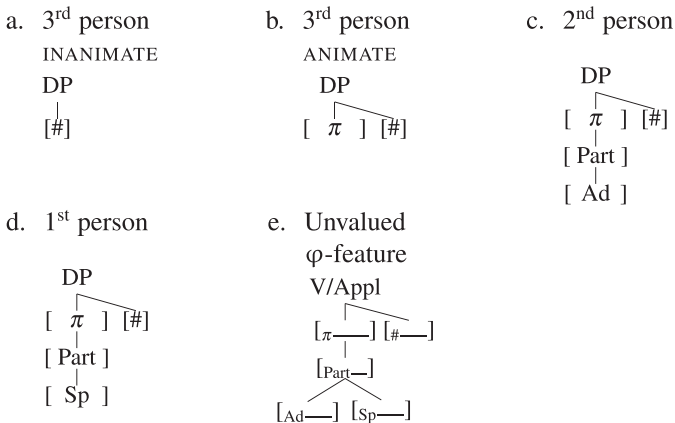
Section 3.4 introduced the weak PCC varieties of French, in which both the double-clitic construction and the “repair” construction are available for 1P/2P combinations

²⁰Note that in the articulated-person-feature system, 1P and 2P cannot be inanimate as the feature [Participant] is dependent on the feature [π], which I use to mark the animacy distinction.

of internal arguments, as shown in (10) and (11). This overlap in availability between the two types of constructions is a challenge for Rezac's (2011) analysis, as it requires a PLC violation in the double-clitic structure in order to generate the repair structure. Given the grammatical sentences in (10), it appears that there is no PLC violation in these varieties. In this subsection, I show that a simple modification of the unvalued φ -feature used for the strong PCC captures the weak PCC pattern without having to stipulate non-argumental status for one of the arguments, or an additional syntactic operation or condition.

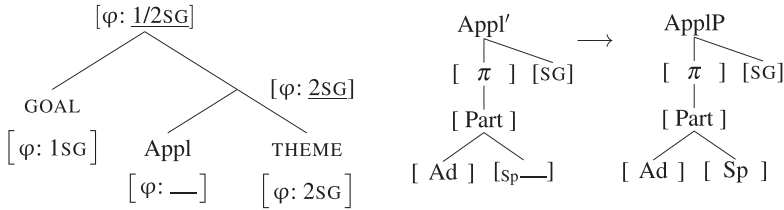
As mentioned above, the difference between the strong PCC and the weak PCC can be explained by a structural difference in the unvalued φ -feature of the verb/Appl. If the unvalued φ -feature can receive both [Addressee] and [Speaker] values as shown in (27),²¹ then we can explain the availability of 1/2 > 2/1 clitic combinations in the weak PCC varieties.

(27) Weak PCC languages and their phi-feature specifications



For the strong PCC varieties, the unvalued φ -feature (17e) has only one unvalued feature for the two participant features, so it could be exhausted either by a 1P argument or a 2P argument. As shown in (27e), the unvalued φ -feature in the weak PCC languages has both unvalued [Ad] and [Sp] features, which allows the feature to be valued by both 1P and 2P arguments. A partial derivation of the double-clitic construction with the 1 > 2 argument combination is shown in (28). The first Merge operation in (28) results in all dependent features of the unvalued φ -feature of Appl valued except for the [Sp] feature, which can subsequently be valued by the 1P argument through the second instance of Merge. The 3 > 1/2 combinations would still be ruled out as 1P and 2P are more highly specified than 3P, as was shown in (24).

²¹Harley and Ritter (2002) propose this feature structure for 1P inclusive. Yokoyama (2019) provides justification for utilizing both participant features, [Sp] and [Ad], for three-person languages without a morphological clusivity distinction.

(28) *ok me te* (1 > 2)

The “repairs” for $1/2 > 2/1$ would still be available since the preposition *à* conceals the person feature of the GOAL in the “repair” construction, as shown in (25). Therefore, with the syntactic machinery at hand, we can explain the weak PCC pattern without introducing a new syntactic operation.²²

6. CONCLUSION

This paper has demonstrated how Incremental Valuation accounts for the strong version of the PCC. Under the present analysis, all the instances of ungrammaticality are explained in terms of either the exhaustion of the unvalued φ -feature on the mediating head by the first argument, or the inability of the second argument to provide an additional value to the feature. The construction that has previously been construed as a repair is simply an alternative construction independently available in the language, and the same valuation mechanism systematically determines the availability of that construction. In the case of the strong PCC, the double-clitic construction and the prepositional dative construction happen to be in complementary distribution for some speakers; however, no trans-derivational dependency between the two, such as the one proposed by Rezac (2011), is necessary to account for the complementarity. This account also eliminates the need for an interface condition like the PLC. Because of this independence of the PCC from its “repair,” we can account for the weak version of the PCC, where the two constructions overlap in availability, with a minor modification of the unvalued φ -feature and without having to stipulate a special status for the dative argument. The proposed syntactic mechanism may also provide a novel way to account for widely observed person feature interaction phenomena in general.

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²²Anagnostopoulou (2005) and Nevins (2007) provide an explanation for the strong vs. weak difference. Their analyses capture the difference between the two types of PCC but introduce an idiosyncratic set of syntactic operations and conditions for different languages, which does not shed any light on why there is such variation.

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