

THE PERSON CASE CONSTRAINT
UNCONDITIONAL INTERFACES AND FAULTLESS DERIVATIONS

by

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ABSTRACT

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This thesis advances a theoretical move toward a grammatical model devoid of interface conditions by proposing a novel feature-based structure-building mechanism. In the standardly assumed architecture of grammar, ungrammaticality is often explained in terms of a violation of some condition on an output of the syntactic module. However, some recent research in linguistics has attempted to move away from such an approach to ungrammaticality and proposed to reinterpret ungrammaticality as non-generability. In this approach, ill-formed structures are construed not as defective but as impossible to generate with the available syntactic operations. In order to advocate for the latter approach to ungrammaticality, this thesis examines an interface condition called the Person Licensing Condition (PLC), which was proposed to account for a linguistic phenomenon known as the Person Case Constraint (PCC). It is shown in the thesis that the PLC fails to capture cross-linguistic variation in the PCC patterns and in the way illicit structures are remedied. It is further argued that previous, Agree-based accounts of the PCC variation, also reliant on an interface condition, cannot fully explain all the patterns and that they obscure the source of the variation.

This thesis proposes an alternative account of the PCC, which involves a version of Merge that is constrained by feature valuation, and what is known as articulated person features. The proposed syntactic system allows arguments to engage with each other by valuing the same unvalued feature, and this explains person restriction effects seen in the PCC patterns.

Illicit argument combinations are underivable in the system, and an interface condition is not needed to account for ungrammaticality induced by the PCC. This novel account of the PCC also captures the variation fairly well, and because the variation is attributed to different ways syntactic elements are featurally specified in different languages, the reason why we obtain such variation is clear. In defending the person features used in the proposed syntactic mechanism, this thesis also speaks to the typology of grammatical persons and shows that the same features explain not only syntactic restrictions like the PCC but also a variety of morphological neutralization phenomena.

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This is perhaps one of the few times when Language completely fails to express my intention, but here is my attempt at spelling out my overflowing gratitude.

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List of abbreviations

| | | | |
|------------------|-----------------------------|------------------|-------------------------------|
| 1(P), 2(P), 3(P) | first, second, third person | ERG | ergative |
| √ | root (feature) | F | feminine |
| # | number | [F: —] | unvalued feature |
| ABS | absolutive | [F: <u>val</u>] | derivationally valued feature |
| ACC | accusative | [F: val] | inherently valued feature |
| ACT | active voice | | |
| Ad/Addr | addressee | FML | formal |
| AF | agent focus | FUT | future |
| AGT | agent | FV | final vowel |
| ALLO | allocutive | GEN | genitive |
| AN/ANIM | animate | IA | inanimate |
| AOR | aorist tense/participle | I-A | internal argument |
| APP/AppI | applicative | IMPERF | imperfective |
| ART | article | IND | indicative |
| Auth | author | INDEF | indefinite |
| AUX | auxiliary | INF | infinitive |
| CAUS | causative | IO/IO | indirect object |
| COM | comitative | LOC | locative (clitic) |
| COMP | complementizer | M | masculine |
| DAT | dative | mod/Mod | modal |
| DEF | definite | NEG/Neg | negation |
| DET | determiner | n-g | non-generable |
| DO | direct object | NM | nominalizer |
| E-A | external argument | NOM | nominative |
| | | NV | neutral version |

| | | | |
|----------------|--|---------|------------------------|
| O/OM | object (marker) | POSS | possessive |
| PART/Part | participant | Prog | progressive |
| PASS/pass/Pass | passive | PRS | present |
| PCC | Person Case Constraint | PST | past |
| PERF | perfective | PV | preverb |
| perf/Perf | perfect | RE | referential expression |
| π | person | REFL | reflexive |
| φ | composite/geometric phi-feature (as opposed to phi-feature bundle) | SG | singular |
| | | Sp/Spkr | speaker |
| PL | plural | SU/SM | subject (marker) |
| PLC | Person Licensing Con- dition | TS | theme sign |
| | | VAL/val | feature value |

1

Introduction

Ungrammatical sentences are crucial for linguistic research and reveal a great deal about the mental grammar. Broadly speaking, there are two potential strategies to capture ungrammaticality. One is to constrain the grammar by setting up filters/conditions at the end of syntactic computations. In this system, the syntactic component is relatively free and the output derivations are evaluated for well-formedness at the interfaces. The other strategy is to constrain the syntactic component itself. In this approach, syntactic operations are subject to various conditions, and ill-formed structures are not generated in syntax, making filters or conditions at the interface unnecessary. Many proposals have been made to account for ungrammaticality in the former strategy, and now we have some concrete ideas about what is ruled out for what reason—for example, Case Filter violations. Some recent research in linguistics has taken the latter strategy and proposed ways to constrain the syntactic component in order to explain certain types of ungrammaticality. This dissertation aims to further this architectural move toward the interfaces devoid of conditions. For this purpose, I examine an interface condition called the *Person Licensing Condition* (PLC; Béjar and Rezac 2003) and show that it may not be the best fit to explain the kind of ungrammaticality this condition is intended to capture given a set of independently desirable assumptions. Specifically, I focus on ungrammaticality induced by what is called the *Person Case Constraint* (PCC), an example of which is shown in (1).

(1) *French*

- a. * Marie me lui a montré sur une photo.
M. me.ACC him.DAT has shown on a photo
‘(Intended) Marie showed me to him in a photo.’
- b. Marie me l’ a montré sur une photo.
M. me.DAT him.ACC has shown on a photo
‘Marie showed him to me in a photo.’

The clitic combination of the first person theme *me* and the third person goal *lui* in (1a) is not possible, and this type of ungrammaticality serves the present purposes well for two reasons. First, the ungrammaticality is purely morphosyntactic. The intended meaning of (1a) is readily accessible, and if the theta roles are switched, the sentence becomes acceptable as in (1b). This suggests that the unacceptability of (1a) does not derive from a semantic anomaly. In addition, it has been observed that the same clitic cluster is possible for some speakers in other types of constructions such as the causative construction in (2).

- (2) % Philippe *me* *lui* *a* *fait* *tirer* *dessus*.
 P. *me*.DAT *him*.DAT *has made shoot over*
 ‘Philippe_{*i*} had me shoot at him_{*i/k*}.’ (Postal 1990:(116b))

The fact that the clitic sequence *me lui* is possible in (2) suggests that phonology is also not the source of unacceptability in (1a).¹ The second reason why the type of ungrammaticality seen in (1) is useful has to do with its wide distribution. Person restrictions on clitics and agreement morphemes similar to the one in (1) are found not only in many Indo-European languages but also in other language families (e.g., Afroasiatic, Kartvelian and Tanoan) and even in at least one language isolate (Basque). While the PCC is not a universal phenomenon, the fact that it is so widely observed makes it a good case study for the present goal of motivating a shift in the architecture of the grammatical model already established in the Minimalist Program (Chomsky 1993, 1995, 2000, 2001) and earlier works in generative linguistics.

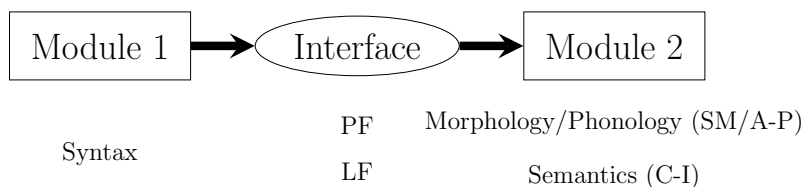
In the current Minimalist architecture, not all limitations on syntactic structure are the result of interface conditions. There are conditions that prevent certain operations from applying; as such, the purpose of these conditions is not to filter out certain structures but to make them impossible to derive. Locality conditions on movement, for example, are conditions on a syntactic operation; therefore, they are not evaluative in that they are not used to assess well-formedness of structures. The *Phase Impenetrability Condition* (PIC; Chomsky 2000, 2001) is not a condition imposed at the interface either. Certain items being inaccessible for future derivations is simply a natural consequence of how phases are transferred to the interface. Therefore, the PIC is not a condition imposed at the interface but rather a condition that makes particular operations non-applicable.²

¹Additionally, a cross-linguistic observation suggests that overt agreement (including argument clitics) is a necessary condition for the PCC (Preminger 2019).

²It is even questionable whether it should be called a condition.

What this dissertation is concerned with and takes issue with are evaluative conditions that apply at the interface. In the widely accepted model of grammar, the filtering/evaluation function is found at the interface. Linguistic objects are created in a module (syntax) and are evaluated for well-formedness at the interface before they are transferred to another module (SM/A-P or C-I).

(3)



Well-formedness is evaluated according to various criteria at the interfaces, which I will refer to as “interface conditions.” Uninterpretable features, for example, must be eliminated in order to satisfy the principle of Full Interpretation (Chomsky 1995). These features are taken to cause a crash at the interface if left unchecked/undeleted. This elimination requirement is an example of interface condition. The *Case Filter* (Chomsky 1981), or the licensing requirement on Case features, is also a filtering mechanism at the interface that inspects whether or not nominals are Case-licensed. The EPP feature can also be regarded as evaluative if it needs to be checked in order for the structure to be grammatical. However, if it is simply a principle (as it originally was) that the syntax will necessarily comply with, then it is not an interface condition in our terms. The *Labeling Algorithm* (Chomsky 2008, 2013, 2015) can also be considered a filter at the interface. According to the algorithm, there are certain configurations that are unlabelable (i.e., {XP YP}, where X and Y do not share a common feature, or {H H}). Since all syntactic objects need to be labeled to receive interpretation at the interfaces, unlabeled structures will be eliminated at the interface. In this sense, the Labeling Algorithm is within the bounds of the interface conditions we are concerned with here.³ The *Person Licensing Condition* (PLC; Béjar and Rezac 2003), which this dissertation aims to eliminate, makes sure that any marked person features (1st/2nd) in a structure are licensed at the interface.⁴ Lastly, different kinds of licensing (e.g., NPI licensing and anaphor binding) are other examples of interface conditions, although they are outside the scope of this dissertation.

³However, as I mention in the footnote below, Chomsky (2015) assumes that labeling takes place as part of the Transfer operation (Chomsky 2015:6); therefore, the algorithm itself does not apply at the interface, but the assessment of whether a syntactic object is labeled takes place at the interface.

⁴Most of these interface conditions can be reduced to unsatisfied features. In fact, the Person Licensing Condition has been reanalyzed as the Case Filter (Rezac 2008), which in turn was reanalyzed as a condition on the interpretability of Case features.

I also raise objections to operations that depend on interface conditions. Having an evaluative point in the grammatical computations (i.e., the interfaces with conditions) makes it possible, at least conceptually, to compare similar derivations in terms of their well-formedness (‘transderivational’ or ‘global’ comparison—Rezac 2011:196-201) or to establish an ‘interderivational’ relation. One such global mechanism has been proposed, which manipulates syntactic derivations after a structure has been deemed problematic by an interface condition—namely, the *Interface Algorithm* \mathfrak{R} (Rezac 2011). A detailed discussion of this algorithm is in Section 2.5, but to put it briefly, given a structure with an unlicensed argument, the algorithm inserts an uninterpretable feature in the numeration so that the unlicensed argument can be licensed, making another derivation possible only when the original derivation fails to meet the PLC.⁵

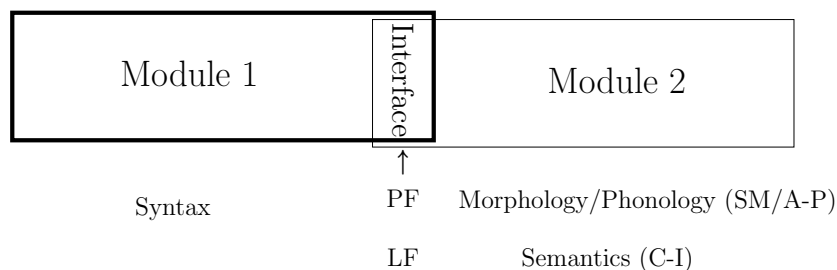
As an alternative to an analysis with the PLC, I propose an account for the PCC phenomena, which involves a syntactic mechanism, which I call *Incremental Valuation*, where the syntactic component does not generate illicit structures (a version of the so-called *Crash-proof Syntax* advocated by Frampton and Gutmann 2002). In this system, ungrammaticality is construed as non-generability (a notion I take from Preminger 2018 and his earlier works); constrained by the set of lexical items available and syntactic operations at hand, the grammar does not generate ungrammatical sentences. Specifically, as a means to constrain the syntactic component, I propose a version of Merge, which is triggered by feature valuation (cf. Wurmbrand’s 2014 *Merge Condition*). This prevents two syntactic objects from uniting if they do not have appropriate features for there to be feature valuation between them, and this restriction makes illicit structures underivable. In addition to this constrained Merge, I utilize articulated person features (Béjar 2003), which allow an unvalued feature to be incrementally valued by more than one argument, and as will be shown in Chapter 4, this explains why there is such restriction on certain person combinations between two internal arguments as the one in (1a). Before going into a detailed discussion of the PCC and the PLC, I further clarify how I envision the interfaces to be, review the literature in the crash-proof/non-generation framework, which this dissertation has the same kind of goals as, and lay out some global assumptions that underlie discussions in this dissertation in the rest of this chapter.

⁵The Labeling Algorithm can be interpreted as a global mechanism as well. Chomsky (2015) considers labeling to “take place at the phase level, as part of the Transfer operation” (p. 6). Even if this is the case, since it is the interfaces that require that all syntactic objects be labeled for interpretation, the evaluation of whether the structure is interpretable happens at the interface; therefore, a structure with the unlabelable {XP YP} configuration has to be sent to the interface in order to motivate a syntactic operation (i.e., movement of either XP or YP—assuming that there needs to be some sort of motivation for movement) to resolve the labeling problem. If this is the actual state of affairs, then the Labeling Algorithm, too, can be considered a global condition.

1.1 Interfaces as indiscriminate points of translation

The interfaces are often discussed in the linguistic literature in a very broad sense. Here, I adopt a very strict and specific definition of the interface. Preminger (2015b) develops the premise that “[a]n ‘interface’ between syntax and some other module of grammar, M, is defined as the (representational or derivational) point at which the primitives and processes of M replace those of syntax.” In other words, the S[ensory]M[otor]/A[rticulatory]-P[erceptual] interface and the C[onceptual]-I[n]tentional interface are taken to be a point of translation from syntactic primitives to those of morphology/phonology and those of semantics, respectively. The interface is therefore construed as a point at which two modules overlap as illustrated in (4). I use the term “SM/A-P interface” interchangeably with “PF interface,” and “C-I interface” with “LF interface.” What follows from the premise

(4)



is that a condition that makes reference to syntax-specific primitives/processes/notions (e.g., c-command) cannot be imposed at the interface.⁶ If the interface can impose any condition at all, it should be on the translatability (or legibility) of each primitive (e.g., unchecked uninterpretable features or Caseless nominals) but not on, for example, structural relations between two nominals (i.e., binding). I adopt Preminger’s (2015b) premise and define the interface accordingly. One of the consequences of this assumption is that the *Linear Correspondence Axiom* (LCA, Kayne 1994), standardly assumed to apply in the PF, must in fact apply inside the syntactic component before the structure reaches the interface, as it refers to syntax-specific primitives such as asymmetric c-command.⁷ This, of course, raises the question of what relation the LCA has to operations such as *Transfer*, which delivers a phase to the interfaces (Chomsky 2000). However, I adhere to

⁶At this point, I leave it somewhat open exactly which primitives are syntax-specific, and whether certain primitives can be shared by two modules.

⁷The LCA would be a PF-specific syntactic operation not visible to the LF, as the linear order is irrelevant for the interpretation.

Preminger’s (2015b) assumptions, and consider that additional operations can apply to phases before they reach the interfaces.⁸

Although this is not my specific focus here, Preminger’s (2015b) premise determines whether a given operation applies within syntax proper or beyond the PF or LF interface. For example, Embick and Noyer’s (2001) *Local Dislocation*, which affixes an element to another under linear adjacency, applies beyond the PF interface, as defined here, since it only refers to string/linear adjacency, a morpho-phonology-specific primitive. On the LF side, covert movement operations such as reconstruction, Quantifier Raising, and covert *wh*-movement take place in the syntax, as syntactic conditions apply to these types of operations (although, as suggested by the name “covert,” they do not have PF consequences). However, type-shifting operations of different kinds (Chierchia’s 1998 \cup , \cap operators; the iota operator, etc), for example, apply in LF as it refers to semantic types, which are semantics-specific primitives. In the following section, I briefly review the literature in the “crash-proof” framework that my work falls within.

1.2 “Crash-proof” syntax (Frampton & Gutmann 2002)

The feature system I propose here is in large part inspired by the work of Frampton and Gutmann (2002). They argue for a syntactic system that is constrained so as to generate only well-formed and interpretable representations (“crash-proof” syntax). They maintain that it is more computationally efficient, thus preferable, to derivationally rule out a fragment derivation through the rules of syntax than to filter out a complete derivation. For example, a fragment/partial derivation *it to be believed Max to be happy* (Frampton and Gutmann 2002:(7)) is already problematic as *it* will act as an intervener for later operations and *Max* no longer has any chance of receiving Case. Constraining the derivation so that this kind of partial derivation is impossible—that is, the feature on T necessarily probes downward and finds *Max*—is better than filtering out a complete derivation like **It is expected to seem to be believed Max to be happy* (Frampton and Gutmann 2002:(8)) as a violation of a condition at the interface (in this instance, the Case Filter). Interpretability/uninterpretability of features has been called into question by Legate (2002), who dispenses with this distinction in favor of a distinction between morpho-syntactic features and semantic features, although her immediate purpose was not to make syntax crashproof. Epstein et al. (2010) argue for a partially crash-proof system, where uninterpretable features do not cause a crash at the LF interface but only

⁸Alternatively, as Chomsky (2015) claims for labeling, linearization might be part of the Transfer operation.

at PF.⁹ They suggest that a sentence like **It is likely Bob to go* causes a crash on the PF side (because of the unvalued uninterpretable Case feature on *Bob*), but converges at the LF interface. Carstens (2010) adopts Epstein et al.’s (2010) view of uninterpretability and argues that gender features are inherently valued but uninterpretable. According to her analysis, since gender features do not get valued in the syntax, they remain active throughout the derivation (in order to value multiple elements); however, even if they reach the LF interface, they do not cause a crash. Preminger (2011, 2014, 2015a,b, 2018) also follows this tradition and takes issue with the crash-prone nature of uninterpretable features (so-called “derivational time-bombs”). He argues for a grammatical model where operations obligatorily apply given the right condition, but ungrammaticality (or crash) does not arise if the conditions are not met for those operations to apply. Although this dissertation does fall generally within this “crash-proof” framework, “crash-proof” is not the right characterization of the present work as such a term presupposes the existence of crashes. My aim here is to propose a feature system that eliminates the need for at least some filtering mechanisms, if not all. Following Preminger (2015a,b), I view ungrammaticality or ill-formedness as non-generability. Put in another way, ungrammatical sentences are underivable with the lexical items and operations at our disposal.

1.3 Non-generation (Preminger 2015a,b, 2018)

Preminger (2015a,b, 2018) takes a non-generation approach to ungrammaticality. What this means is that ungrammatical sentences are taken to be structures that cannot be produced in the syntax rather than structures that are filtered out at the interfaces for various reasons. Take, for example, an ungrammatical sentence like **Jacob aspired Kate to run the race*. The ungrammaticality of this sentence would standardly be explained by the fact that *Kate* is Caseless and the sentence is ruled out by the *Case Filter*, which states that Case is required for all overt nominals (or that uninterpretable Case features need to be checked). However, under the non-generation approach, the ungrammaticality would be explained by the fact that there is no argument position where *Kate* can come into the derivation where it is in the sentence. This is because *to*-infinitives do not require an overt subject and the verb *aspire* does not take a nominal complement. The syntax would therefore never ‘generate’ the sentence. Preminger (2015b, 2018) argues that this non-generation approach is superior to approaches with interface conditions

⁹Chomsky (2005) suggests this avoidance of crash at LF by sending uninterpretable features to PF in passing. However, whether these uninterpretable features cause a crash at the PF interface is not made explicit.

by considering uninterpretable features and the *Case Filter*. In this section, I briefly present Preminger’s (2015b; 2018) argument that uninterpretable features and the *Case Filter* (Chomsky 1981) as fatal interface conditions are inadequate to capture agreement patterns in K’ichean and case facts in Sakha.

1.3.1 Uninterpretable features: K’ichean Agent-Focus constructions

Preminger (2011, 2014, 2015a,b) examines a construction called Agent-Focus in K’ichean, a branch of the Mayan language family. In one type of this construction, the agent of a sentence is marked with a focus morpheme *ja* and the verb bears a special agent-focus suffix. Elsewhere, K’ichean has an ergative-absolutive alignment in the agreement system (5)/(6).

- (5) a. ri achin thex-Ø-uk’lun.
 the man COM-**3SG.ABS**-arrive
 ‘The man arrived.’
 b. rat x-**at**-uk’lun.
 you.SG COM-**2SG.ABS**-arrive
 ‘You(sg.) arrived.’
- (6) a. rat x-Ø-**aw**-ax-aj ri achin.
 you.SG COM-**3SG.ABS-2SG.ERG**-hear-ACT the man
 ‘You(sg.) heard the man.’
 b. ri achin x-**a(t)-r**-ax-aj rat.
 the man COM-**2SG.ABS-3SG.ERG**-hear-ACT you.SG
 ‘The man heard you(sg.).’

(*Kaqchikel*—Preminger 2015a:(7),(8))

However, in the Agent-Focus construction, the verb only bears one agreement marker even with transitive verbs, as shown in (7).

- (7) a. ja rat x-**{at/∅}**-ax-an ri achin.
 FOC you.SG COM-**{2SG/*3SG}.ABS**-hear-AF the man
 ‘It was you(sg.) that heard the man.’
 b. ja ri achin x-**{at/∅}**-ax-an rat.
 FOC the man COM-**{2SG/*3SG}.ABS**-hear-AF you.SG
 ‘It was the man that heard you(sg.).’

(Preminger 2015a:(11))

Which argument the verb agrees with depends on the person and number of the arguments, as summarized in (8).

(8) Agreement pattern of Agent-Focus constructions in K'ichean

| Subject (Agent) | Object | Agreement |
|-----------------|--------|-----------|
| 2SG | 3SG | 2SG |
| 3SG | 2SG | 2SG |
| 2SG | 3PL | 2SG |
| 1SG | 3SG | 1SG |
| 3SG | 1SG | 1SG |
| 3PL | 3SG | 3PL |
| 3SG | 3PL | 3PL |
| 1SG | 3PL | 1SG |
| 3PL | 1SG | 1SG |
| 1PL | 3SG | 1PL |
| 3SG | 1PL | 1PL |
| 2SG | 1SG | *10 |
| 1SG | 2SG | *10 |

(Preminger 2015a:(11)-(19))

Preminger's analysis is that there are separate probes for person and number, which are placed higher than the two arguments in their respective base-generated positions. The person probe searches for [PARTICIPANT] (=first/second person arguments), and when it finds an appropriate goal, the goal is doubled by a clitic in the verbal complex. When the person probe does not find a matching goal, the number probe subsequently searches for [PLURAL]. The person probe, the number probe, and the clitic compete for a single exponent and the clitic, if there is one, always wins. This explains why the verb always overtly agrees with a marked person (first/second) argument over a third person argument in the Agent-Focus constructions. A first/second person DP that has not entered into an Agree relation with a person probe will give rise to ungrammaticality (\because Béjar and Rezac's 2003 *Person Licensing Condition*);¹¹ therefore, ungrammaticality arises with concurrent first person and second person arguments in an Agent-Focus construction.

When both arguments are third person, on the other hand, there are several possible scenarios. If the number probe has an uninterpretable feature that needs to agree with an interpretable counterpart, the predicted grammaticality differs from the actual judgement as shown in (9). The approach with uninterpretable number features is represented with [u#]. These features cause a crash at the interface if they are left unchecked/undeleted. *DP[PL] represents a condition barring an unlicensed plural DP. The non-generation approach is represented with an unvalued feature ([#_]), which does not cause a crash

¹⁰ Ungrammatical with any agreement.

¹¹It should be pointed out that Preminger's (2015a) analysis of the K'ichean Agent-Focus sentences with first and second person arguments assumes a crash model.

even if it is left unvalued (Preminger 2011, 2014). Note that the third person absolutive agreement morpheme is phonologically null (\emptyset).

(9) K'ichean Agent-Focus agreement pattern and predictions of different approaches

| | PROBE (AGR) | SUBJ | OBJ | observed | predicted (u#) | predicted (u#+*DP[PL]) | predicted ([#—]) |
|----|---------------------------------|------------|------------|----------|-------------------|---------------------------|---------------------|
| a. | # _{PL} (3PL) | 3PL | 3SG | ✓ | ✓ | ✓ | ✓ |
| b. | # _{PL} (3PL) | 3SG | 3PL | ✓ | ✓ | ✓ | ✓ |
| c. | # _{PL} (\emptyset) | 3SG | 3PL | * | * | * | n-g |
| d. | # _{PL} (\emptyset) | 3SG | 3SG | ✓ | * | * | ✓ |
| e. | # _{PL} (3PL) | 3PL | 3PL | ✓ | ✓ | * | ✓ |

(compiled from Preminger 2015a:(43)-(45))

Since the number probe is relativized for plurality, when one of the two third person arguments is plural, the number probe agrees with that argument as schematized in (9a,b). (9c) shows a scenario where the verb exhibits third person singular agreement even though there is a plural argument (object). The cases where two arguments are both singular or both plural are shown in (9d) and (9e). As shown in (9), the approaches that assume crash-prone features predict incorrect patterns of grammaticality for K'ichean Agent-Focus constructions with two third person arguments. The uninterpretable features are problematic whether the zero morpheme $-\emptyset-$ in (9c,d) means non-agreement (=crash) or covert singular agreement (a zero agreement morpheme should be acceptable in (9b), which is contrary to fact). The non-generation approach only rules out (9c) out of the five cases shown as this pattern is not generable (n-g) because the number probe will necessarily search and find the plural argument. This examination of the Agent-Focus construction in K'ichean indicates that the non-generation approach is superior to the crash-driven approach. Note, however, that this superiority depends on Preminger's (2015a) strict assumption that probes carry out only one cycle of search. If the number probe is allowed to execute its search for a second time, looking for a singular value, then we indeed predict the observed pattern even with the uninterpretable feature approach.¹² However, this type of iterative search has its own problems. For example, it is unclear how the failure of agreement is detected, so as to trigger a second search. If it is the case that probes need to receive a value, then the lack of a value on the probe after the first unsuccessful cycle of search has to be deemed problematic in order

¹²Allowing a probe to agree with multiple goals (Multiple Agree or Multiple Feature-Checking) would also explain the K'ichean Agent-Focus pattern, and this kind of analysis is compatible with the crash-proof model as long as the multiplicity of agreement is not required by the interface. However, Preminger (2011, 2014) argues that Multiple Agree does not explain the K'ichean Agent-Focus pattern involving participant arguments.

to motivate the second cycle of search. However, once the unvalued probe is sent to the interfaces, it will simply cause a crash. If well-formedness evaluation can be done in the syntax, then we are no longer assuming a “crash” model but rather a “crash-proof” model. Therefore, it seems safe to say that features that must be satisfied in order for the derivation to be well-formed cannot account for the agreement pattern in the K’ichean Agent-Focus construction.

1.3.2 The Case Filter: Raising-to-accusative in Sakha

With the definition of interfaces we are assuming, the interfaces cannot impose a Case assignment restriction on a nominal and a Case-assigning head, as that would involve syntax-specific primitives such as c-command and locality domain. Interfaces can inspect the state of a nominal—that is, whether it is Caseless or not. Therefore, the Case Filter is a possible condition at the interfaces; however, Preminger (2015b, 2018) shows that even the Case Filter cannot explain the Case patterns of the embedded subject in Sakha (Turkic). As shown in (10a), if an embedded subject is raised over an adverbial in the matrix clause, accusative case marking is obligatory. However, if the embedded subject stays in-situ as in (10b), the argument cannot be marked with accusative case.

(10) Raising-to-accusative in Sakha

- a. Sardaana **Aisen_i-(*)**(y)**** beqehee [bügün *t_i* kel-er dien] ihit-te
 Sardaana **Aisen-*(ACC)** yesterday today come-AOR COMP hear-PST.3
 ‘Sardaana heard yesterday that Aisen is coming today.’
- b. Sardaana beqehee [bügün **Aisen-*(*)**(y)**** kel-er dien] ihit-te
 Sardaana yesterday today **Aisen-*(*)**(ACC)**** come-AOR COMP hear-PST.3
 ‘Sardaana heard yesterday that Aisen is coming today.’

(Vinokurova 2005:363; cited by Preminger 2018:(23))

Assuming the Case Filter, the obligatory absence of accusative case on *Aisen* in (10b) suggests that the embedded clause must be able to assign Case (presumably nominative Case, which is realized as null) to *Aisen*. This in turn explains the obligatory accusative marking on the raised subject in (10a) if Case-licensed nominals cannot dislocate (i.e., Chomsky’s 2001 *Activity Condition*). When *Aisen* is assigned Case within the embedded clause, the DP can no longer raise due to the Activity Condition. When the DP does not receive Case in the embedded clause for some reason and is able to move to the matrix clause, it must receive Case in the matrix clause. If the only available Case in the matrix clause is accusative, the obligatoriness of accusative case marking in (10a) can be explained using the Case Filter and the Activity Condition. However, an account based

on the Case Filter would have to assume that the presence/absence of Case assignment in the embedded clause depends on whether or not the embedded subject moves out of the embedded clause. This is difficult to capture as there does not seem to be anything that prevents Case assignment in the embedded clause. Furthermore, when there is no VP-peripheral adverb in the matrix clause (*beqehee* ‘yesterday’ in (10)), the accusative case marking is optional, as shown in (11).

- (11) min **ehigi**_i(-ni) [bügün t_i kyaj-yax-xyt] dien erem-mit-im
 I **you**(-ACC) today win-FUT-2PL.SU that hope-PST-1SG.SU
 ‘I hoped you would win today.’
 (Vinokurova 2005:361; cited in Preminger 2018:(24))

The raised subject in (11) without a case marker must be Case-licensed if we assume the Case Filter. Because the case marking is null, this suggests that the DP has received nominative Case in the embedded clause, which contradicts the Activity Condition as the DP seems to have moved out of the embedded clause despite having been Case-licensed.¹³ Without the Activity Condition, however, we predict the accusative case marking in (10a), where the subject of the embedded clause precedes a matrix adverbial, to be optional as well. Therefore, the interface-driven approach to Case does not fully explain the facts in the raising-to-accusative construction in Sakha.¹⁴

Preminger (2018) suggests that the difference between the obligatory accusative marking in (10a) and the optional accusative marking in (11) can be explained simply in terms of the structural position of the raised argument. Accusative case marking is obligatory in a monoclausal sentence if the object precedes an adverbial while it is optional if the object follows an adverbial, as shown in (12).

- (12) a. Masha **salamaat**_i-(***y**) turgennik t_i sie-te
 Masha **porridge**-(***ACC**) quickly eat-PST.3SG.SU
 ‘Masha ate the porridge quickly.’
 b. Masha turgennik **salamaat**-(**#y**) sie-te
 Masha quickly **porridge**-(**#ACC**) eat-PST.3SG.SU
 ‘Masha ate the porridge quickly.’ [contrastive focus on ‘porridge’ if case-marked]

(Baker and Vinokurova 2010:602; cited in Preminger 2018:(25))

¹³It has been pointed out that the subject of the embedded clause *ehigi* without a case marker in (11) could well be in the embedded clause, thus receiving nominative Case there. I have no evidence to suggest otherwise, but even if this is the case, the optionality of nominative Case assignment in the embedded clause is problematic.

¹⁴Kornfilt and Preminger (2015:2-4) discuss a possible analysis of the raising-to-accusative construction in Sakha which involves case-stacking, and this analysis would be compatible with the Case Filter. However, they rule it out as it makes a wrong prediction regarding case facts in monoclausal sentences with scrambling.

Preminger takes this to indicate that the placement of the argument determines the obligatoriness/optionality of accusative case. Building on Baker and Vinokurova (2010), Preminger (2018) provides a configurational case assignment analysis where accusative is assigned immediately upon certain structural conditions being satisfied. In the case of (10a), two caseless DPs, the matrix subject *Sardaana* and the raised subject *Aisen*, are in the same locality domain, and in this configuration, the DP that is c-commanded by the other DP is assigned accusative Case. Accordingly, *Aisen* necessarily receives accusative Case, and so the DP without accusative case marking is not generable. In the case of (11), because there is no matrix VP-adverb in the sentence to determine the structural position of the raised subject from the surface position, there are two possible structures for the sentence: one where the raised subject is in the same locality domain as the matrix subject, thus being assigned accusative, and the other where the raised subject is not high enough to be in the same locality domain as the matrix subject, remaining unmarked for case. Therefore, the apparent optionality of accusative case marking can be explained by the structural ambiguity of the sentence. This (immediate) configurational accusative case assignment proposed by Preminger (2018) is an obligatory operation in the narrow syntax, so Preminger’s account of Sakha raising-to-accusative constructions does not rely on an interface condition to explain ungrammaticality.

1.4 Distributed Morphology: Late Insertion and the Subset Principle

This thesis falls within the theoretical framework of Distributed Morphology (Halle and Marantz 1993, 1994; Halle 1997; Harley and Noyer 1999), and I assume the following two key ideas throughout the thesis. First, I adopt the notion of *Late Insertion*, where the syntactic component is comprised of morphosyntactic features manipulated by a number of operations (e.g., Merge) and it is devoid of phonological information. Phonological information is added post-syntactically through the process of Vocabulary insertion where morphosyntactic features are replaced with appropriate Vocabulary items. Second, I assume a principle called the *Subset Principle*,¹⁵ which governs the selection of an appropriate Vocabulary item for a bundle of morphosyntactic features on a terminal node of a syntactic structure.

¹⁵This is essentially another name for the *Blocking Principle* (Lumsden 1987; Sauerland 1996), which is also known as the Elsewhere Principle or the Paninian Principle.

(13) *Subset Principle*

The phonological exponent of a Vocabulary item is inserted into a morpheme in the terminal string if the item matches all or a subset of the grammatical features specified in the terminal morpheme unless:

- i. the Vocabulary item contains features not present in the morpheme; or
- ii. there is another Vocabulary item that represents a larger subset of features specified in the terminal morpheme

(modified—Halle 1997:(7))

An abstract example where this principle is crucial is given in (14). Let us assume that a particular terminal node is specified with a feature set of [F, G, H, I] and that there are only three Vocabulary items that could be inserted in this environment (14a-c).

(14) Terminal node specification: [F, G, H, I]

Vocabulary items:

- a. *morph* \Leftrightarrow [F, G, H, J]
- b. *word* \Leftrightarrow [F, G]
- c. *vocab* \Leftrightarrow [F, G, H]

In this situation, the condition in (13i) bans replacing this terminal node with the Vocabulary item *morph* in (14a) because it represents a feature that the terminal node is not specified with (i.e., [J]), even though the item does represent a subset of the features on the terminal node. Although the Vocabulary item *word* in (14b) represents only a subset of the features of the terminal node, the condition in (13ii) blocks this item from being inserted here because there is another Vocabulary item that represents a larger subset—i.e., *vocab* in (14c). Therefore, the third candidate is inserted, and the terminal node is realized as *vocab*. More concretely, pronominal elements that are specified as accusative in English is not realized as *I/he/she/they* because these Vocabulary items represent nominative case instead, which does not match the specification of the elements, although they are otherwise identical to the actual realizations *me/him/her/them* (=the matching requirement in (13i)). The Vocabulary item *they*, which is gender-neutral and arguably also underspecified for number, is not inserted for a pronominal element specified as masculine as *he* is more specific (= the larger-subset requirement in (13ii)).

Late Insertion and the Subset Principle are important pieces of the crash-less model this thesis argues for because they lift some explanatory burden off narrow syntax. Because the best phonological realization will necessarily be chosen for each element after syntactic manipulations have concluded, selectional properties of certain predicates can

be explained as a natural consequence of combinatory operations in the syntax rather than as requirements on the lexical items. For example, there are two existential predicates in Japanese, one for animate entities (15a) and the other for inanimate entities (15b). Instead of positing selectional requirements on the verbs, we can consider the apparent requirements to result from how the verb is necessarily realized one way over the other according to which type of argument, animate or inanimate, is in the syntactic derivation (see Section 3.4 for details of this analysis).

(15) *Japanese*

- | | |
|--|---|
| a. Koko-ni <u>neko</u> -ga iru . here-at cat-NOM exists.AN ‘There is a cat here.’ | b. Koko-ni <u>hon</u> -ga aru . here-at book-NOM exists.IA ‘There is a book here.’ |
|--|---|

Under this approach to selectional properties of predicates, the sentences in (16), where there is a mismatch in animacy between the verb and the argument, are ungrammatical because these sentences cannot be generated, not because they violate some requirements of the verbs.

- | | |
|---|---|
| (16) a. *Koko-ni <u>neko</u> -ga aru . ¹⁶ here-at cat-NOM exists.IA ‘(Intended) There is a cat here.’ | b. *Koko-ni <u>hon</u> -ga iru . here-at book-NOM exists.AN ‘(Intended) There is a book here.’ |
|---|---|

This is in keeping with the non-generation approach to ungrammaticality, and Distributed Morphology aids in making the model of grammar crash-less without diminishing its explanatory power. The Subset Principle is further relevant in Chapter 6, where I discuss feature representations of person and different types of vocabulary insertion processes that result in cross-linguistic variation in person contrasts. It allows us to explain certain types of person conflation and syncretism without having to posit impoverishment rules.

1.5 Organization of the thesis

This thesis is structured as follows. Chapter 2 introduces the Person Case Constraint (PCC), the cross-linguistically observed phenomenon that this thesis is mainly concerned with, and illustrates the most basic pattern using examples from a number languages. This chapter also demonstrates how an interface condition called the *Person Licensing Condition* (PLC) is used to account for this pattern as well as an alternative construction

¹⁶Note that the verb *aru* is compatible with humans in some dialects.

(so-called a PCC ‘repair’) used to fill the interpretational gap created by the PCC. It is subsequently shown that this account based on an interface condition cannot explain a slightly different pattern. Chapter 3 proposes a novel syntactic mechanism called *Incremental Valuation*. Motivations for the two components of this proposal—namely, a constrained version of Merge and the articulated person features—are given and discussed in detail. It is further shown how the proposed syntactic mechanism is not dependent on an interface condition and explains ungrammaticality in terms of non-generability rather than a crash at the interface. Chapter 4 revisits the PCC and demonstrates how Incremental Valuation explains its pattern as well as its ‘repair’ pattern. It is further shown that this proposed analysis is superior to the PLC-based analysis in that it can account for not only the variation in PCC effects but also different types of PCC repairs. Chapter 5 presents further variation in PCC patterns that a simple PLC-based analysis would fail to account for. Three previously proposed Agree/licensing-based analyses of the PCC variation are discussed in the chapter, and it is shown that each of these analyses faces an empirical challenge and has some problems with the system. The proposed account for the variation using Incremental Valuation is subsequently presented and it is argued that one of the varieties that has previously been described as PCC effects has an entirely different source. This chapter, therefore, reinforces the fact that the Incremental Valuation analysis, which explains ungrammaticality in terms of non-generability, is better-equipped than analyses that require some form of interface condition (e.g., PLC, licensing conditions, feature interpretability, etc). Chapter 6 departs from the central focus of this thesis and addresses some of the concerns raised for the feature system utilized in the Incremental Valuation mechanism. This chapter refutes arguments made against the articulated person features in two fronts: the inventory of features (especially, the validity of [Addressee/Hearer] feature) and the valency of features (i.e., privative features vs. binary features). It is argued in the chapter that the [Addressee] feature is not only indispensable to account for a specific type of person syncretism but also necessary for independent reasons, and that the articulated person features are at least as tenable as the traditional binary person features in order to account for the typology of person conflation and person syncretism. Chapter 7 discusses some of the remaining questions and concludes the thesis.

2

Person Licensing Condition and the PCC

The interface condition that this thesis aims to eliminate is the Person Licensing Condition (PLC). This interface condition was first proposed to account for the person restriction observed in many languages, called the Person Case Constraint (PCC). The PCC restricts the possible person combinations of two arguments, and it is found in different types of constructions such as unaccusatives (between THEME and GOAL/EXPERIENCER; Albizu 1997; Rezac 2008, 2011; Preminger 2019), ditransitives (between THEME and GOAL/RECIPIENT; Harris 1981; Bonet 1991; Laka 1996; Ormazábal and Romero 1998, 2002, 2007; Béjar and Rezac 2003; Anagnostopoulou 2003; Adger and Harbour 2007; Nevins 2007; Rezac 2011; Stegovec 2016; Pancheva and Zubizarreta 2017 among many others), transitives (between AGENT and THEME; *Arizona Tewa/Yurok* Rezac 2011), causatives (between CAUSEE and THEME; *Georgian* Harris 1981, *French* Kayne 1975; Rezac 2011), and language-specifically, Icelandic quirky subject constructions (between DAT and NOM; Taraldsen 1994, 1995; Sigurðsson 1996; Anagnostopoulou 2003).¹ The focus of this thesis is the PCC effects in ditransitive sentences, as the PCC is most widely observed between direct objects and indirect objects.² I will first introduce the relevant examples and show how the PLC explains the ungrammaticality caused by the PCC. Subsequently, I present constructions that are used to fill the interpretational gap created by the PCC and a couple of analyses of these constructions: the Optimality Theory analysis by Bonet (1994) and the Interface Algorithm analysis by Rezac (2011), the latter of which is based on the PLC.

¹The list of works cited is by no means exhaustive. Refer to Rezac (2011) for a more complete list of references.

²The discussion of how the proposed analysis of the PCC could be extended to other constructions is in Section 5.6; however, working out the exact mechanism will be left for future research.

2.1 The Person Case Constraint

As I discuss in Chapter 5, there are several varieties of the Person Case Constraint (PCC) attested cross-linguistically. One variety of the PCC bans the accusative clitic being 1st person (1P) or 2nd (2P) person in the presence of a co-occurring dative clitic (Perlmutter 1971; Kayne 1975; Bonet 1991 among others).³ This type of restriction is unexpected, as the person combinations that are banned are logically possible, and has thus received a lot of attention from linguists. French is one of the languages that exhibit this pattern with ditransitive sentences with two clitics as shown in (1) and (2). The accusative clitic represents the D[irect] O[bject], and the dative clitic represents the I[ndirect] O[bject] (IO > DO).

(1) *French* (PCC-COMPLIANT SENTENCES)

- | | | |
|----|---|-------------------|
| a. | Elle nous le présentera. | (1.DAT > 3.ACC) |
| | she us.DAT him.ACC will.introduce | |
| | ‘She will introduce him to us.’ | |
| b. | Elle vous le présentera. | (2.DAT > 3.ACC) |
| | she you.DAT him.ACC will.introduce | |
| | ‘She will introduce him to you.’ | |
| c. | Lucille la leur présentera. | (3.DAT > 3.ACC) |
| | 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 présenta. | (*1.DAT > 2.ACC) |
| | she me.DAT you.ACC introduced | |
| | (Intended) ‘She introduced you to me’ | |
| b. | *Elle te me présenta. | (*2.DAT > 1.ACC) |
| | she you.DAT me.ACC introduced | |
| | (Intended) ‘She introduced me to you’ | (Nicol 2005:160) |
| c. | *Lucille nous leur présentera. | (*3.DAT > 1.ACC) |
| | Lucille us.ACC them.DAT will.introduce | |
| | (Intended) ‘Lucille will introduce us to them.’ | |
| d. | *Lucille te leur présentera. | (*3.DAT > 2.ACC) |
| | Lucille you.ACC them.DAT will.introduce | |
| | (Intended) ‘Lucille will introduce you to them.’ | (Rezac 2011:180,93) |

³This variety is called the Strong PCC as there is a less restrictive pattern attested, which is called the Weak PCC. See Section 2.5.4 for a discussion of this variety.

As is clear in (1), whenever the accusative clitic is 3rd person (3P), the sentences are grammatical regardless of which person appears as the dative clitic. However, when the accusative clitic is either 1st person (1P) or 2nd person (2P) as in (2), we obtain ungrammatical sentences irrespective of the person of the dative clitic.

The unexpectedness of the person restrictions is not the only reason a lot of research has been done on PCC effects. The PCC is found in many languages across language families. The French pattern we saw in (1) and (2) has been observed in many other Indo-European languages including Greek. In Greek, the indirect object is realized with genitive case instead of dative case as shown in (3).

(3) *Greek*

- a. Tha mu to stilune. (1.GEN > 3.ACC)
 FUT 1SG.GEN 3SG.N.ACC send-3PL
 ‘They will send it to me.’
- b. Tha su ton stilune. (2.GEN > 3.ACC)
 FUT 2SG.M.GEN 3SG.ACC send-3PL
 ‘They will send him to you.’
- c. *Tha su me sistisune. (*2.GEN > 1.ACC)
 FUT 2SG.GEN 1SG.ACC introduce-3PL
 ‘They will introduce me to you.’
- d. *Tha tu se stilune. (*3.GEN > 2.ACC)
 FUT 3SG.M.GEN 2SG.ACC send-3PL
 ‘They will send you to him.’

(Anagnostopoulou 2005:(2))

Although I do not show the data here, the same pattern has been observed in varieties of Catalan and Spanish (Pancheva and Zubizarreta 2017).

Non-Indo-European languages such as Kiowa (Kiowa-Tanoan; Adger and Harbour 2007) and Shambala (Bantu) also exhibit a similar pattern. The restriction is observed in the verbal agreement prefixes in Kiowa (4) and in the object markers in Shambala (5).⁴

⁴There is no agreement prefix that encodes a 1P subject, a 2P direct object and a 3P indirect object in Kiowa (hence, it is represented as $\boxed{?}$; Adger and Harbour 2007:fn6). The meaning of (4c) can instead be expressed using a non-agreeing postpositional phrase for the indirect object as shown in (i).

- (i) Hegó k!yátáik!ii-ęj em- pɔɔbóótɔɔ. (3[PP] > 2)
 now chief-LOC I:you.SG- bring.FUT
 ‘I’ll bring him to the chief.’ (Adger and Harbour 2007:(8))

(4) *Kiowa*

- a. Thalíí hegó gyá- pəəbóótəə. (2 > 3)
 boy now I:to.you.SG:him- bring.FUT
 ‘I’ll bring the boy to you.’
- b. Hegó k!yátáík!ii gyá- pəəbóótəə. (3 > 3)
 now chief I:to.him:him- bring.FUT
 ‘I’ll bring him to the chief.’
- c. *Hegó k!yátáík!ii ? pəəbóótəə. (*3 > 2)
 boy now I:to.him:you.SG- bring.FUT
 ‘I’ll bring you to the chief.’

(Adger and Harbour 2007:(6),(9),fn6)

(5) *Shambala*

- a. a- za- m- ni- et -e -a. (1 > 3; *3 > 1)
 s/he- PST- him- me- bring -APP -FV
 =‘S/he has brought him to me.’
 ≠‘S/he has brought me to him.’
- b. *a- za- ni- mw- et -e -a. (*3 > 1)
 s/he- PST- me- him- bring -APP -FV
- c. a- za- ni- et -a kwa yeye. (3[PP] > 1)
 s/he- PST- me- bring -FV to him
 ‘S/he has brought me to him.’

(Duranti 1979:(15))

In Basque, the PCC effects are seen with agreement morphemes. Basque has an ergative-absolutive alignment; the direct object has absolutive case and the indirect object has dative case.

(6) *Basque*

- a. Zuk etsaiari misila saldu d-Ø-i-o-zu. (3.DAT > 3.ABS)
 you.ERG enemy.DAT missile.ABS sell PRS-3.ABS-AUX-3.DAT-2.ERG
 ‘You sold the missile to the enemy.’
- b. *Zuk etsaiari ni saldu na-i-o-zu. (*3.DAT > 1.ABS)
 you.ERG enemy.DAT me.ABS sell 1.ABS-AUX-3.DAT-2.ERG
 ‘You sold me to the enemy.’
- c. *Etsaiak zuri ni saldu na-i-zu-Ø. (*2.DAT > 1.ABS)
 Enemy.ERG you.DAT me.ABS sell 1.ABS-AUX-2.DAT-3.ERG
 ‘The enemy sold me to you.’

(Ormazábal and Romero 2007:(1),(2))

The PCC is additionally found in Mazahua (Oto-Manguean; Partida-Peñalva 2018), Southern Tiwa (Tanoan; Rosen 1990; Bonet 1991; Haspelmath 2004), Georgian (Kartvelian; Harris 1981; Anderson 1984; Bonet 1991; Boeder 2002; Béjar 2003; Rezac 2011), and Classical Arabic (Walkow 2012).

As can be seen above, PCC effects are widely observed within and across language families between a direct object and a concurrent indirect object in a weak form (clitic/agreement). There have been several accounts of the PCC pattern presented in this section. Perlmutter (1971) and Bonet (1991, 1994) analyze PCC effects as morphological constraints, and others have accounted for the pattern in terms of syntactic conditions on Agree (Béjar and Rezac 2003; Anagnostopoulou 2003, 2005; Nevins 2007; Rezac 2011; Pancheva and Zubizarreta 2017). In the next section, I illustrate how Béjar and Rezac (2003) explain the version of the PCC discussed in this section.

2.2 Split Agree and the Person Licensing Condition

Béjar and Rezac (2003) attribute the ineffability of certain clitic/agreement combinations to an interface condition called the *Person Licensing Condition* (PLC) defined as follows:

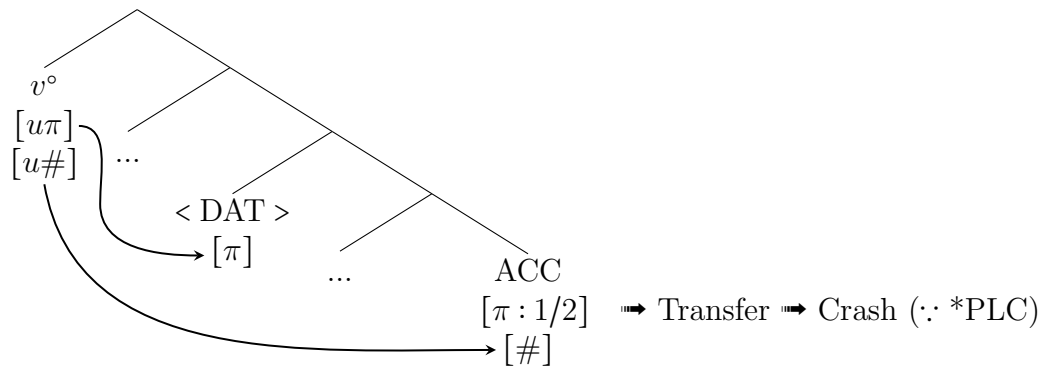
(7) *Person Licensing Condition*

An interpretable 1st/2nd person feature must be licensed by entering into an Agree relation with a functional category (Béjar and Rezac 2003)

Under their approach, ungrammaticality is obtained if the marked person feature (1P/2P) of the structurally lower argument (accusative/direct object) is not licensed (as shown in (8)). Following Taraldsen (1995), they propose that the phi-probe is split into two components, a person probe and a number probe, which can independently establish an Agree relation with an argument.⁵ According to their analysis, the person probe ($u\pi$) on v probes first and Agrees with the dative argument, the closer potential goal. The dative argument, if it is a head, moves to a higher position (=cliticization). The number probe ($u\#$) subsequently initiates its search and finds the accusative argument (the dative argument, a potential intervener, having moved out of the search path) but cannot license the person feature of the argument.

⁵The essential idea of *Split Agree* and the PLC is also proposed by Anagnostopoulou (2003).

(8)



As such, if the accusative argument (DO) is either 1P or 2P ($1/2/3 > 1/2$), then the marked person feature of the 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 following section shows the apparent dependency between the PCC construction and the “repair” construction.

2.3 The PCC “repair”

For those ungrammatical (or PCC-violating) sentences in (2), there is an alternative construction where the dative argument (IO) is expressed with an independent phrase with a strong pronoun, *á* + strong pronoun (9) instead of a clitic. This alternative construction is referred to as a PCC “repair” (cf. Bonet 1991, 1994, 2008; Rezac 2011)—this term is in quotation marks throughout the thesis as this is the notion I argue against. The interesting fact that Rezac (2011) brought to our attention is that no “repair” is available for the grammatical clitic combinations (or PCC-compliant sentences) in (1) as indicated by the ungrammaticality of (10).

(9) PCC “REPAIRS”

- | | | | | | |
|----|---|---------|----------------|-----------|-------------|
| a. | Elle | te | présenta | à moi. | (1 > 2.ACC) |
| | she | you.ACC | introduced | to me | |
| | ‘She introduced you to me.’ | | | | |
| b. | Elle | me | présenta | à toi. | (2 > 1.ACC) |
| | she | me | introduced | to you.SG | |
| | ‘She introduced me to you.’ (modified—Nicol 2005) | | | | |
| c. | Lucille | nous | présentera | à eux. | (3 > 1.ACC) |
| | Lucille | us.ACC | will.introduce | to them | |
| | ‘Lucille will introduce us to them.’ | | | | |

- d. Lucille te présentera à eux. (3 > 2.ACC)
 Lucille you will.introduce to them
 ‘Lucille will introduce you to them.’ (Rezac 2011:180,93)

(10) “REPAIRS” FOR PCC-COMPLIANT SENTENCES

- a. ^{*(%)}Elle le présentera à nous. (^{*(%)}1 > 3.ACC)
 she him.ACC will.introduce to us
 (Intended) ‘She will introduce him to us’
- b. ^{*(%)}Elle le présentera à vous. (^{*(%)}2 > 3.ACC)
 she him.ACC will.introduce to you.PL
 (Intended) ‘She will introduce him to you(pl).’
- c. ^{*(%)}Lucille la présentera à eux. (^{*(%)}3 > 3.ACC)
 Lucille her.ACC will.introduce to them
 (Intended) ‘Lucille will introduce her to them.’
 (elicited judgments in parentheses—Rezac 2011:2,93)

As is clear in (9) and (10), the “repair” construction only fills the interpretational gap created by the PCC. In other words, the PCC-compliant sentences with two clitics and the “repairs” with a prepositional phrase are in complementary distribution with respect to person combinations of the arguments, which is visually evident in (11).

(11) The PCC and its “repair” in French

| DAT | ACC | DOUBLE CLITIC | “REPAIR” / ALTERNATIVE |
|-----|-----|---------------|------------------------|
| 1 | 3 | ✓ (1a) | * (%) (10a) |
| 2 | 3 | ✓ (1b) | * (%) (10a) |
| 3 | 3 | ✓ (1c) | * (%) (10b) |
| 1 | 2 | * (2a) | ✓ (2 V à 1) (9a) |
| 2 | 1 | * (2b) | ✓ (1 V à 2) (9b) |
| 3 | 1 | * (2c) | ✓ (1 V à 3) (9c) |
| 3 | 2 | * (2d) | ✓ (2 V à 3) (9d) |

Note here that even though Rezac (2011) reports that the sentences in (10) are ungrammatical, some French speakers seem to (marginally) accept them. As will be clear in Section 4.2.4, my analysis accommodates their judgements as well.

One way to account for the complementarity between the two constructions is to posit the same underlying structure for the two types of constructions and derive the surface form through movement, an analysis reminiscent of the dative alternation (Ormazábal

and Romero 1998). However, as pointed out by Rezac (2011), this analysis faces an empirical challenge, namely that in certain varieties of French, there exists another type of repair construction where the indirect object is realized as a locative clitic *y* as shown in (12).

- (12) *Varieties of French* (LOCATIVE “REPAIRS”)⁶
- a. *Elle l’ y présentera. (*LOC[2] >>3.ACC)
 she him.ACC LOC will.introduce
 ‘She introduced him to you.’
 - b. Lucille nous y présentera. (LOC[2/3] > 1.ACC)
 Lucille us.ACC LOC will.introduce
 ‘Lucille will introduce us to you/them.’
 - c. Lucille vous y présentera. (LOC[3] > 2.ACC)
 Lucille you.ACC LOC will.introduce
 ‘Lucille will introduce you to them.’
- (Rezac 2011:2,96,180)


The locative-“repair” construction is only available where the *à*-phrase repair construction is available. Thus, the PCC and its repairs in general are in complementary distribution. It is not straightforwardly explicable under the alternation approach why the additional repair construction is available only in PCC-violating environments. The following section looks at a morphological analysis of the PCC repair by Bonet (1994), which systematically determines the optimal alternative form, capturing the complementarity between the PCC and its repair as a result.


2.4 Optimality Theory and the PCC repair (Bonet 1994)

In the foundational work of Bonet (1991, 1994), the PCC repairs are argued to be morphological alternatives to clitic combinations that are ruled out by the PCC. She uses Optimality Theory (OT; Prince and Smolensky 1993) to account for the availability of the PCC repairs. Given the output from the syntactic component, a function GEN creates alternative morphological structures in the morphological component. These alternatives are sifted through a set of constraints that are ranked in a certain order, and the best candidate receives phonological realization. In order to account for the Spanish counterpart of the French *à*-phrase repair, Bonet (1994) proposes two constraints: PCC and A[void] P[ronoun] S[trength]. The PCC states that the accusative argument has to be


⁶The interpretation of the locative *y* needs to be supplied by the context.

3P in the presence of a dative argument. The APS constraint restricts the use of strong pronouns. In the case of a ditransitive sentence with a 1P DO and a 3P IO as shown in (13), there are at least two alternative forms: two simultaneous clitics as in (a) and the dative argument as a strong pronoun in a PP with the accusative argument as a clitic as in (b).

| | | | | | |
|-----------------------|--|--------------------------------|-------------|-----|-------------------|
| (13) | | | CONSTRAINTS | | |
| | INPUT: [3SG.DAT] [1SG.ACC] | | PCC | APS | |
| | a. | ... <i>me lui</i> ... | *! | | [DOUBLE CLITIC] |
| |  b. | ... <i>me</i> ... <i>à lui</i> | | * | [à-PHRASE REPAIR] |
| (cf. Bonet 1994:(35)) | | | | | |

The candidate in (13a) violates the PCC, which is indicated by the asterisk ‘*’. The second candidate in (13b) conforms to the PCC but violates APS as the dative argument is a strong pronoun. Since the PCC is higher ranked than APS, the morphological alternative in (13b) that violates only the lower ranked constraint is the optimal candidate in this case as indicated by the index symbol ‘’.

As for the locative repair, Bonet (1994) takes the Catalan locative clitic to be a realization of dative Case without any person feature. She revises the PCC in such a way as to allow the locative repair to escape the constraint. The revised PCC states that the accusative argument must be 3P if there is a concurrent dative argument that is specified for person. She further adds another constraint called ELSEWHERE (EW) which restricts the use of a locative clitic, with the person feature impoverished. This constraint is ranked lower than APS. We can apply the same analysis to the French locative repair, as shown in (14).

| | | | | | | |
|-----------------------|--|-----------------------------|-------------|-----|----|-------------------|
| (14) | | | CONSTRAINTS | | | |
| | INPUT: [3SG, DAT] [1SG, ACC] | | PCC | APS | EW | |
| | a. | [1SG, ACC] [3SG, DAT] | *! | | | [DOUBLE CLITIC] |
| |  b. | [1SG, ACC] [3SG, DAT] | | | * | [LOCATIVE REPAIR] |
| | c. | [1SG, ACC] ... <i>à lui</i> | | *! | | [à-PHRASE REPAIR] |
| (cf. Bonet 1994:(47)) | | | | | | |

The double-clitic candidate in (14a) violates the PCC as before; the *à*-phrase alternative in (14c) escapes the PCC but violates APS because of the strong pronoun *lui*. The locative alternative with the dative argument impoverished for person in (14b) does not violate the PCC because the constraint has been revised so as to permit a 1P/2P accusative argument in the presence of a dative argument without a person feature (i.e.,

locative clitic *y*). This candidate also does not violate APS as both arguments are weak pronouns or clitics but violates the EW constraint as the locative clitic with the person feature impoverished is not faithful to the input. Among the three candidates, the locative alternative is the optimal candidate since it only violates the lowest ranked constraint.⁷

Bonet’s (1994) OT analysis of PCC repair strategies straightforwardly captures the complementarity between the PCC and its repair we have seen in (11) as the PCC is the highest ranked constraint in this system and whenever the PCC is violated, a repair construction will be the optimal candidate. Her idea of the Catalan locative clitic being an impoverished dative clitic also gives us an insight into why the locative repair is possible. However, some questions remain to be answered. It is not clear how the candidates are generated. It is still a mystery why and how the impoverishment of person features takes place. The motivation for realizing the dative argument as a strong pronoun is also not obvious. Furthermore, the answer to why there is such a constraint as the PCC and why it is a fatal (ungrammaticality-inducing) constraint is not provided. The reason why the use of strong pronouns is (or should be) restricted is again unclear.⁸ In the following section, Rezac’s (2011) syntactic account for how the PCC repairs come about and why the PCC and its repairs are in complementary distribution as shown in (11) is discussed. He devises a global mechanism that uses a PLC violation (or a crash at the interface) as a trigger for the “repair” construction.

2.5 The Interface Algorithm \mathfrak{R} (Rezac 2011)

If the PCC (or double-clitic) construction and its “repair” construction do not have the same underlying structure, then we have to posit some trans-derivational dependency between them in order to account for the gap-filling nature of the “repair.” Rezac (2011) proposes an algorithm, called the Interface Algorithm \mathfrak{R} , defined as follows:

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

⁷Bonet (1994) states that the Catalan counterpart of the French *à*-phrase repair is less optimal than the locative repair because the former violates the higher ranked constraint (i.e., APS). Whether the *a*-phrase repair is in fact available in Catalan is not clear; however, at least in French, the locative repair seems to be more marginal than the *à*-phrase repair.

⁸As will be clear in Section 2.5.4, Bonet’s (1994) analysis runs into trouble once the weak PCC is in the picture as the weak PCC and its repair overlap in availability. In a system that ranks candidates, it is difficult to account for the simultaneous availability of two alternative forms.

- (17) a. Jacques_i lui_{k/*i} achète des billets.
 Jacques him.DAT buys tickets
 ‘Jacques is buying tickets for him.’
 b. Jacques_i achète des billets à LUI_{i/k}.
 Jacques buys tickets to him
 ‘Jacques_i is buying tickets for him_k/himself_i.’

(Rezac 2011:117(41))

The dative clitic expressing the beneficiary in (17a) refers to an entity in the context but is not anaphoric to the subject. The focused pronoun in the *à*-phrase in (17) can refer to the subject *Jacques* or some other person in the context. This flexibility in binding is also observed in *à*-phrases in a PCC repair sentence as shown in (18).

- (18) Jacques_i nous a assigné à lui_i dès l’ aeroport.
 Jacques us.ACC has assigned to him as.soon.as the airport
 ‘Jacques_i assigned us to himself_i as soon as (we arrived) at the airport.’

(Rezac 2011:118(44))

As you can see in (18), the PCC repair sentence allows the dative argument in the *à*-phrase to refer to the subject,¹⁰ suggesting that the prepositional dative created by the PCC behaves similarly to *à*-phrases with an emphatic strong pronoun and differently from dative clitics.

Finally, right dislocation is only compatible with dative clitics but not with prepositional datives, created either by focus or the PCC, as illustrated in (19).

- (19) a. Roger leur parle par skype, à ses amis.
 Roger them.DAT speaks by skype to his friends
 ‘Roger is speaking to them by Skype, his friends.’
 b. *Roger parle à EUX par skype, à ses amis.
 Roger speaks to them by skype to his friends
 (Intended) ‘Roger is speaking to THEM by Skype, his friends.’

(Rezac 2011:120(48a))

- c. Roger m’ a présenté à eux *, à ses amis.
 Roger me.ACC has introduced to them to his friends
 ‘Roger introduced me to them, his friends.’

(Couquaux 1977:218 fn.18; cited in Rezac 2011:120(48c))

¹⁰Rezac (2011) rules out the possibility of this binding pattern deriving from the presence/absence of covert clitic doubling (either regular or reflexive) (p.118-9).

The dative clitic *leur* in (19a) allows the presence of the right-dislocated associate constituent; however, the strong pronouns, either focused (19b) or required by the PCC (19c), do not permit an associated right-dislocated element. The above data all show that dative clitics and prepositional datives are syntactically distinct.

Rezac (2011) takes these distinctive properties of dative clitics and prepositional datives to be reflective of a structural difference—that is, dative clitics are defective PPs, and prepositional datives are full PPs. Dative clitics are defective in that the argument inside is visible to the external probe and, therefore, may act as an intervener while prepositional datives are full PPs, which constitute phases, and the argument inside is not visible to an external probe. This phasal status of prepositional datives may also explain the binding pattern of the strong pronoun.¹¹ We can consider strong pronouns in (17b) and (18) to be faithful to Condition B of the Binding Principle just as the dative clitic in (17a) is; however, the *à*-phrase being a phase, the binding condition is readily satisfied because the PP will be the binding domain for the strong pronouns. We find the same pattern with English pronouns within certain PPs as demonstrated by (20).

- (20) a. John_i took an umbrella with him_i/*himself_i.
 b. Jodi_i picked up the wine glass in front of her_{i/j}/*herself_i.
 (cf. Reinhart and Reuland 1993:(7)/(8))

The pronouns *him/her*, usually governed by Condition B, in a prepositional phrase are rather unexpectedly anaphoric to the subject of the mono-clausal sentence. Even the reflexive counterparts *himself/herself*, if non-contrastive, are ruled out in (20). This suggests that there is a structural reason why these English pronouns can be bound within a clause—that is, the hosting PPs constitute a binding domain. Pronouns in French—whether weak or strong—may also be governed by Condition B, but we can attribute the difference in binding pattern to the syntactic environment that the pronouns are in.

Another difference between the two types of PPs that Rezac (2011) discusses has to do with phonological licensing. Defective PPs do not phonologically license a pronominal argument (Σ -*licensing* in terms of Cardinaletti and Starke 1999); as such, cliticization is required for dative clitics. On the other hand, *à*-phrases, being full PPs, can phonologically license pronominal arguments, so cliticization is not required and the argument inside is realized as a strong pronoun. Cliticization or clitic movement in conjunction

¹¹van Riemsdijk (1978) and Abels (2012) also argue for a phasal status of PPs. Canac-Marquis (2005), Heinat (2006), Hicks (2009), Lee-Schoenfeld (2008), Safir (2014), and Despić (2015) among others analyze phases to be the binding domain for reflexives and pronominals.

with the phasal status of pronominal \dot{a} -phrases explains why floating quantifiers are licensed with clitics while they are not with prepositional datives. Assuming the stranding analysis of floating quantifiers (Sportiche 1988; Bošković 2004 i.a.) where the nominal associated with a quantifier is generated within a constituent with the quantifier and only the nominal moves out of the constituent leaving the quantifier stranded, dative clitics are generated with a quantifier in their argument position and on the way to its surface position, the quantifier is left stranded in an intermediate landing site as in (16a). However, the pronouns in an \dot{a} -phrase in (16b,c) are Σ -licensed and do not require cliticization (which may also be prohibited due to the PP being a phase).

(21) Two types of prepositional phrases (Rezac 2011)

| | | Dative clitics | \dot{a} + PRON/pron |
|---------------------------|---------------------|----------------|-----------------------|
| SYNTACTIC PROPERTIES | Category | defective PPs | full PPs |
| | Phase | no | yes |
| | Σ -licensing | no | yes |
| | Cliticization | yes | no |
| DESCRIPTIVE PROPERTIES | QF licensing | yes | no |
| | Anaphoric | no | yes |
| | Right dislocation | yes | no |

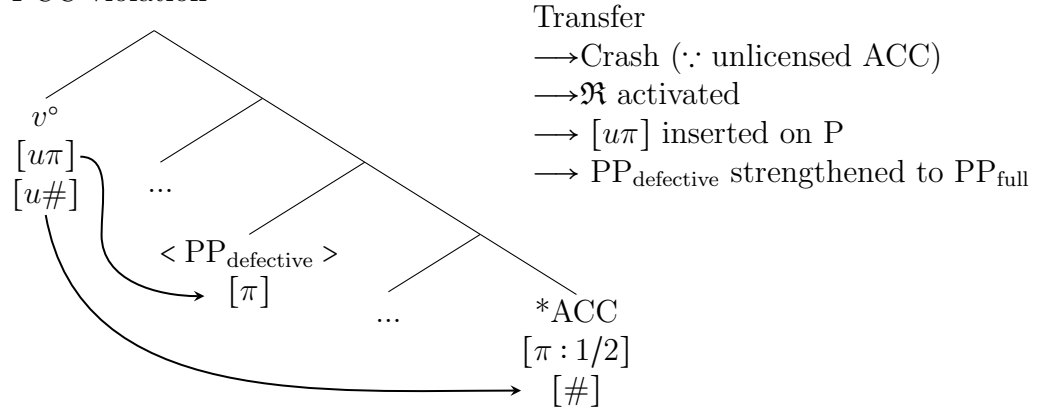
Since the pronouns are not moving out of the phrase, we would not expect the quantifier modifying those pronouns to appear outside the \dot{a} -phrase. The properties of the two types of PPs are summarized in (21). The following section explains how this classification of PPs plays a role in Rezac’s (2011) analysis of the PCC repair.

2.5.2 Global mechanism to derive PCC “repairs” in French

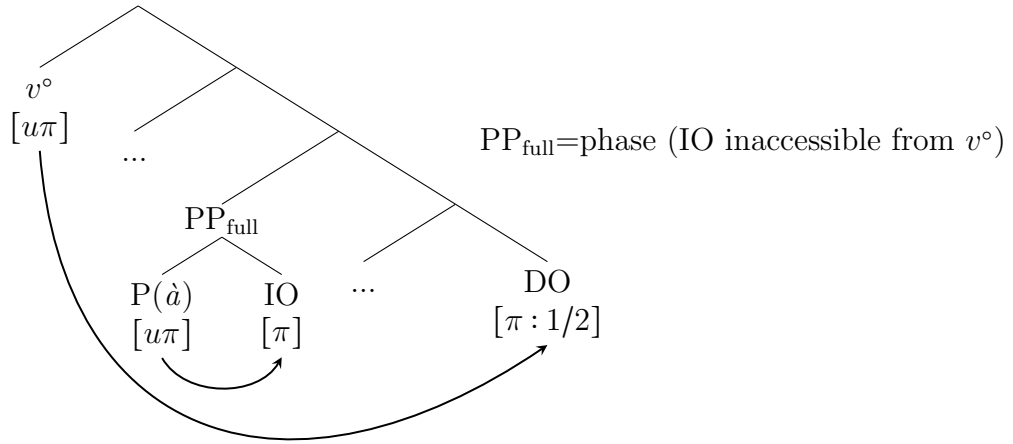
Rezac’s (2011) proposal is that the interface algorithm \mathfrak{R} is activated in response to an illicit argument combination. The interface algorithm \mathfrak{R} inserts an uninterpretable person feature, which makes the PCC “repairs” available. Given a PLC violation as discussed in Section 2.2, the Interface algorithm \mathfrak{R} is activated, which inserts an uninterpretable person feature on the preposition of the defective PP (22a).¹² The additional uninterpretable person feature strengthens the dative clitic to a full PP.

¹²Rezac (2011) suggests that the dative PP originates in a position that is lower than the DO and moves to the intervening position as shown in (22a). In his analysis, the PCC-inducing configuration in (22a) is derived from a prepositional dative construction, and therefore, the PCC sentences and the repair sentences have the same base structure.

(22) a. PCC violation



b. PCC “repair”



This newly inserted probe licenses the IO within the PP. The person probe on the little v can now license the lower argument (DO) because the higher argument, being in a full PP, is no longer an intervener for the probe (22b). As is clear, this analysis explains the complementarity between the PCC and its “repair” as the repair arises as a 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.

2.5.3 Systemic problems with the Interface Algorithm \mathfrak{R}

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

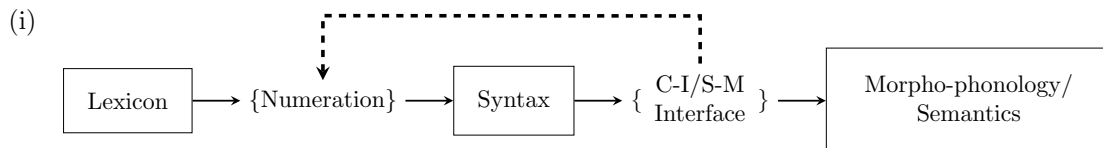
Interface Algorithm \mathfrak{R} is not available for other types of ungrammaticality (e.g., **They showed her_{ACC} (*for) seven to be a prime.*—‘hard’ ungrammaticality; Rezac 2011:19(34)-(37)). In fact, we expect all the ungrammaticality that is caused by an unsatisfied feature to be reparable, which is clearly not the case.¹³ 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 uninterpretable person feature was inserted on the preposition of the dative argument. However, the dative argument had no problem being licensed in the original derivation (22a). The Interface Algorithm \mathfrak{R} could potentially have repaired the accusative argument, which was the source of PLC violation, instead.¹⁴ At least in French, the option of repairing the accusative clitic is not available, and the reason is not clear.

2.5.4 The weak PCC: An empirical challenge for \mathfrak{R}

Rezac's (2011) proposal also faces an empirical challenge. There are languages that allow 1/2.DAT > 2/1.ACC combinations while still banning the 3.DAT > 1.ACC combination (referred to as the 'weak' PCC, as opposed to the 'strong' version that we have already seen in Section 2.1; cf. Heger 1966; Ashby 1977; Simpson and Withgott 1986; Schwegler 1990; Laenzlinger 1993; Nicol 2005). Some varieties of French have the weak PCC pattern as shown in (23).

- (23) French (Weak PCC varieties)
- a. Elle me t' a présenté. (2SG > 1SG)
she me.ACC you.DAT have introduced
'She introduced me to you'

¹³This point raises an architectural question of whether the C-I/S-M interface can manipulate the numeration across a module (i.e., syntax) as illustrated in (i).



The global mechanism that involves trans-derivational dependency requires an evaluative point such as the interface in the grammar. Even if the interface were so powerful as to activate an algorithm like the Interface Algorithm \mathfrak{R} , there remains a question of whether we can fix a ship (\approx derivation) that has already sunk (\approx crash). The syntactic system proposed in Chapter 3 (applied to the PCC in Chapter 4) does not require this derivational backtracking in order to account for the “repairs.”

¹⁴The accusative argument can appear as a strong pronoun post-verbally; however, in this type of repair, there is contrastive focus or emphasis on the argument, which does not constitute a legitimate alternative 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.

- b. Elle te m' a présenté. (1SG > 2SG)
 she you.ACC me.DAT have introduced
 'She introduced you to me.'
- c. *Elle me lui a présenté. (*3SG > 1SG)
 she me.ACC him.DAT have introduced
 (Intended) 'She introduced me to him.'

(Rezac 2011:150)

The weak PCC pattern is problematic for the Interface Algorithm \mathfrak{R} as repairs are available for 1/2.DAT > 2/1.ACC clitic combinations as shown in (24) even though these are licit clitic combinations in these varieties.

(24) French (Weak PCC varieties)

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

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

The notion of “repair” is absent here as the double-clitic construction is available for these person combinations; the constructions in (24) with the IO in a prepositional phrase are simply alternatives. On the surface at least, the PLC violation that is responsible for giving rise to the “repair” construction is missing. Therefore, the Interface Algorithm \mathfrak{R} cannot explain why we have such an overlap between the PCC and its “repair,” which is highlighted with a box in the table in (25).¹⁵

¹⁵The key to Rezac’s (2011) account in explaining the complementarity in the Strong PCC is that the repair construction, which would typically be referred to as a prepositional dative construction, is derivationally dependent on the PCC-inducing construction with two clitics. The prepositional dative construction is not independently available in his analysis. Therefore, the overlap in availability between the two constructions in the Weak PCC shown in (23) is indeed problematic. English has been reported as a PCC language (Bonet 1991:177), and if it is in fact a PCC language, English would also be problematic for Rezac’s (2011) analysis because the prepositional dative construction is available and unrestricted in English. There is no further discussion of English in this thesis, but I discuss French ditransitive sentences with at least one full DP internal argument, which are all grammatical, and how they obviate the PCC in the proposed system in Section 4.5. In addition, I explain how the proposed system allows languages without PCC effects to obviate the PCC entirely in Section 5.6.

(25) The weak PCC and its “repair”

| DAT | ACC | DOUBLE CLITIC | “REPAIR”/ALTERNATIVE |
|-----|-----|---------------|----------------------|
| 1 | 3 | ✓ | * |
| 2 | 3 | ✓ | * |
| 3 | 3 | ✓ | * |
| 1 | 2 | ✓ (23b) | ✓ (2 V à 1) (24b) |
| 2 | 1 | ✓ (23a) | ✓ (1 V à 2) (24a) |
| 3 | 1 | * | ✓ (1 V à 3) |
| 3 | 2 | * | ✓ (2 V à 3) |

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. Rezac (2011) further suggests that 1/2.DAT > 2/1.ACC clitic combinations are available since the dative argument in these constructions is something like a non-argumental ‘ethical dative.’ An example of 1P ethical dative is shown in (26).

- (26) Elle (me) lui a mis un bébé dans les bras.
 she 1SG 3SG.DAT has put a baby in the arms.
 ≠‘She has put a child in my arms for him.’ [possessive + DAT]
 ≠‘She has put a child in his arms for me’ [benefactive + DAT]
 =‘She has put a child in his arms.’ [ethical dative + DAT]
 (Jouitteau and Rezac 2008:(10))

As Jouitteau and Rezac (2008) explains, ethical datives are optional, are not arguments, and do not contribute any truth-conditional meaning to the sentence. They identify the speaker or the addressee as a “witness or vaguely affected party” (Jouitteau and Rezac 2008:Sec.1). Rezac’s (2011) claim is that in weak PCC languages, the sentences with the 1/2.DAT > 2/1.ACC clitic combinations in (23) have a completely different configuration and escape the PCC because the dative argument is not argumental and thus not in the agreement domain of the probe at v and that this non-argumental dative receives an idiomatic interpretation as an argument at the LF. However, if the 1/2.DAT > 2/1.ACC 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 (cf. Jouitteau and Rezac 2008), should allow these clitic combinations, which is contrary to fact. Furthermore, if something that is not argumental can be interpreted as an argument, then we would expect the *me lui* combination (3DAT > 1ACC), which is ruled out by the PCC, should be available as there is no morphological case distinction for 1P and 2P clitics and the 1P clitic could well be a non-argumental dative which is idiomatically interpreted as the DO of the sentence. This again is not the case in French.

To summarize, the PCC has attracted a lot of attention from linguists for its unexpected ineffability and cross-linguistic prevalence. As is presented in this chapter, one of the accounts attributes the ungrammaticality to the impossibility of licensing the lower argument with a local person feature. This analysis is further extended to account for the limited availability of alternative constructions referred to as “repairs.” The apparent complementarity between the (strong) PCC and its “repair” is explained by the global mechanism based on the Interface Algorithm \mathfrak{R} , which is only activated given a PLC violation in order to rescue the derivation. This analysis seems promising with the most basic PCC pattern in the picture; however, as I have shown, it falls short of explaining the weak PCC pattern. In the following chapter, I propose a syntactic model that does not assume the interface to be a point of well-formedness evaluation. Since the interface is no longer considered to evaluate derivations for their well-formedness, establishing trans-derivational dependencies is impossible in this model. In essence, the proposed account treats the double-clitic construction and the prepositional counterpart separately, still explaining the apparent complementarity between the two in the strong PCC.

3

Incremental Valuation through Merge: *Crash-less Grammar*

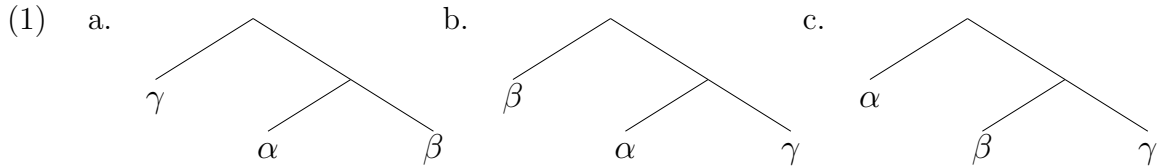
The previous chapter established that the PCC is a widely observed linguistic phenomenon, showing example sentences from different languages, and discussed some of the previous accounts of the pattern. This chapter presents the syntactic machinery I use to account for the PCC patterns. Since the proposed syntactic mechanism has implications outside the empirical and theoretical domain pertaining to the PCC, it requires some discussion before moving on to my analysis in the next chapter. The proposed syntactic mechanism is composed of three parts: a featurally constrained version of Merge, articulated person features, and a structure-building system that follows from the previous two, which I call *Incremental Valuation*. I first discuss these components in turn and demonstrate how this proposed mechanism is in line with the crash-less model of grammar. Finally, I address some of the concerns regarding this seemingly highly restrictive syntactic system.

3.1 Feature valuation as the driving force for structure building

3.1.1 Constrained Merge

In the Minimalist Program (Chomsky 1993, 1995), Merge is introduced as a binary operation that brings together two elements to form one constituent. Merge is recursive in the sense that the constituent (or the syntactic object) created by Merge can serve as an element in another instance of Merge. There has been a debate as to whether Merge is free (Merge α) or constrained in some way (see Chomsky 2000, Collins 2002, Di

Sciullo and Isac 2008). Advocates of the Merge- α view would allow syntactic elements to Merge in any order. What constrains the grammar is the filtering operation at the interface, which ensures that only well-formed structures are sent to the external systems. This approach entails that the number of possible structures from three syntactic elements (α , β , and γ) would be three as shown in (1).



However, as the number of elements becomes greater, the number of possible structures rapidly increases—that is, for n elements, there are $\frac{n!}{2}$ possible structures just to count structures where the Merge operation is always between a head and a phrase except for the initial Merge. This is, of course, an oversimplification of the state of affairs as there are conditions that apply within syntax such as Minimal Link Condition (Chomsky 1995) and Phase Impenetrability Condition (Chomsky 2000). Even with such conditions, there would be a significant number of potential structures for the interface to filter out. If we are to eliminate the conditions at the interface, as we are aiming to in this thesis, we need to further constrain the syntax.

Wurmbrand (2014) abandons the traditional view of Merge and proposes a way to constrain the Merge operation:

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

This means that the two elements participating in a Merge operation must be featurally asymmetrical: one bears a valued feature ($[F:val]$) and the other bears an unvalued feature of the same type ($[F:_]$). The idea of selectional features triggering Merge has long been around (Chomsky 1965; Cowper 1992; Haegeman and Guéron 1999; Adger 2003, 2010). In this line of thinking, (c-)selection (or subcategorization) is considered to be a sufficient condition for Merge. Adger (2003), for example, develops the definition of Merge in (3).

- (3) Adger’s (2003) definition of Merge (p. 71)
- i. Merge applies to two syntactic objects to form a new syntactic object.
 - ii. The new syntactic object is said to contain the original syntactic objects, which are sisters but which are not linearized.
 - iii. Merge only applies to the root nodes of syntactic objects.

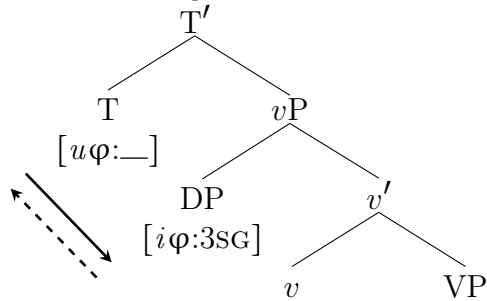
- iv. Merge allows the checking of an uninterpretable c-selectional feature on a head, since it creates a sisterhood syntactic relation.

As is stated in (3iv), Merge allows but does not require an uninterpretable c-selectional feature (e.g., [uN] on V to be checked by its direct object noun phrase) to be checked. Wurmbrand's (2014) proposal turns selection into a necessary condition for a Merge operation to take place. For Wurmbrand (2014), selection takes the form of feature valuation instead of feature checking, and it is a requirement for Merge. If two syntactic objects do not bear appropriate features, it is impossible to combine them through Merge. I adopt this constrained version of Merge for this thesis, but there are additional components to the proposed version of Merge.

3.1.2 The direction of feature valuation

The direction of feature valuation is generally discussed as a vertical relation between syntactic objects. There is indeed a debate in the literature regarding whether feature valuation is upward or downward. In the traditional Agree system, a probe with an unvalued feature searches downward to find a goal with a valued counterpart of the same feature (Chomsky 2000, 2001). In this system, the value originates in the goal that is c-commanded by the probe, and this value is passed on to the probe; therefore, it is a case of upward valuation (or Downward Agree). The prototypical example of this is φ -agreement between T/Infl and the subject noun phrase. The finite T bears an unvalued φ -feature ($[u\varphi: _]$) and searches downward to find the closest noun phrase with a valued φ -feature (e.g., $[i\varphi: 3SG]$). In a transitive sentence, the agent argument in Spec, vP serves as the goal as illustrated in (4). The solid arrow (\longrightarrow) indicates the direction of Agree and the dashed arrow ($--\rightarrow$) indicates the direction of valuation.

- (4) Downward Agree between T and DP



Zeijlstra (2012) proposes a revised version of Agree called Upward Agree where a probe with an unvalued feature probes upward to find a goal that has a matching valued

feature (see also Baker 2008; Wurmbrand 2014; Bjorkman 2011; Bjorkman and Zeijlstra 2014 among others). Since the value is transmitted to the structurally lower probe, this is a case of downward valuation. Upward Agree has been used to account for the Multiple Agree cases in Japanese (Hiraiwa 2001, 2005). The account of Case facts discussed below presupposes the Case Filter, one of the interface conditions that the non-generation approach to ungrammaticality hopes to eliminate; but the following example is used here to demonstrate downward valuation (see, for example, Levin 2015, Levin and Preminger 2015, and references therein for accounts of case without licensing by Agree).

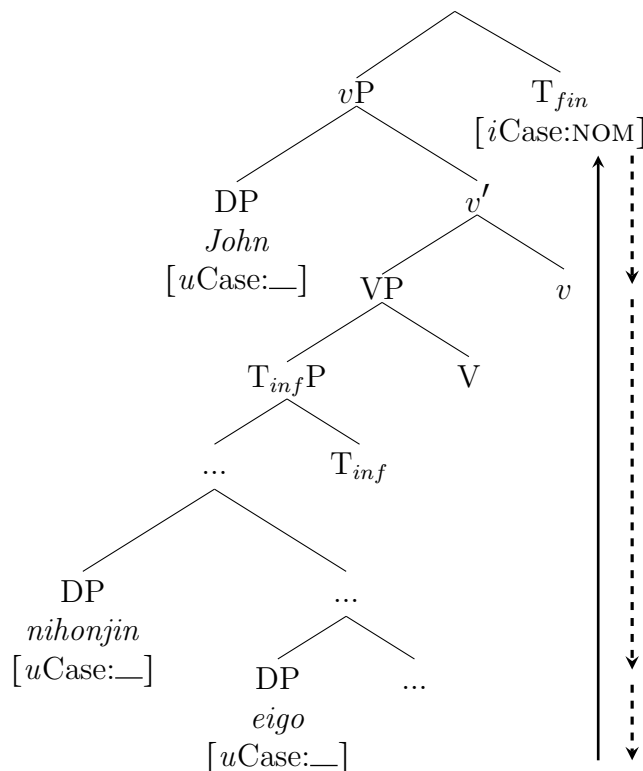
(5) *Japanese*

John-**ga** [yosouijouni nihonjin-**ga** eigo-**ga** hido-ku]
 John-NOM than-expected Japanese.people-NOM English-NOM bad-INF
 kanji-ta.
 think-PST

‘It seemed to John that Japanese people are worse at speaking than he had expected.’

(Hiraiwa 2001:(26))

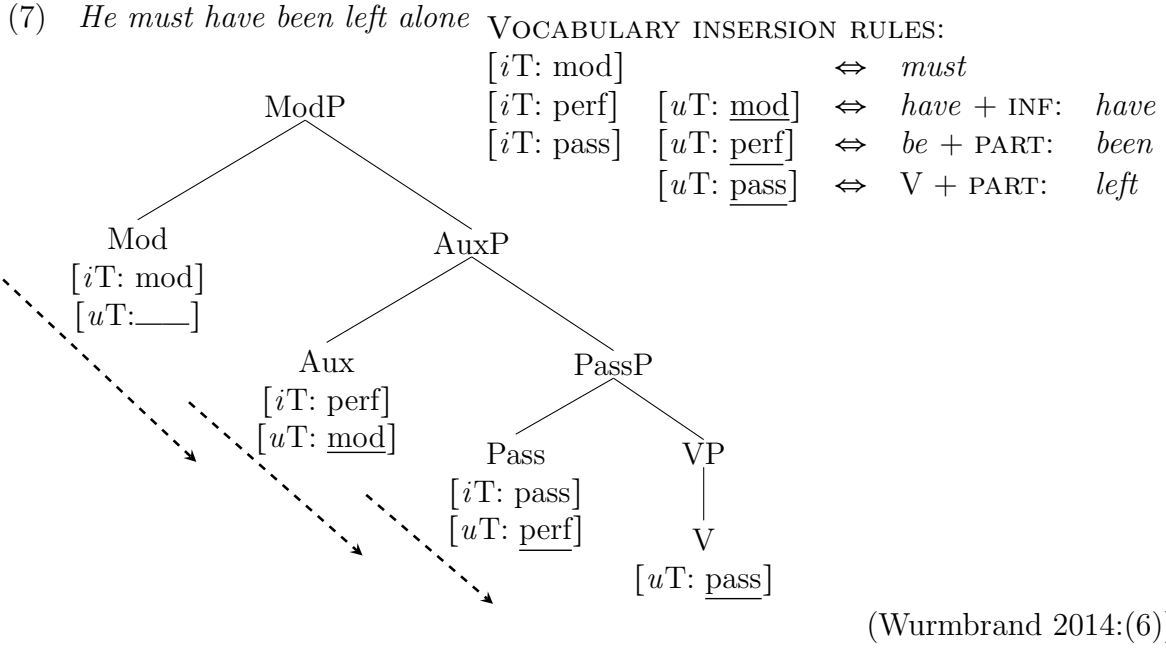
(6) Upward Agree between T and nominals



The sentence in (5) contains an embedded non-finite clause, and there are three instances of nominative case. Takezawa (1987) and Ura (2000) have argued that the non-finite T cannot check nominative Case in Japanese. This means that the matrix finite T is the only item that can check nominative Case in (5). If we employ Upward Agree, the multiple realizations of nominative Case can straightforwardly be explained. Zeijlstra (2012) uses T-features, but here I represent Case assignment as Case-feature valuation for simplicity. As shown in (6), the finite T bears a valued Case feature and the DPs in the sentence have unvalued Case features. These unvalued features probe upward and find the valued feature on T (i.e., Upward Agree). The NOM value is then passed down to the nominals (i.e., downward valuation).¹

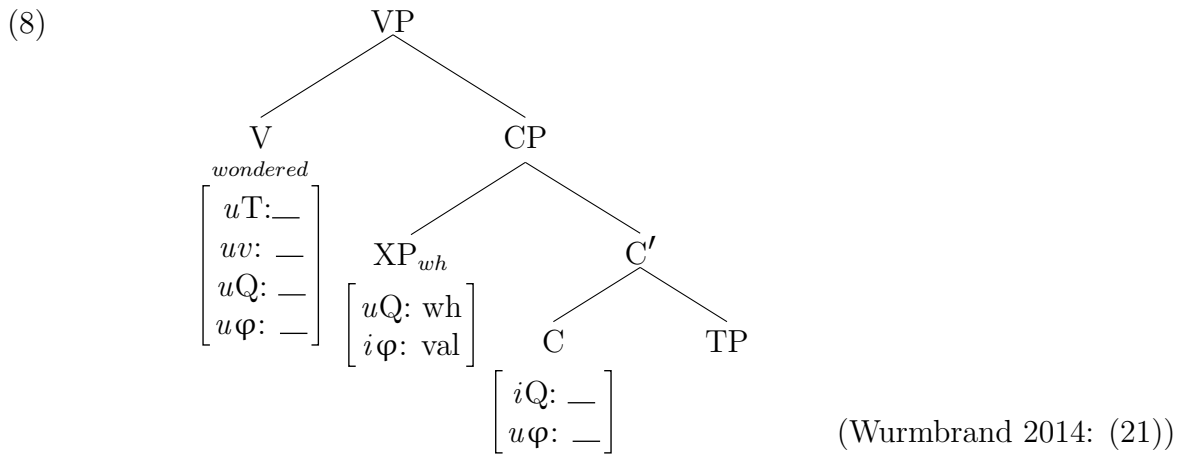
Wurmbrand’s (2014) system also falls within this Upward Agree model (she calls it *Reverse Agree* instead). To give an example, she provides the structure along with the vocabulary insertion rules in (7) for an English perfect passive sentence with a modal. The functional elements Pass[ive], Aux[iliary], and Mod[al] each have a valued T-feature and an unvalued T-feature. When Pass, which is inherently valued as [*i*T: pass], and VP merge, the value is passed down to the verb, to be realized as the past participle morpheme (-ed/-en or the suppletive form of the verb). The result of this merge operation (i.e., PassP and Aux), which is inherently valued as [*i*T: perf], merge to give the value to Pass, to be realized as the past participle morpheme on *be*. AuxP, in turn, combines with Mod, which is inherently valued as [*i*T: mod], and supplies Aux with the same value, which receives the morphological form of infinitive. As is clear in (7), all the values are passed down to a structurally lower element (that is, *mod* from Mod to Aux, *perf* from Aux to Pass, and *pass* from Pass to V). Since valuation is represented as transmission of values between heads in (7), it gives the appearance that valuation is downward.

¹Although I believe we need this type of trickling down of values (that is, long-distance downward valuation), the valuation system proposed in this thesis is strictly local. Note that here I am only concerned with features that drive structure building. Case is standardly considered necessary for nominals to be licensed. This means that it is not a motivation for extending the spine of the structure. One could adopt a view that Case is a requirement that functional elements assign Case (i.e., *Inverse Case Filter* Bošković 2002a; Epstein and Seely 2006), but this interface condition is difficult to featurally implement as it is a requirement that a given Case be discharged. If we take this discharge to be valuation, functional elements need to have valued Case-features (e.g., [*i*Case:NOM]). Since valuers do not change in the process of feature valuation, the interface cannot evaluate whether or not the value has been discharged. We will then need something like the dissociation of feature interpretability and valuedness proposed by Pesetsky and Torrego (2007). The system proposed here, as will be clear, is purely valuation-based; therefore, a need for nominals might be better represented with φ -features.



However, Wurmbrand (2014) assumes that the features of the head are carried up to the top projection of the head, so feature valuation is in fact a relation between sisters (e.g., Aux and PassP).

The fact that this horizontal relation (i.e., valuation between sisters) underlies the vertical relation (i.e., upward or downward valuation) is evident in that Wurmbrand's (2014) valuation system is not entirely downward. Although most of the cases she considers involve valuation that is downward, there is one instance of valuation that appears to be upward. Such a case is when the verb *wonder* takes an interrogative CP complement (e.g., *Dan wondered what all the commotion was about*) as shown in (8).



A *wh*-phrase, with a Q-feature valued as ‘wh’ [$uQ: wh$] and a valued φ -feature [$i\varphi: val$], is moved to the specifier position of CP to value the unvalued features of the same type on C ([$iQ: ___, u\varphi: ___$]). The verb *wonder* and the CP merge, and the verb has its Q-feature and φ -feature ([$uQ: ___, u\varphi: ___$]) valued by CP, whose features are carried up from the head C. Since the values originate in XP, which is c-commanded by V, this is a case of upward valuation. However, as I explained, the valuation process is always between sisters (i.e., XP and C’; V and CP). Therefore, valuation, whether upward or downward, takes place under sisterhood. Since features on a projecting element are assumed to be carried up to the top projection or the root, values are always passed on to a sister, and the vertical direction of valuation is simply a reflection of where the value lies originally, that is, in the selector (= *wonder* in the above example) or in the selectee (=CP). I adopt this feature projection system of Wurmbrand’s (2014) and assume that features of the head are carried up to the highest projection of that head, and at the time of Merge, values are transmitted between sisters.

3.1.3 Selectors with an unvalued feature always project

Wurmbrand’s (2014) system does not make clear which of the two merging syntactic objects will project. In other words, in her system, either the valuer (e.g., Pass and Aux in (7)) or the valuee (e.g., V in (8)) can project. If we are to claim that the syntactic structure is systematically built, as this thesis aims to, we should be able to predict which of the two syntactic objects participating in a Merge operation will project from the features of the two objects. In Labeling Theory (Chomsky 2008, 2013, 2015), if a head (H) and a phrase (XP) merge, the syntactic object created by this Merge operation receives the label of H. This seems like a principled way to determine the label. However, if we adopt a strict view of structure building where the historical information of a derivation (i.e., previous instances of Merge) is inaccessible, it is difficult to featurally distinguish heads from phrases or determine whether or not a syntactic object is a minimal projection. Rather than relying on such notions as heads and phrases, I go back to the idea of subcategorization (Chomsky 1965) or (c-)selection (Pesetsky 1982). Specifically, Adger (2003) formalizes the selectional properties of certain lexical items using uninterpretable categorial features (see also Svenonius 1994). He proposes the property of Merge in (9).²

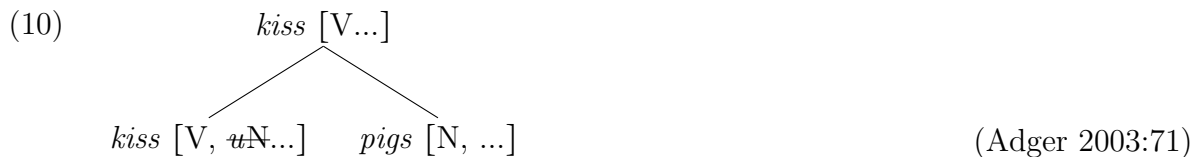
²Adger’s (2003) definition of ‘head’ also causes circularity as the notion of selection is part of it.

- (i) **Definition of Head:** The head is the syntactic object which selects in any Merge operation
(Adger 2003:71)

Therefore, the notion of head is not useful in defining the projectional pattern of syntactic objects.

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

He provides the example in (10) to illustrate the relation between selection and projection. The verb *kiss* has an interpretable V-feature as well as an uninterpretable N-feature; the latter feature must be checked by an interpretable N-feature in order to be deleted. The noun *pigs* is specified with an interpretable N-feature. In (10), the verb with the c-selectional categorial feature (*uN*) selects the noun, which has a feature that can check the selectional feature. These two syntactic objects merge, and the uninterpretable N-feature of the verb can successfully be checked. The result of this Merge operation is the selecting verb projecting with its remaining features.



Since the verb projects, the constituent created by this Merge operation (i.e., *kiss pigs*) behaves like a verb, and it occurs where one would expect a verb/verb phrase to be and not in argument positions. If we update the representation in (10) with a valuation-based system,³ it looks as in (11). Here, I use the plus sign + as the value for the categorial features (N- and V- features).



The representation in (11) is only for illustrative purposes,⁴ but it makes it clear that the syntactic object that is receiving a value projects in this representation. This allows us to define selection in terms of features without involving the notion of head as in (12).

³I assume the direct mapping between interpretability and valuedness as suggested by Chomsky (2000, 2001). If a feature is uninterpretable, it is unvalued. If it is interpretable, then it is valued.

⁴I believe categorial features of the form in (11) are not the right representation. The apparent c(ategory)-selectional properties of lexical items should be modelled using other features such as φ -features. A brief discussion of c-selection and s-selection is in the concluding chapter.

(12) ***Valuation-based Selection***

The syntactic object that receives a value in a Merge operation selects the other syntactic object and projects its own features

Simply put, the valuee selects the valuer in a Merge operation and the valuee projects.⁵ Since this definition of selection dispenses with the notion of projectional levels (i.e., head vs. phrase), it does not run into problems in Labeling Theory where the constituent created by Merge cannot be labelled for two uniting phrases or two uniting heads (see Chomsky 2008, 2013; Rizzi 2015; Chomsky 2015 for various solutions for this). Selection as defined in (12) is what I adopt for the proposed Merge operation, which is detailed in the following section.

3.1.4 Val-Merge: feature valuation as the trigger of Merge

The previous sections discussed three properties of Merge: featural constraints on Merge, root-to-root feature valuation, and selection/projection. The proposed version of Merge, which I will call Val(uation)-Merge, incorporates these properties.⁶ The properties of Val-Merge are formulated in (13). In order for a Merge operation to take place, the two uniting syntactic objects need to each have an appropriate triggering feature (13i). These two triggering features are of the same type and are of the opposite valuedness—one valued and the other unvalued (13ii).

(13) ***Val(uation)-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

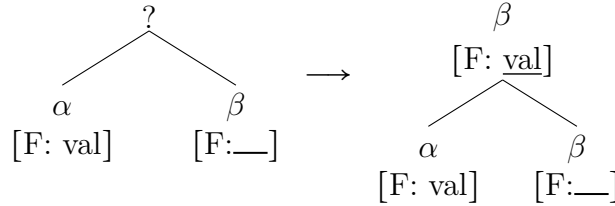
These features must be visible at the root (or the top node) of the two syntactic objects (13iii). For example, if a feature is part of the selectee of a previous Merge operation and

⁵Di Sciullo and Isac (2008) propose that Merge brings together two elements whose features are in a proper inclusion relation. Their implicit assumption is that the element with a larger set of features would project. The system proposed in this thesis uses only two features for the purposes of building the structure and assumes that the direction of valuation determines which of the two elements will project. Other features that are necessary for lexical insertion or interpretation are omitted.

⁶Val-Merge is very similar to the idea of *Sel-Merge* (Adger 2010), but they are different in that Val-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; however, as will be clear in Section 3.4, this type of Merge is unnecessary in the proposed system.

was not projected, then this feature will not be able trigger another Merge operation. The syntactic object whose triggering feature is unvalued projects with the valued counterpart of the triggering feature as well as the remainder of its features (13iv). These properties are schematically illustrated in (14).

(14) **Val-Merge** (α , β)



For the purposes of this thesis, I assume that only one type of feature can trigger a particular instance of Merge. However, there could be a situation where α and β have appropriate features to value each other, meaning that the valuation is bi-directional (see Donati 2006; Donati and Cecchetto 2011 for an analysis of relativization restructures where an internally-merged head creates a labeling conflict). I tentatively suggest that in such a case, both elements project and the ambiguity is resolved in the interpretive component.⁷ The following section discusses another component to the proposed feature system.

⁷It should also be noted that the Merge operation in (13) does not apply to adjuncts unless one adopts a view that adjuncts are introduced by a functional category, which is selectional and part of the spine of the structure (*Direct Modification Adjectives* Cinque 2010). There need to be some other conditions that apply to adjuncts if we consider adjuncts to be non-selectional, since the structural position where they are allowed is restricted (e.g., adjectives cannot modify a verb; modal adverbs cannot be within the event structure, etc). For adjuncts, Di Sciullo and Isac's (2008) system with the proper subset condition might work best. Adjuncts do not come into the derivation to value any features, but they need to have a proper subset of the features of their Merge partner. This leaves open a possibility of an adjunct being unvalued for certain features (e.g., gender and number) if its Merging partner is also unvalued for the same feature. The relevant cases are when an adjective modifies a nominal predicate whose gender and number are determined by the subject.

- (i) a. L-a-s pregunt-a-s son un-a-s pregunt-a-s complicad-a-s.
 DEF-F-PL question-F-PL be.PL INDEF-F-PL question-F-PL complicated-F-PL
 'The questions are complicated questions.'
- b. L-a pregunt-a es un-a pregunt-a complicad-a.
 DEF-F question-F be.SG INDEF-F question-F-PL complicated-F
 'The question is a complicated question.'
- (*Spanish*; Béjar et al. 2019:(35))

The number of the adjective *complicado* co-varies with the subject of the sentence in (i). At the time of entering the derivation, the nominal predicate *pregunta* (the one immediately preceding *complicada*) is also undetermined for number. The adjective and the noun can Merge because they both have unvalued number features (and other phi-features that may be valued already).

3.2 Articulated person features (Béjar 2003)

Another component to the proposed syntactic mechanism is articulated person features. Building on the φ -feature system developed by Harley and Ritter (2002a), Béjar (2003) as well as Béjar and Rezac (2009) take morphological φ -features to be visible to Agree. Béjar (2003) proposes the following person specifications.

(15) Person Specifications (Béjar 2003; cf. Harley and Ritter 2002a)⁸

| a. 3 rd Person | b. 2 nd Person | c. 1 st Person | d. Person probe |
|---------------------------|---------------------------|---------------------------|-----------------|
| DP | DP | DP | v |
| | | | |
| [π] | [π] | [π] | [$u\pi$] |
| | | | |
| | [Participant] | [Participant] | [uParticipant] |
| | | | |
| | [Addressee] | | |

In this system, the person features are “articulated,” meaning that they are composed of dependent features in an entailment relation—[Ad(dressee)], which entails [Part(icipant)], which in turn entails [π (person)]. The person probe in Béjar’s (2003) system consists of uninterpretable counterpart of [π] and [Participant] (15d). I adopt this idea that person features consist of dependent features as in (15), which are active in the syntax. However, the φ specifications I employ are different from (15) in two respects. One is that there is an additional feature [Sp(eaker)] for differentiating 1P from 2P. The other is that there is a featural animacy distinction in the 3P. Before I present the proposed φ feature specifications, some of the motivation for the feature [Part] is laid out in the following section. Subsequently, I discuss the features of local persons (1P/2P) as well as the featural animacy distinction.

3.2.1 Evidence for the [Participant] feature

There is ample evidence to support the features in (15) and their entailment relations. The opposition between 1P/2P and 3P has been noted by many linguists (Bloomfield 1933; Forchheimer 1953; Benvéniste 1966/1971; Harley and Ritter 2002a). The morphological evidence for positing the [Part] feature to group 1P and 2P can readily be found in familiar languages. English 1P plural genitive pronoun *our* and 2P genitive pronoun

⁸Béjar and Rezac (2009) use the shorthand [3] for [π], [1] for [Participant], and [2] for [Addressee] for languages like Nishnaabemwin. Depending on the language, 1P is more highly specified than 2P. The shorthand Béjar and Rezac (2009) use for this is DP-[3]-[2]-[1] (or DP-[π]-[Part]-[Speaker]).

your share most of their form although they differ phonetically. If we look at Early Modern English, the similarity between 1P and 2P is quite clear.

(16) Early Modern English pronouns

| Person | | Nominative | Accusative | Genitive | Possessive |
|----------|----|-----------------|-------------|--------------|---------------|
| Singular | 1P | I | <u>me</u> | <u>my</u> | <u>mine</u> |
| | 2P | thou | <u>thee</u> | <u>thy</u> | <u>thine</u> |
| | 3P | he/she/it | him/her/it | his/her/his | his/hers/his |
| Plural | 1P | <u>we</u> | us | <u>our</u> | <u>ours</u> |
| | 2P | <u>ye</u> , you | you | <u>your</u> | <u>yours</u> |
| | 3P | they | them | <u>their</u> | <u>theirs</u> |

As you can see, the 1P pronouns and the 2P pronouns in Early Modern English share much of their forms whereas the 3P pronouns have very little in common with either 1P or 2P. The same pattern can be observed in other Indo-European languages.

(17) French pronouns

| Person | | Nominative | Accusative/Dative | Genitive | Possessive | Independent |
|----------|----|-------------|--------------------|--------------|-----------------|-------------|
| Singular | 1P | je | <u>me</u> | <u>mon</u> | le <u>mien</u> | <u>moi</u> |
| | 2P | tu | <u>te</u> | <u>ton</u> | le <u>tien</u> | <u>toi</u> |
| | 3P | il/elle | <u>le/la</u> / lui | <u>son</u> | le <u>sien</u> | lui/elle |
| Plural | 1P | <u>nous</u> | <u>nous</u> | <u>notre</u> | le <u>nôtre</u> | <u>nous</u> |
| | 2P | <u>vous</u> | <u>vous</u> | <u>votre</u> | le <u>vôtre</u> | <u>vous</u> |
| | 3P | ils/elles | les / leur | leur | le leur | eux/elles |

As is clear in (17), although all three persons look similar in the singular in French pronouns, the morphological shape of 1P and 2P pronouns in the plural is very much comparable while the 3P pronouns have distinctive forms. Noyer (1992:151-2) also presents 1P-2P syncretism (a single form referring to both 1P and 2P) in Winnebago pronouns, Navajo plural pronouns, and Lummi object agreement in order to show that [\pm participant] is an active morphological feature in these languages. Harbour (2016:Sec.3.4.4) additionally discusses participant syncretism in different paradigms including Bulgarian spatial deixis, Catalan object deixis, and Georgian directionals.

Semantically as well, 1P and 2P pronouns behave distinctly from 3P pronouns. 3P pronouns can serve as a bound variable; however, 1P and 2P pronouns can only be bound by the same person (i.e., *I brought lunch with me today, you brought lunch with you today*; see Déchaîne and Wiltschko 2002; Sudo 2012). An example of such contrast is in (18).

- (18) a. Exactly one student brought lunch with her today.
 b. #Exactly one student brought lunch with me today.
 c. #Exactly one student brought lunch with you today.

(Sudo 2012:(428))

The bound reading is available for (18a); however, neither the 1P pronoun nor the 2P pronoun can be bound by the quantified expression *exactly one student* (18b,c) even if it was the speaker or the addressee that brought lunch with them in the context. This again supports the feature [Part] to bundle 1P and 2P together although the option of using the binary counterpart of the feature (i.e., [\pm Participant]; Noyer 1992; Nevins 2007; Harbour 2016; Cowper and Hall 2017, among others) is not precluded.⁹

3.2.2 Contrast within the local persons: [Addressee] and [Speaker] features

With the presence or absence of the feature [Part], we can represent the morphological distinction between local persons (1P/2P) and 3P. In order to represent the morphological contrast between 1P and 2P, we need at least one more feature. In the original design of the feature composition by Harley and Ritter (2002a), which is adopted by Béjar (2003), it is the [Ad(dressee)] feature, which is dependent on [Part], that served this purpose (i.e., $1P-[\pi] > [\text{Part}]$, $2P-[\pi] > [\text{Part}] > [\text{Ad}]$ where $\alpha > \beta$ means β is dependent on α). The [Ad] feature being the default, 1P is underspecified for [Sp] although it is interpreted as 1P as it must be local ([Part]) with the exclusion of 2P. McGinnis (2005) argues against this by stating that the [Ad]-default system wrongly predicts that 1P inclusive [*me+you*] would be expressed using 2P in three-person languages because the addressee is part of its set of referents. However, as is clear in English and other familiar three-person languages, 1P plural (i.e., *we, nous*, etc) is used to collectively refer to the speaker and the addressee. She further claims that [Sp] is the default feature dependent on [Part] instead in tripartite languages without a morphological clusivity distinction (1P inclusive [*me+you*] vs. 1P exclusive [*me+others*]). In this feature system, 1P is specified as $[\pi] > [\text{Part}] > [\text{Sp}]$ and 2P is bare [Part], whose interpretation is again subtractively determined (the set of local persons {1P inclusive, 1P exclusive, 2P}—the set of more highly specified person {1P inclusive, 1P exclusive}). Since the speaker is part of the reference set of 1P inclusive as well as of 1P exclusive, this [Sp]-default system does not run into the same problem as the [Ad]-default system.¹⁰ In this thesis, I propose that both [Sp] and [Ad] features

⁹I address this point in Chapter 6.

¹⁰The [Sp]-default system is used by Béjar and Rezac (2009), and their probe consists of uninterpretable counterparts of all three features (i.e., [$u\pi$], [$u\text{Part}$], and [$u\text{Speaker}$]).

are visible in syntax even without a morphological clusivity contrast.¹¹ I suggest, for the moment, the vocabulary insertion rules in (19) for languages with a tripartition of personal deictic space ({1P exclusive, 1P inclusive}/2P/3P) such as English and French.

(19) Vocabulary insertion rules for accusative pronominal clitics in French

| | | |
|---|----------------------------------|--|
| a. 1st person | b. 2nd person | c. 3rd person |
| [π] | [π] | [π] \Leftrightarrow <i>le/la/les</i> |
| | \Leftrightarrow <i>te/vous</i> | |
| [Part] \Leftrightarrow <i>me/nous</i> | [Part] | |
| | | |
| [Sp] | | |

If we assume the Subset Principle (Halle 1997; cf. Lumsden 1987), a vocabulary item that maximally represents the feature set of an input will be inserted. According to (19), any lexical item specified as [Sp] will be realized as 1P.¹²

3.2.3 A featural animacy distinction

Another slight divergence from the person specifications in (15) is an animacy distinction in the third person. A morphological animacy distinction is present in English in the 3P singular pronouns (ANIMATE *him/her* vs. INANIMATE *it*). There are also varieties of Spanish (*leísta* dialects) that have a morphological animacy distinction in the object clitics as shown in (20).

| | | | | |
|------|-------------------------------|-----|-------------------------------|-----|
| (20) | a. Lo | vi. | b. Le | vi. |
| | 3SG.ACC _[-animate] | saw | 3SG.ACC _[+animate] | saw |
| | ‘I saw it.’ | | ‘I saw him.’ | |

(Ormazábal and Romero 2007:(15))

For these varieties, it would be natural to assume an underlying featural animacy distinction given the overtness of the distinction, even though most Romance pronominal systems including that of French lack a morphological animacy distinction. However, I

¹¹The discussion of the availability of the [Ad] feature is in Chapter 6

¹²In Chapter 6, I argue that the double specification of [Sp] and [Ad], typically used to represent 1P inclusive, is not possible in three-person languages like French and English. Note, however, that the vocabulary insertion rules in (19) derive the correct tripartition even with the addition of the [Ad] feature.

extend the featural animacy distinction to languages like French, without a pronominal animacy contrast, as well. This is partly motivated by the fact that strong object pronouns in Romance languages often cannot refer to inanimate objects as shown in (21) for French.

(21) *French*

- a. ? Ses livres, il ne pense plus à eux.
his books he NEG thinks anymore about 3PL
‘His books, he does not think about them anymore.’
- b. ? Ce livre-là, elle ne lit plus que lui.
that book she NEG reads anymore than 3SG
‘That book, she doesn’t read anything but it.’

(Kayne 1975:86(78))

A featural animacy distinction is also posited in previous works on the PCC. For Kiowa, Adger and Harbour (2007) distinguish animates from inanimates using the [Participant] feature. Since discourse participants are necessarily animate, being specified as [Participant] entails semantic animacy. They consider semantically animate 3P pronouns to be specified as [Participant] without a value (i.e., [Participant: —; number: val]) and semantically inanimate 3P to be underspecified for this feature (i.e., [number: val]). Inspired by the proximate/obviative distinction in languages with a direct/inverse system such as Algonquian languages (Aissen 1997; Lochbihler 2012; Oxford 2014 among others), Pancheva and Zubizarreta (2017) use a binary feature [\pm proximate] to represent the proximate/obviative distinction. They suggest that this distinction may manifest as an animacy distinction in certain languages such as *leísta* Spanish in (20).^{13,14} I also incorporate an animacy contrast in the φ feature specifications, but instead of introducing an additional feature like [proximate], I make use of the presence/absence of the [π] feature just as Adger and Harbour (2007) take advantage of the privativity of the [participant] feature.

3.2.4 Proposed φ -feature specifications

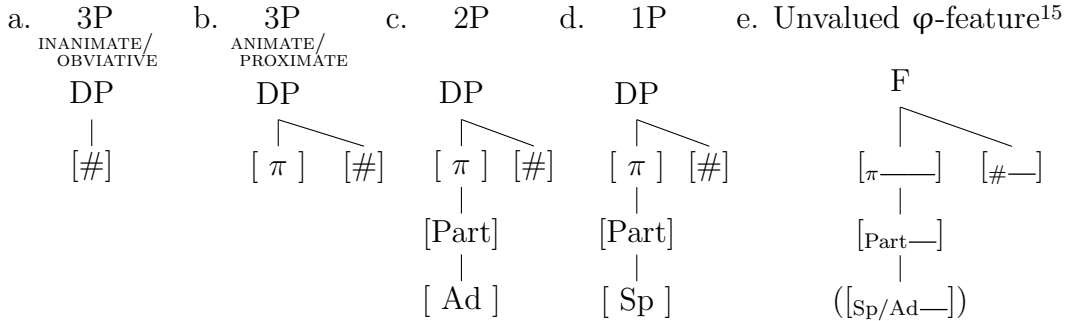
The proposed feature system employs the following feature specifications for the Strong PCC. As shown in (22), I make an animacy distinction in the 3P arguments. The 3P

¹³An alignment of the proximate/obviative distinction with the animacy distinction is observed in Algonquian languages. When there are two 3P arguments within a clause with contrasting animacy, the animate argument has to be proximate and the inanimate one obviative (Aissen (1997):714-6).

¹⁴A discussion of these previous analyses of the PCC is in Chapter 5

inanimate/obviative is only specified for $[\#]$ (number) while the 3P animate/proximate is specified additionally for $[\pi]$ (person).

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



As I mentioned above, 2P is inherently specified up to $[\text{Ad}]$, and 1P is specified up to $[\text{Sp}]$. The 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 2015a,b, 2018), the distinction is of importance as uninterpretability is taken to cause a crash at the interface while unvaluedness is simply absence of a value, which is still legible for external systems (e.g., insertion of a default agreement morpheme). As with the probe in Béjar and Rezac’s (2009) system,¹⁶ the unvalued φ -features are “active” until all of its component features are saturated. Using both Val-Merge as in (13) and articulated person features as in (22) has an interesting consequence, which I discuss in the next section.

3.3 Incremental Valuation

The advantage of using articulated person features in the Cyclic Agree system by Béjar and Rezac (2009) is that one probe can enter into an Agree relation with two arguments. The proposed syntactic system inherits this advantage, but instead of establishing dependencies through Agree, the system allows arguments to interact with each other by valuing the same unvalued feature. With the additional mechanism of Val-Merge, this es-

¹⁵As pointed out by Elizabeth Cowper (p.c.), the dependent features of the person probe do not need to be structured this way as long as all the relevant features are present.

¹⁶I note here that the Cyclic Agree system of Béjar and Rezac (2009) uses uninterpretable features, but it is still compatible with a model that does not assume a crash as the probe always at least partially Agrees with an argument in the first cycle. If you assume that partially checked/deleted probe to be...

sentially means that arguments featurally interact with each other through Merge. This section spells out the exact mechanism, which I call *Incremental Valuation*.

An unvalued articulated φ -feature, as we have seen in (22), is composed of dependent unvalued features. Val-Merge as described in (13) 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.

(23) a. Initial Merge (Appl, 3IA.SG)

| APPL MERGING WITH 3P INANIMATE ARGUMENT | | | |
|---|---|--|---------------|
| <i>Feature representation on the tree</i> | $\begin{array}{c} \diagup \quad \diagdown \\ [\varphi: 3IA.SG] \quad [\varphi: \text{—}] \end{array}$ | | \Rightarrow |
| | $\begin{array}{c} \diagup \quad \diagdown \\ [\varphi: 3IA.SG] \quad [\varphi: \underline{3IA.SG}] \end{array}$ | | |
| <i>Underlying feature structure</i> | $\begin{array}{c} DP \quad Appl \\ \diagdown \quad \diagup \\ [SG] \quad [\pi \text{—}] \quad [\# \text{—}] \\ \quad \quad \\ \quad \quad [Part \text{—}] \\ \quad \quad \\ \quad \quad [Sp/Ad \text{—}] \end{array}$ | | \Rightarrow |
| | $\begin{array}{c} DP \quad Appl' \\ \diagdown \quad \diagup \\ [SG] \quad [\pi \text{—}] \quad [SG] \\ \quad \quad \\ \quad \quad [Part \text{—}] \\ \quad \quad \\ \quad \quad [Sp/Ad \text{—}] \end{array}$ | | |

b. Subsequent Merge (1SG, Appl')

| APPLICATIVE PROJECTION MERGING WITH 1P ARGUMENT | | | |
|---|---|--|---------------|
| <i>Feature representation on the tree</i> | $\begin{array}{c} \diagup \quad \diagdown \\ [\varphi: 1SG] \quad [\varphi: \underline{3IA.SG}] \end{array}$ | | \Rightarrow |
| | $\begin{array}{c} \diagup \quad \diagdown \\ [\varphi: 1SG] \quad [\varphi: \underline{1SG}] \end{array}$ | | |
| <i>Underlying feature structure</i> | $\begin{array}{c} DP \quad Appl' \\ \diagdown \quad \diagup \\ [\pi] \quad [SG] \quad [\pi \text{—}] \quad [SG] \\ \quad \quad \quad \\ \quad [Part] \quad [Part \text{—}] \\ \quad \quad \quad \\ \quad [Sp] \quad [Sp/Ad \text{—}] \end{array}$ | | \Rightarrow |
| | $\begin{array}{c} DP \quad ApplP \\ \diagdown \quad \diagup \\ [\pi] \quad [SG] \quad [\pi] \quad [SG] \\ \quad \quad \quad \\ \quad [Part] \quad [Part] \\ \quad \quad \quad \\ \quad [Sp] \quad [Sp] \end{array}$ | | |

¹⁶(cont.) legible at the interface, then the probe is not crash-prone. In an earlier work, Béjar (2003) in fact argues that failure of valuation does not cause a crash. Cyclic Agree is often adapted as a way to expand a search space of a probe rather indefinitely. In other words, it is used as something that makes a bidirectional (downward and then upward) search possible. However, either in the original design of Cyclic Agree by Béjar (2003) or in the system by Béjar and Rezac (2009), unsuccessful/incomplete valuation of the probe in the first cycle allows the probe to expand the search space either by v-to-T head-movement of the probe or by projecting a label. In either cycle, the search is downward, and the search domain is only extended by half a projection (that is, from the complement of v to vP). It needs to be distinguished from ‘Bidirectional’ Agree, where the probe fails to agree in the downward search and subsequently searches upward.

to the derivation, making it impossible for the argument to come into the structure.²⁰ It should be noted that it is not the exhaustion of the unvalued feature that makes the subsequent Merge impossible, but 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 2P argument, subsequent valuation (via Merge) by a 3P 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 value to the unvalued feature. Three pieces of the proposed syntactic mechanism are summarized in (24).

(24) Proposed syntactic mechanism

- i. Any of the dependent features of an unvalued φ -feature can trigger Merge (*Articulated person features*)
- ii. 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 (*Val-Merge*)
- iii. A particular unvalued φ -feature complex can be responsible for multiple instances of Merge (*Incremental Valuation*)

3.4 Incremental Valuation and Crash-less Grammar

Incremental Valuation, as proposed in this thesis, does not take the interface to be an evaluative point of the derivation. As mentioned above, the system makes use of unvalued features instead of uninterpretable features. The crucial difference is that interpretability is a requirement for a derivation to get past the interface without crashing, whereas valuedness is simply presence or absence of a value, both of which can be interpreted in the PF or in the LF. For example, there are two existential verbs in Japanese, and the choice depends on the animacy of the subject.

²⁰In Section 5.6 and the concluding chapter, I suggest that the grammar can inhibit two local arguments from featurally engaging with each other by bringing two unvalued φ -features onto a single head through head-adjunction/head-movement. As such, at a structurally higher head such as *v* or T, PCC effects are not expected because arguments do not incrementally value a single unvalued φ -feature but instead they value two separate unvalued φ -features.

- (25) *Japanese*
- a. Koko-ni neko-ga **iru**.
 here-at cat-NOM exists.AN
 ‘There is a cat here.’
 - b. Koko-ni hon-ga **aru**.
 here-at book-NOM exists.IA
 ‘There is a book here.’

As can be seen in (25), the verb appears as *iru* if the subject is animate but as *aru* if the subject is inanimate. Let us assume that the existential verb has an unvalued ϕ -feature, as in (22e), which gets valued by the sole argument in the sentence (i.e., *neko* ‘cat’ or *hon* ‘book’). In order to account for the pattern, I propose the vocabulary insertion rules in (26). The feature complex on the left of the double-pointed arrow is the output of the syntactic derivation where the subject noun phrase valued the unvalued ϕ -feature on either the verb or *v*.

- (26) a. Animate
- $$\begin{array}{c}
 v + V_{exist} \\
 \swarrow \quad \searrow \\
 [\pi] \quad [SG] \\
 | \\
 [Part-] \\
 | \\
 [Sp/Ad-]
 \end{array}
 \iff i(ru)$$
- b. Inanimate
- $$\begin{array}{c}
 v + V_{exist} \\
 \swarrow \quad \searrow \\
 [\pi-] \quad [SG] \\
 | \\
 [Part-] \\
 | \\
 [Sp/Ad-]
 \end{array}
 \iff a(ru)$$

The animate subject noun phrase provides person (π) and number (SG) values as in (26a), which together are realized as the animate version of the existential verb. On the other hand, the inanimate subject noun phrase transmits only the number value as shown in (26b), so this is realized as the inanimate counterpart of the verb. In this feature system, the absence of person (π) value is morphologically meaningful. If the interpretability distinction is used instead, the absence of a certain value is equated with uninterpretability, which causes a derivation to crash at the interface.

On the LF side as well, unvaluedness can be meaningful. The verb *marry*, for example, has at least three interpretations: intransitive, reciprocal, and transitive.

- (27) a. John married before he turned twenty. (INTRANSITIVE)
 b. John and Richard married on their anniversary. (RECIPROCAL)
 c. Despite his parents’ objection, John married Richard. (TRANSITIVE)

The intransitive variant of *marry* in (27a), which is semantically equivalent to *get married*, does not take an internal argument. Although we could assume an implicit/null argument for this predicate, it seems to behave differently from canonical implicit arguments as shown in (28).

- (28) a. John ate \emptyset , but I don't know what. (Merchant 2007)
 b. #?John married (before he turned twenty), but I don't know who.

The second variant of *marry* in (27) is interpreted as reciprocal, which is synonymous to *marry each other*. Again, we could assume an implicit reciprocal argument (\emptyset_{recip}) for this, but the covert reciprocal and its overt counterpart are not semantically equivalent in the embedded context as demonstrated by Siloni (2012) with a similar reciprocal verb *kiss*.²¹

- (29) a. John and Mary said they kissed.
 ‘John and Mary said that they were involved in an event of mutual kissing.’
 b. John and Mary said they kissed each other.
 i. ‘John and Mary said that they were involved in an event of mutual kissing.’
 ii. ‘John said that he kissed Mary (on the forehead) and Mary said that she kissed John (on the cheek).’
 (modified—Siloni 2012:(5); cf. Carlson 1998:(23))

With the overt reciprocal as in (29b), the second interpretation in (29bii) where there are two separate reports of two separate events is available, whereas it is unavailable with the covert reciprocal in (29a). Therefore, this is suggestive of the fact that the reciprocity in (29a) is encoded in the verb itself rather than in the null argument. With these facts in mind, one way to represent the three-way semantic contrast in (27) is the following.

- (30) Three interpretations of *marry*
- | | | |
|---|---|--|
| a. INTRANSITIVE (\approx <i>get married</i>) V <i>conjugal union</i> | b. RECIPROCAL (\approx <i>marry each other</i>) V <i>conjugal union</i> [φ :—] | c. TRANSITIVE (\approx <i>get married to</i>) V <i>conjugal union</i> [φ : <u>val</u>] |
|---|---|--|

²¹The verb *marry* is symmetrical in that *A married B* necessarily entails that *B married A*, assuming monogamy. Therefore, it is difficult to tease apart the ambiguity seen in (29b) as the two possible interpretations are truth-conditionally equivalent. The asymmetry of the verb *kiss* (*A kissed B* \neq *B kissed A*) makes the ambiguity clear.

Since the intransitive variant cannot take an internal argument, it has no unvalued φ -feature (30a). The input to the syntax is the same for the reciprocal variant and the transitive variant. The reciprocal has a φ -feature that was left unvalued in the syntax.^{22,23} The verb with an unvalued φ -feature is interpreted as a reciprocal verb or a group-level predicate (e.g., *gather*) in Carlson’s (1998) terminology, which requires a plural subject. The simple transitive version of *marry* has its unvalued φ -feature valued by its complement DP in the syntax (e.g., *Bill* in (27c)). In the case of an overt reciprocal argument *each other*, the verb itself is interpreted as simple transitive, but the reciprocity comes from the reciprocal argument. The PF, on the other hand, pays no attention to the phi-features, and this is why all three variants surface as *marry*. Therefore, absence of a feature value can also be significant in the interpretive component. The proposed feature system does not assume that unvaluedness is tied to uninterpretability, so the interfaces do not impose a restriction on the well-formedness of a structure according to whether a feature is valued or unvalued. The interfaces are simply points where two modules meet, and the notion of ‘crash’ is absent from the grammatical model.

3.5 Constrained but flexible syntax

“Crash-proof” syntax, the framework that this thesis falls under, has been criticized for being so rigid that it cannot explain variability and optionality in Language (Boeckx 2010). The feature system proposed here may seem ‘rigid’ or too constrained as every instance of Merge must be motivated by valuation. In other words, there is a concern in that the system might not generate all grammatical sentences. Although I mainly consider structure-building motivated by φ -features in this thesis, the proposed syntactic mechanism affects all aspects of syntactic theory as it redefines the Merge operation, a fundamental piece of structure-building. This section suggests one way that the syntax can be flexible even with Val-Merge.

As is described in (13), the result of a Merge operation is the valued counterpart of the participating feature projecting, being visible at the root of the structure created. What this means is that it is not compulsory to have a new valued feature for every Merge operation. The same value introduced by a particular head can be responsible

²²It could be that the sentence in (27b) does have an implicit internal argument, but we can assume that it does not have proper phi-features to value the unvalued φ -feature on the verb.

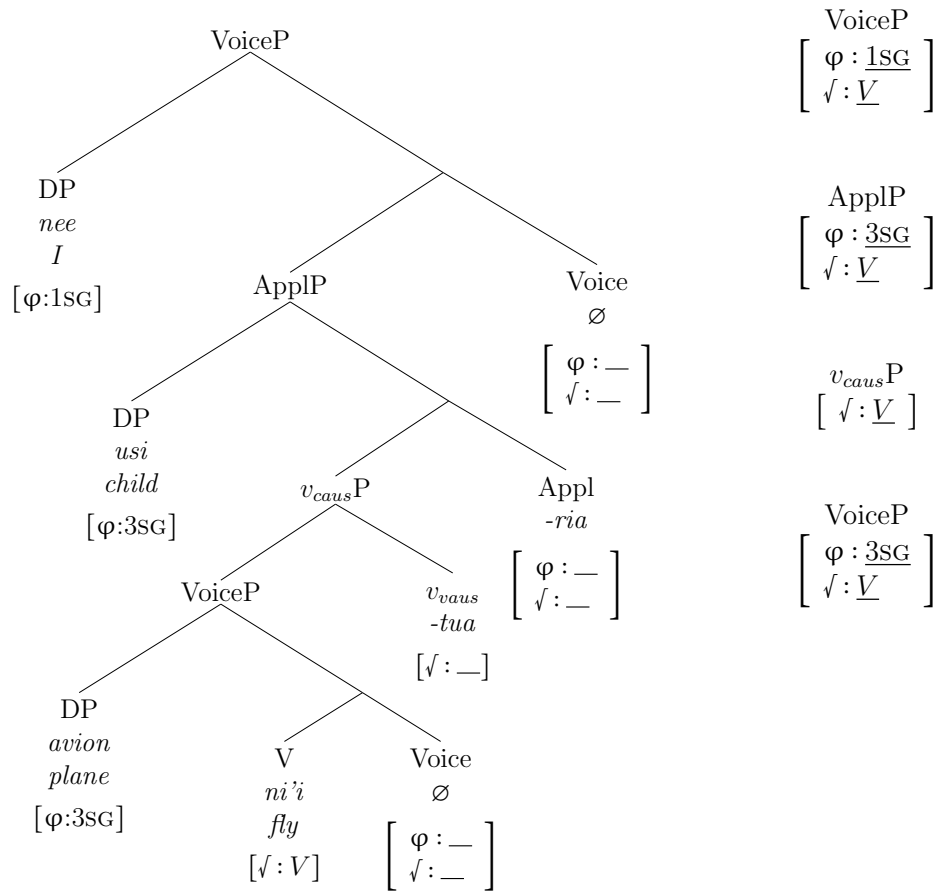
²³Verbs like *marry* are binary in that they take two entities as their arguments, which is why the reciprocal interpretation is available. If other non-binary transitive verbs are missing the direct object (e.g., *Casey is wearing *(a jacket)*), they are interpreted as their intransitive variant, if possible, or simply as a sentence with a missing piece of information, which, in a way, is a semantic anomaly but is labeled as ‘ungrammatical’ (a syntactic problem) as all the existing parts are interpretable.

- b. Nee ili usi-ta Mala-ta aa=tu'ute-ria-tua-k. (CAUS >> APPL)
 I little child-ACC Mother-ACC it=clean-APP-CAUS-PERF
 'I made the child clean it for Mother.'

(Harley 2013:(21b),(27a))

In (32a), the benefactive applicative takes scope over the causative, which is evident in the morpheme order (CAUS-APP), and the interpretation is such that making the plane fly is for the benefit of the child. On the other hand, in (32b), the causative takes wide scope, and the morpheme order changes to APP-CAUS. The sentence is interpreted as 'cleaning it is for the benefit of Mother, and the child was made to do so.' If we augment Harley's (2013) structure (see (32) therein) with the proposed feature system, it would look as in (33). Here, I use the root feature ($[\checkmark: _]$) with categorial values, V, N, etc, proposed by Yokoyama (2015a,b) on the verbal elements for demonstration purposes.²⁴

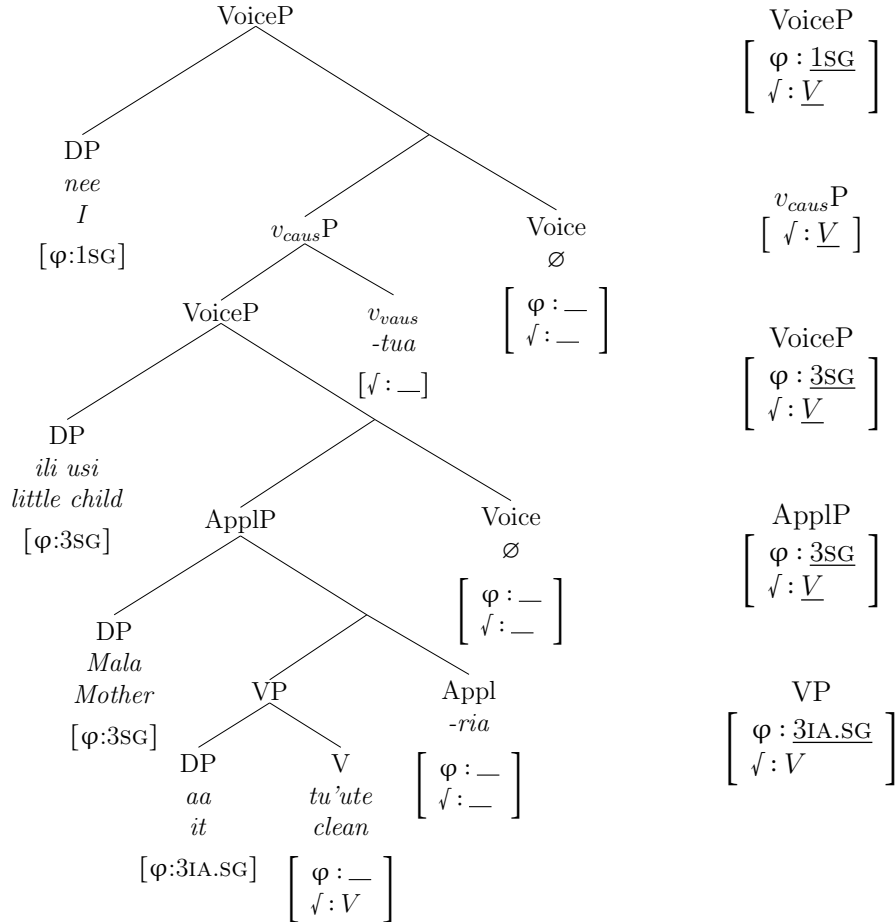
(33) Structure for APP >> CAUS (32a)



²⁴In Yokoyama (2015b), the root feature is misprinted as $[a: _]$.

As mentioned before, I assume for the moment that only one type of feature can trigger a particular instance of Merge.²⁵ The verb *ni'i* ‘fly’ bears a value for the root feature,²⁶ and this value can be passed on to other elements through Val-Merge, so all the functional elements, Voice, *v_{caus}*, and Appl, come into the derivation in order to have their unvalued root feature valued. As the system is not sensitive to the category, as long as the value is introduced previously, the functional elements with the appropriate feature can enter the derivation in any order.²⁷ In the case of (33), the order happens to be Voice → *v_{caus}* → Appl → Voice. The following structure for (32b) is, therefore, also possible.

(34) Structure for CAUS >> APP (32b)



²⁵A discussion of the possibility of multiple instances of valuation at once is in Section 5.6.2.

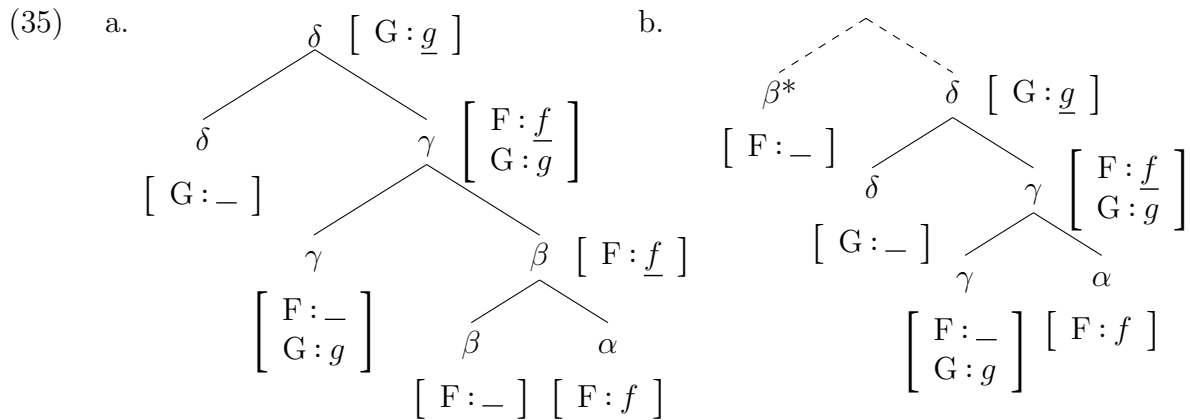
²⁶The categorizing process is omitted throughout this thesis; however, I construe lexical roots as bearing an unvalued root feature ([√:—]) and categorizing heads as bearing a valued root feature (e.g., *v* [√: V]) potentially in addition to an unvalued φ-feature. This takes into account the insight that lexical roots do not bear category-defining features (Marantz 2001; Embick and Noyer 2007; Embick and Marantz 2008), as the root feature on lexical roots is unvalued. Furthermore, Yokoyama (2015b) proposes that head adjunction is a concatenating operation separate from Merge that allows both uniting elements to project and that a lexical root and a categorizing head Merge and head-adjoin at the same time, projecting features of both.

²⁷Some orders may be semantically uninterpretable, however. CAUS, for example, requires an event as its argument.

In (34), the applicative head comes into the derivation before the causative head. The proposed feature system allows this variable ordering so long as the value for the relevant feature is introduced earlier in the derivation.²⁸

3.5.2 Functional hierarchy without a hierarchy

A certain value can be carried up to the root (or the top node) of the structure as long as elements with an unvalued feature of the same type continuously enter the derivation. This was the case for (33) and (34)—that is, the value V originating in the verb for the root feature was carried up to the higher VoiceP without any interruption. However, once the feature projection is interrupted, structure-building with the same feature is no longer possible. Another abstract example with four elements (α , β , γ , δ) and two types of features (F, G) is provided in (35) to illustrate this point.



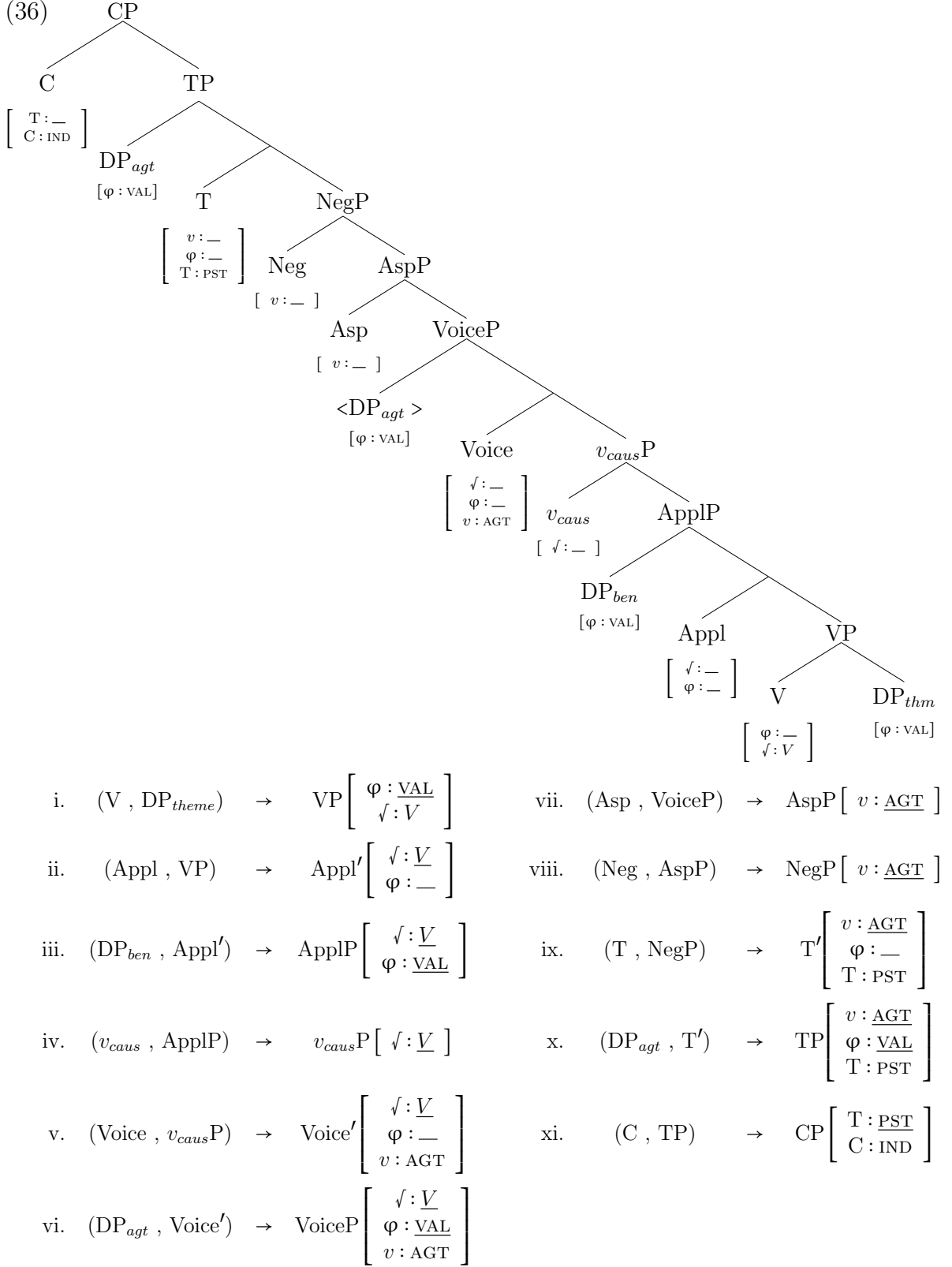
The element α bears a valued feature F ($[F: f]$), β has an unvalued counterpart of the feature ($[F: -]$). The element γ carries two features, one unvalued F-feature and one valued G-feature ($[F: -; G: g]$), while δ is with an unvalued counterpart of G-feature ($[G: -]$). If we are to build a structure with these four elements, the only way to incorporate all the elements is $[\delta [\gamma [\beta \alpha]]]$ as shown in (35a). Here, the first instance of Merge (β, α) results in β projecting with the valued counterpart of F-feature. Since the value for F is visible at the root at this point, this structure can merge with γ , which has an unvalued F-feature, with the outcome of γ projecting with its features including the valued G-feature. The value for the G-feature is now visible at the root, so δ , bearing an

²⁸The elements with two unvalued features in (33) and (34)—that is, Voice and Appl—can potentially have their φ -feature valued by their Merge partner first. However, not only would this disallow the argument (to be) introduced by the functional heads to enter the derivation, assuming non-incremental valuation, but also this would leave the other feature (i.e. $\sqrt{\text{ }}$ -feature) unvalued, preventing other functional elements to enter the derivation. The resulting structure will not have the intended interpretation if it is at all interpretable.

unvalued G-feature, can merge with the structure previously created. However, if α and γ merge first as in (35b) for the feature F, γ projects with its feature, namely a valued F and an inherently valued G. As the value for G is visible at the root, δ with an unvalued G-feature can enter the derivation, projecting its only feature. Since the F-feature is concealed by δ at this point, it is impossible for β , bearing an unvalued F-feature, to come into the derivation. Therefore, the syntax is still constrained in such a way that certain orders of Merge are impossible.

A concrete example of this situation is stacking of different domains. By having a different valued feature at the bottom of each domain—for example, $\sqrt{\text{ROOT}}$ -feature for the verbal/thematic domain, v feature for the inflectional domain, and Tense feature for the clausal/CP domain, etc, the domains can be ordered in a certain way. A potential structure with proposed features is shown in (36).²⁹ Note that this is not to claim that the above-mentioned ‘domains’ align with phases or agreement domains. In other words, the fact that certain heads are valued for some feature does not necessarily entail that they are phase heads. The point to be made here is that the syntactic mechanism proposed in this thesis can account for hierarchical relations between certain phrases without having to posit a universal hierarchy. As such, the proposed structure-building mechanism is still compatible with, for example, the dynamic approach to phases where phase boundaries are determined contextually (see Bobaljik and Wurmbrand 2005; Wurmbrand 2013; Bošković 2013, 2014; Bjorkman and Cowper 2015 among others).

²⁹Features that most likely do not participate in structure-building are omitted here. For example, Neg supposedly has a Neg feature that participates, for instance, in NPI licensing.

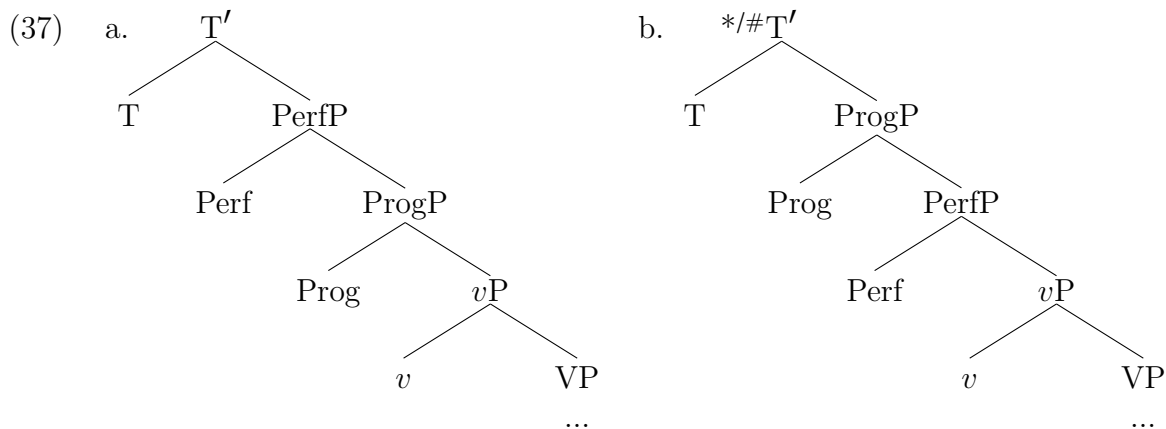


As shown in (36), VP, ApplP, $v_{caus}P$, and VoiceP are composed using the $\sqrt{\text{ROOT}}$ -feature while AspP, NegP, and TP are combined for the v -feature. The CP layer comes in for

the T feature. In this feature system, it is impossible, for example, for Asp to directly merge with the VP or for C to come in before T is already in the structure and its features are visible at the root.³⁰ Therefore, so long as the syntactic heads are equipped with the right features, they will stack themselves in the right order without having to posit a predetermined (universal) hierarchy of functional categories (Cinque 1999; Starke 2001; Grimshaw 2005; Adger and Svenonius 2011; Fowlie 2017).³¹ However, to reiterate the previous point, the syntax is still flexible enough to allow different scope relations between certain elements within a domain.

3.5.3 Ordering of grammatical aspect in English

The strict ordering of grammatical aspect in English (e.g., *The dog has been barking all morning* [PERFECT → PROGRESSIVE]; **The dog is having barked all morning* [PROGRESSIVE → PERFECT]) might be a challenge for this feature system.



However, if we have very strict vocabulary insertion rules, we might be able to explain the restriction. Let us suppose that we have heads, Perf and Prog, each with

³⁰As pointed out by Elizabeth Cowper (p.c.), a potential problem with this structure is that sentences without the Voice projection cannot be derived. For example, unaccusative sentences have been analyzed as lacking the Voice projection (Pylkkänen 2008; Legate 2014); copular sentences also seem to be Voiceless for its inability to be passivized. I tentatively suggest that T can directly merge with VP in the case of unaccusative predicates and with some form of small clause (e.g., PredP; Svenonius 1994; Adger and Ramchand 2003; Roy 2013) in the case of copular clauses using φ -features. These types of derivations leave the *v*-feature unvalued on T; however, unvaluedness does not cause a crash in the proposed syntactic system.

³¹The functional hierarchy does exist in the input language, but each speaker acquires syntactic features and not the hierarchy itself. The features will then allow syntactic derivations to be structured as in the input language.

an unvalued v -feature and a valued Asp(ect)-feature.³² Let us also assume that the values of Asp-feature can be stacked, meaning that it can be doubly valued ([Asp: PROG/PERF]). If the two aspect heads come into the derivation in the order they should (Perf>>Prog as in (37a)), Prog will be valued as $\left[\frac{v : \underline{\text{AGT}}}{\text{Asp} : \underline{\text{PROG}}} \right]$, Perf will be valued as $\left[\frac{v : \underline{\text{AGT}}}{\text{Asp} : \underline{\text{PERF/PROG}}} \right]$, and T will be valued as $\left[\frac{\varphi : \underline{\text{3SG}}}{\text{T} : \underline{\text{PRS}}} \right]$. The feature set $\left[\frac{\text{Asp} : \underline{\text{PERF/PROG}}}{\varphi : \underline{\text{3SG}} \atop \text{T} : \underline{\text{PRS}}} \right]$ will be realized as *has*, the feature set [Asp: PERF/PROG] will be realized as *been*, and the feature set [Asp: PROG] will be realized as *-ing*. Assuming the Subset Principle (Halle 1997; cf. Lumsden 1987) applies here as well, the result will be *has been (bark)-ing* as desired. However, if the two aspect heads enter the derivation in the opposite order (i.e., Prog>>Perf as in (37b)), then Perf will be valued as $\left[\frac{v : \underline{\text{AGT}}}{\text{Asp} : \underline{\text{PERF}}} \right]$, Prog will be valued as $\left[\frac{v : \underline{\text{AGT}}}{\text{Asp} : \underline{\text{PERF/PROG}}} \right]$, and T will be valued as $\left[\frac{v : \underline{\text{AGT}}}{\text{Asp} : \underline{\text{PERF/PROG}}} \right]$. If we use the same insertion rules as above, T gets realized as *has* and Prog will be *been*. Perf will most likely be realized as *-en/ed* (\because *The dog has barked*). The result of this derivation is *has been (bark)-ed*, which is phonologically indistinguishable from perfect passive although the verb *bark* being intransitive, the passive counterpart does not exist either. The derivation is also uninterpretable in the LF as Prog operates on atelic events and Perf turns an atelic event telic in a way; as such, the explanation of the ordering restriction is not purely morpho-syntactic.³³ However,

³²English perfect aspect has been analyzed as having a biclausal structure (Schmitt 2001; Cowper 2003, 2005). This certainly complicates the picture; however, the rigid ordering of a head associated with the perfect and a head that is instantiating the progressive aspect still needs an explanation. The feature valuation system suggested here can still be extended to account for the structural relation between the two heads. I leave unsolved the question of how one type of aspect requires a biclausal structure (while the other requires a monoclausal structure) with the proposed structure-building mechanism.

³³Take for example the denotations of $\llbracket \text{perfect} \rrbracket$ and $\llbracket \text{unbounded (imperfective)} \rrbracket$ in (i) given by Pancheva (2003) (see also McCoard 1978; Dowty 1979; Iatridou et al. 2001 for *Extended Now* theory of the meaning of the perfect).

- (i) a. $\llbracket \text{perfect} \rrbracket = \lambda p \lambda i' \exists i [\text{PTS}(i', i) \ \& \ p(i')]$
 b. $\llbracket \text{unbounded (imperfective)} \rrbracket = \lambda P \lambda i \exists e [i \subseteq \tau(e) \ \& \ P(e)]$
 where:
 e is an eventuality,
 $\tau(e)$ is the interval throughout which the eventuality holds,
 P is a predicate of eventualities,
 $i, i' \in I$, the set of temporal intervals,
 $\text{PTS}(i', i)$ iff i is a final subinterval of i'

(Pancheva 2003:(7)/(9))

the crucial point here is that the grammar, as described here, will never generate the sequence *is having barked*, which is desired given a crash-free syntax.

To summarize, Val-Merge and the proposed feature system may seem overly restrictive at first sight; however, as we have seen above, the system allows variable scope relations between certain elements while still constraining the overall composition of the syntactic structure as desired. Therefore, it is untenable to categorically dismiss a constrained version of Merge for being too “rigid”. In the following chapter, I revisit the PCC and show how the proposed syntactic mechanism explains the PCC pattern as well as the availability of the “repair” construction.

The denotation of imperfective is a function that takes a function of type $\langle s, t \rangle$ as its first argument whereas the denotation of perfect is a function that takes a function of type $\langle i, t \rangle$. Accordingly, the semantic computation succeeds only if $\llbracket \text{unbounded (imperfective)} \rrbracket$ ($\approx \text{Prog}$) combines with vP first.

4

Revisiting the PCC and its “repair” in French

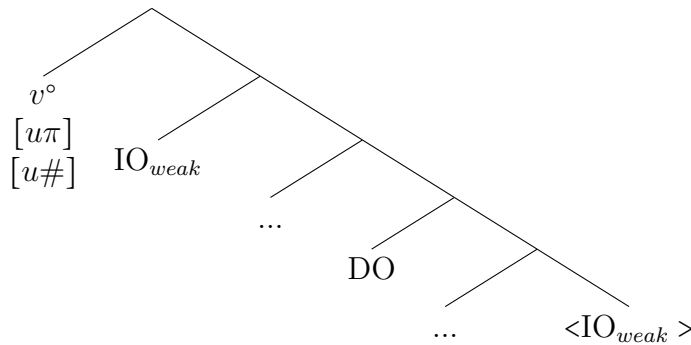
As discussed in Chapter 2, Rezac (2011) proposes the Interface Algorithm \mathfrak{R} , which inserts an uninterpretable person feature into a non-convergent Person Case Constraint (PCC) structure, giving rise to an alternative construction referred to as a “repair.” Under this analysis, since the repair construction is dependent on there being a crash due to a Person Licensing Condition (PLC) violation, it explains why the PCC construction and the “repair” construction are in complementary distribution for the strong-PCC varieties. Rezac (2011) observes that in the weak-PCC varieties, both the double-clitic construction and the repair construction are available for 1st person (1P) and second person (2P) argument combinations, as shown with examples in Section 2.5.4. This is a challenge to Rezac’s (2011) analysis. In the following sections, I present an account of both the strong-PCC pattern and the weak-PCC pattern which makes use of the syntactic machinery introduced in Chapter 3. The proposed account differs from Rezac’s (2011) in that it treats the double-clitic construction and the “repair” construction as independent derivations; as such, it does not run into the same problem as Rezac’s (2011) account faces. Before presenting the details of how the proposed analysis accounts for the PCC and its “repair,” there is one additional assumption that is crucial for the analysis, which I discuss in the next section.

4.1 Structure of the PCC and its “repair”

Rezac (2011) assumes the same structure for the double-clitic construction and the “repair” construction, where the phi-probes are higher in the structure than the two arguments, and the indirect object (IO) is closer to the probe than the direct object (DO) is, as shown in (1). It should be noted that Rezac (2011) states that the two structures, the applicative construction and the prepositional dative construction, are available in

French (p.121). In his system, the applicative construction, shown in (1), is derived from the prepositional dative construction where the IO is lower than the DO. Because weak pronouns need to undergo cliticization, the IO passes through a position between v° and the DO, resulting in a configuration where the IO is closer to v .

(1) Rezac’s (2011) structure



In the case of the double-clitic construction, the IO is a defective PP, which requires cliticization.¹ The person probe ($u\pi$) agrees with the IO, which subsequently cliticizes. With the IO having moved out of the search path, the number probe can agree with the DO. Having established an Agree relation with v , both arguments will undergo cliticization, as long as the DO is also pronominal. However, if the DO is a local person, the person feature cannot be licensed, resulting in a PLC violation. This is how we obtain PCC effects in Rezac’s (2011) analysis. In the “repair” construction, on the other hand, the IO is a full PP (owing to the Interface Algorithm \mathfrak{R}), and the pronoun inside the PP is therefore phonologically and morphosyntactically licensed within the PP, allowing the DO to be licensed by v . Only the DO moves, and we arrive at the correct surface word order (i.e., $Clitic_{DO}$ V à IO). In this analysis, the IO clitic landing in an intervening position is a crucial step because this is how the intervention effects are obtained.

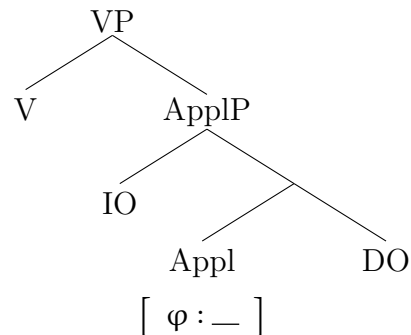
The analysis proposed here contrasts with Rezac’s (2011) in that it provides two independently available structures for the PCC sentences and their “repair.” For the double-clitic construction, I assume a structure like (2), where the IO is higher than the direct object. Specifically, I assume the low applicative phrase (Pylkkänen 2002, 2008) for this construction, where the Appl head with an unvalued ϕ -feature mediates between the two arguments as shown in (2).^{2,3}

¹See Section 4.5 regarding full DP arguments.

²Note that the structural relation between the two arguments in (2) is the same as in (1); however, Rezac (2011) is not explicit about the exact structure.

³The Appl head bearing phi-features may be problematic for minimality reasons. If ApplP has its own phi-features, it is predicted that phi-probing into the complement of the phrase is impossible as

(2) Double-clitic construction



This is the structure proposed for the English double object construction (e.g., *give* IO DO) and is compatible with the scopal/superiority facts in English noted by Barss and Lasnik (1986) and Larson (1988) as shown in (3).

- (3)
- | | |
|--|----------------------|
| a. I showed Mary herself. | [anaphor binding] |
| *I showed herself Mary. | |
| b. I gave every worker _i his _i paycheck. | [quantifier binding] |
| *I gave its _i owner every paycheck _i . | |
| c. Which man _i did you send his _i paycheck? | [weak crossover] |
| *Whose _i paycheck did you send his _i mother? | |
| d. Who did you give which paycheck? | [superiority] |
| *Which paycheck did you give who? | |
| e. I showed each man the other's socks. | [each...the other] |
| *I showed the other's friend each man. | |
| f. I showed no one anything. | [NPI licensing] |
| *I showed anyone nothing. | |
- (Larson 1988:(3))

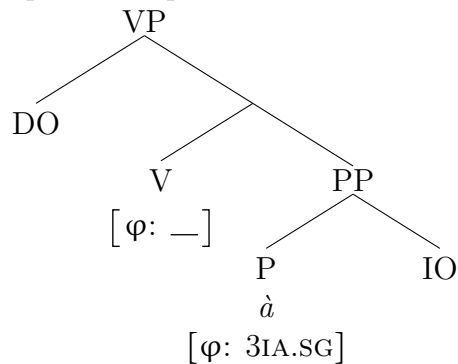
Anaphor binding, quantifier binding, weak crossover, superiority effects, reciprocal binding, and NPI licensing all point to the fact the IO asymmetrically c-commands the DO in the double object construction. Beck and Johnson (2004) further make a semantic argument that the IO and the DO form a constituent in exclusion of the verb (a HAVE phrase in their representation). This is supported by the ambiguity of sentences like *Casey gave Emery the pencil crayon again*. In one interpretation (probably the more

ApplP is always more local than its complement. I suggest that phi-probes search for not only phi-features but also some other feature—for example, a Case-feature (in the case of Case-discriminating agreement; Preminger 2011, 2014) or a D-feature. Since ApplP lacks these features, it is not a viable goal for a phi-probe.

salient one of the two), Casey had given Emery the pencil crayon before and this event took place for the second time. In the other interpretation, Emery took the (communal) pencil crayon, but someone else needed to use it, and later Casey gave it to Emery so that Emery can use it again. In the second context, there is only one instance of giving; therefore, the word *again* needs to scope over only the possessive relation between Emery (IO) and the pencil crayon (DO), suggesting that these two arguments form a constituent without the verb. As is discussed in Section 4.5, the scopal facts in French indicate that the French ditransitive sentences with two full DP internal arguments also have this applicative structure.

For the “repair” construction, I assume the Larsonian structure for the prepositional dative construction (e.g., *give* DO *to* IO) where the DO is higher than the IO in a PP and the direct object DP and the PP are mediated by the verb (with an unvalued φ -feature) as shown in (4).

(4) *à*-phrase “repair” construction



The structural relation between the two arguments is again supported by scope/ superiority facts in English in (5). The asymmetric judgements in (5a-f) all suggest that the DO asymmetrically c-commands the IO, as reflected in the structure in (4).

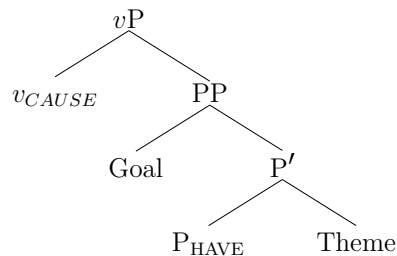
- (5) a. I presented/showed Mary to herself. [anaphor binding]
 *I presented/showed herself to Mary.
 b. I gave/sent every check_i to its_i owner. [quantifier binding]
 ??I gave/sent his_i paycheck to every worker_i.
 c. Which check_i did you send to its_i owner? [weak crossover]
 *Which worker_i did you send his_i check to?
 d. Which check did you send to who? [superiority]
 *Whom did you send which check to?
 (*To whom did you send which check?)

- e. I sent each boy to the other’s parents. [superiority]
 *I sent the other’s check to each boy.
 f. I sent no presents to any of the children. [NPI licensing]
 *I sent any of the packages to none of the children.
 (Larson 1988:(5))

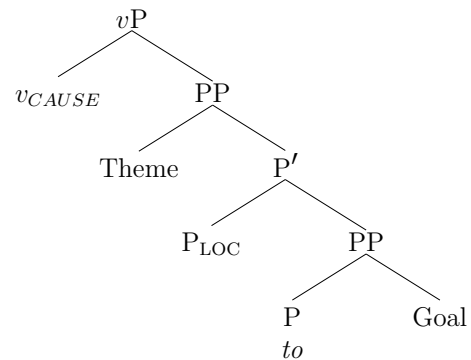
The constituency of the verb and the prepositional phrase to the exclusion of the DO is argued for using idiomatic expressions such as *send...to the showers* which consist of a ditransitive verb and a PP (Larson 1988:340). Larson (1988) discusses examples of idiomatic expressions seemingly consisting of a ditransitive verb and its direct object such as *give x’s all* and *give the creeps* brought to his attention by David Pesetsky (also in Pesetsky 1995). These examples appear to undermine Larson’s argument; however, he counters this by pointing out that the idiomaticity is maintained in sentences like *Linguistics gets my all*, suggesting that the source of idiomatic meaning is in the noun phrase itself (Larson 1988:(20)). Harley (2002) has an interesting solution to this problem. She proposes two types of prepositional elements, namely P_{LOC} and P_{HAVE} , for the two types of ditransitive constructions as shown in (6).

(6) Harley’s (2002) ditransitive constructions

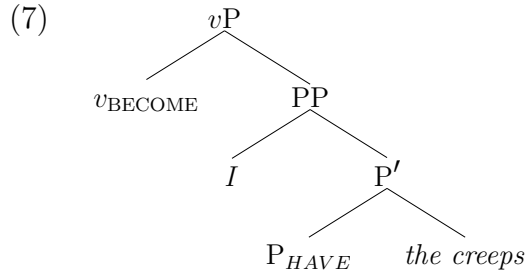
a. Double object construction



b. Prepositional dative construction



She claims that the idiomatic interpretation of the above-mentioned expressions derives from the combination of these prepositional elements and their complement. In the case of the V + PP idiom (*send...to the showers*), the combination of P_{LOC} and its PP complement gives rise to the idiomatic interpretation, and v_{CAUSE} higher in the structure and P_{LOC} together are realized as *send*. The V + DO idiom (*give the creeps*) has its idiomatic force originating in the constituent with P_{HAVE} and its nominal complement, and the prepositional element and v_{CAUSE} are realized as *give*. The advantage of the analysis is that the reason why the idiomatic force is maintained in the sentences with *get* (e.g., *I get the creeps just by looking at it*) is clear if we employ an unaccusative structure for *get* as shown in (7).



The idiomatic interpretation has its source in the P' constituent in (7), P_{HAVE} moves to v_{BECOME} to be realized as *get*, and the specifier of the PP moves to the subject position.

The proposed analysis of the PCC is fully compatible with Harley’s (2002) structures; in fact, the assumed structures can be thought of as alternative representations. The possessive relation between the DO and the IO is established either by P_{HAVE} or by Appl in the double object construction (8), and the locational PP is taken by P_{LOC} or V in the prepositional dative construction (9).⁴

(8) Double object construction

| Harley (2002) | Proposed | Equivalence ⁵ |
|---|--|---|
| <pre> graph TD vP --> v_CAUSE vP --> PP PP --> IO PP --> P_prime[P'] P_prime --> P_HAVE P_prime --> DO </pre> | <pre> graph TD VP --> V VP --> ApplP ApplP --> IO ApplP --> Appl_prime[Appl'] Appl_prime --> Appl Appl_prime --> DO </pre> | $v_{CAUSE} \approx v/V$ $P_{HAVE} \approx \text{Appl}$ |

(9) Prepositional dative construction

| Harley (2002) | Proposed | Equivalence |
|--|---|--|
| <pre> graph TD vP --> v_CAUSE vP --> PP PP --> DO PP --> P_prime[P'] P_prime --> P_LOC P_prime --> PP2[PP] PP2 --> P PP2 --> IO </pre> | <pre> graph TD vP --> v vP --> VP VP --> DO VP --> V_prime[V'] V_prime --> V V_prime --> PP PP --> P PP --> IO </pre> | $v_{CAUSE} \approx v$ $P_{LOC} \approx V$ |

⁴This type of structural flip between the DO and the IO is proposed for the dative alternation between the double object construction and the prepositional dative construction in Spanish (Cuervo 2003b) as well.

⁵It should be noted that there is a slight but significant semantic difference between P_{HAVE} and Appl. Whereas P_{HAVE} simply establishes the possessive relation between the two arguments introduced in the phrase, Appl additionally encodes transfer of possession.

For the purposes of this thesis, I will use the representation with Appl and V as multiple instances of P may be confusing.

Another crucial assumption is that the preposition *à* in French is specified as 3P inanimate singular. This is motivated by the fact that locational PPs trigger 3P singular agreement both in English (10) and in French (11).⁶

- (10) a. [PP Under the bed] **is** a good place to hide. (Davies and Dubinsky 2001:(1b))
 (cf. ?Under the bed is good for hiding.)
 b. [PP Under the tables] **is** the best place to hide.
- (11) [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 we cannot rule out the possibility of default agreement resulting from failure of agreement (Preminger 2009) in (10) and (11), 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 ($\langle e, t \rangle$), so it is reasonable to assume prepositions, which denote relations, to be specified as 3P inanimate.

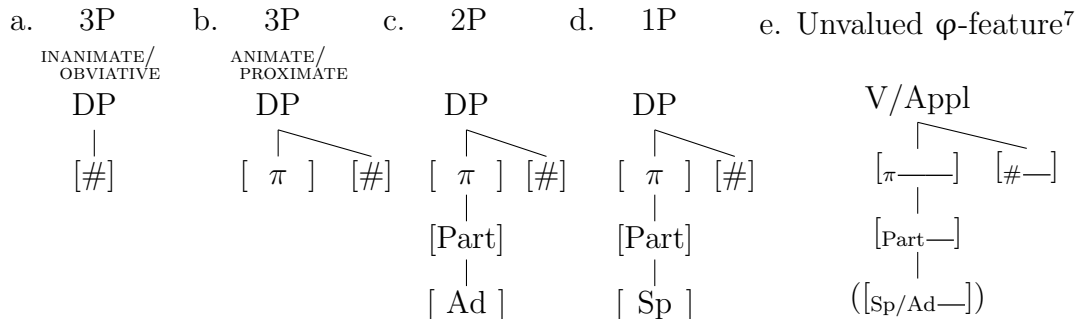
Finally, I also assume that French clitics are generated in the argument positions and go through cliticization (cf. Anagnostopoulou 2004). The cliticization process requires more mechanism than simple valuation as the need to move or cliticize is not in the functional elements but in the weak pronouns themselves. This requirement cannot be formalized as an unvalued feature as movement takes place to value a feature of the attractor. Yokoyama (2015b) repurposes feature uninterpretability as a trigger for head movement, which is a potential way to explain how clitics move from their generated positions to their respective surface positions. However, the exact mechanism of cliticization that is compatible with the current structure-building system will not be worked out here. With all the assumptions laid out, the following section explains how Incremental Valuation explains the PCC pattern and the PCC “repair” pattern.

⁶Davies and Dubinsky’s (2001) analysis of these examples is that there is an implicit DP shell on the prepositional phrase (i.e., [DP [D Ø] [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., (10b)), the number must originate on the preposition itself.

4.2 Dissociating the (strong) PCC from its “repair”

By exploiting Incremental Valuation, we can explain the strong PCC and its “repair” in French without having to rely on interface conditions or the interface algorithm \mathfrak{R} proposed by Rezac (2011). This section explains how the syntactic mechanism developed here generates only the grammatical sentences and not the ungrammatical sentences, looking at the four types of sentences: PCC-COMPLIANT SENTENCES ($1/2/3 > 3$), PCC-VIOLATING SENTENCES ($*1/2/3 > 2/1$), PCC “REPAIRS”, and “REPAIRS” FOR PCC-COMPLIANT SENTENCES in strong-PCC varieties of French. The phi-feature specifications of the strong PCC varieties are repeated below.

(12) Strong PCC languages and their φ -feature specifications [repeated from Chp3(22)]



4.2.1 PCC-COMPLIANT SENTENCES

As we have seen in Chapter 2, in French ditransitive sentences, when the direct object is 3P, the internal arguments can be expressed with two co-occurring clitics. The example sentences are repeated in (13).

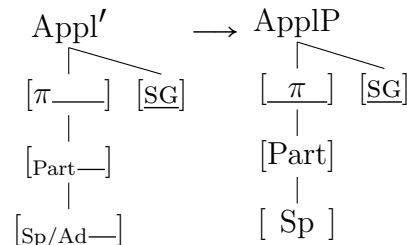
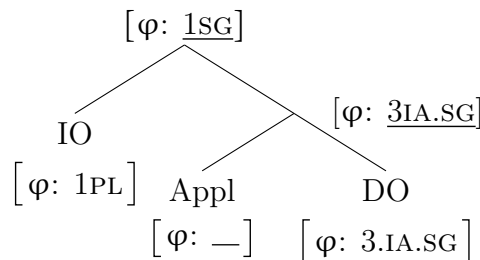
(13) *French* (Strong PCC varieties) [repeated from Chp2(1)]

- | | |
|--|-------------------|
| a. Elle nous le présentera. | (1.DAT > 3.ACC) |
| she us.DAT him.ACC will.introduce | |
| ‘She will introduce him to us.’ | |
| b. Elle vous le présentera. | (2.DAT > 3.ACC) |
| she you.DAT him.ACC will.introduce | |
| ‘She will introduce him to you.’ | |
| c. Lucille la leur présentera. | (3.DAT > 3.ACC) |
| Lucille her.ACC themDAT will.introduce | |
| ‘Lucille will introduce her to them.’ | (Rezac 2011:2,93) |

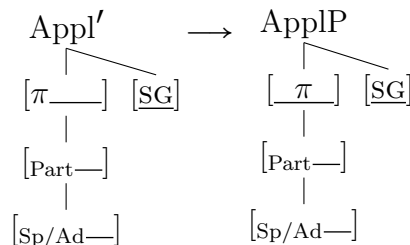
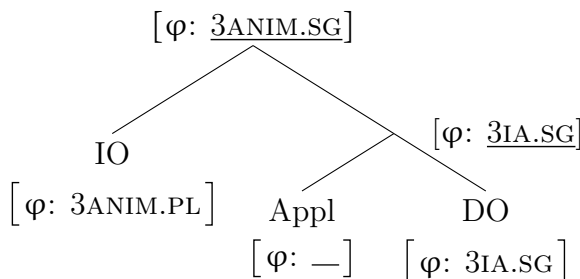
⁷It should be noted that the system works without [Sp/Ad—] on the unvalued φ -feature. However, I will leave this as part of the feature because elsewhere in the language, 1P agreement and 2P agreement need to be distinguished by the Morphology (e.g., *Je suis...* ‘I am...’ vs. *tu es...* ‘you(sg) are...’).

In all of the above sentences, the DO is 3P (inanimate),⁸ and it is the first argument that merges with Appl, valuing only the number feature. This first instance of Merge leaves all the person features unvalued on Appl. Therefore, any person (1P, 2P—(14), 3P animate—(15)) can subsequently enter the derivation. Partial derivations of (13a) and (13c) are shown in (14) and (15), respectively. The full representation of the resulting feature of each instance of Merge is shown on the right.

(14) ✓ *nous le* (1 > 3)



(15) ✓ *la leur* (3 > 3)⁹



In the case of the 1 > 3 combination (13a)/(14), the 3P inanimate DO provides a number value to the unvalued φ -feature on Appl, and the 1P IO later values all the remaining person features of the same feature.¹⁰ Since both arguments can contribute at least one value to the unvalued feature, the derivation is successful. The same is true for the 3>3 combination (13c)/(15), where the 3P animate IO passes on the $[\pi]$ value to

⁸There is an apparent discrepancy between the feature specification, 3P inanimate, and the translation ‘him/her’. See Section 4.2.5 for a discussion of the animacy of DOs.

⁹I consider the structure in (15) 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). A discussion of full DP arguments in French is in Section 4.5.

¹⁰The low applicative head is null in many familiar languages like English and other Indo-European languages, but given the presence of a φ -feature on Appl in the proposed system, one would expect some morphological expression of the feature in certain languages. As shown below in Section 4.5, the verb always agrees with the IO but not with the DO in typical ditransitive sentences in Georgian. The fact that it is the feature specification of the IO that is always visible on ApplP in the Incremental Valuation system might be ideal for Georgian. However, for languages such as Basque whose verbal complex agrees with both internal arguments, it might be necessary to track which argument valued which dependent feature so that the two can be realized separately.

the unvalued φ -feature on Appl. Crucially, in all of the cases (13a-c), there is a least one value that the second argument (IO) 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.^{11,12}

4.2.2 PCC-VIOLATING SENTENCES

When the DO is one of the local persons (1P/2P) in a double-clitic construction, on the other hand, we obtain ungrammaticality. The example sentences are repeated in (16).

- (16) *French* (Strong PCC varieties) [repeated from Chp2(2)]
- a. *Elle me te présenta. (*1.DAT> 2.ACC)
she me.DAT you.ACC introduced
(Intended) ‘She introduced you to me’
- b. *Elle te me présenta. (*2.DAT> 1.ACC)
she you.DAT me.ACC introduced
(Intended) ‘She introduced me to you’ (Nicol 2005:160)
- c. *Lucille nous leur présentera. (*3.DAT> 1.ACC)
Lucille us.ACC them.DAT will.introduce
(Intended) ‘Lucille will introduce us to them.’
- d. *Lucille te leur présentera. (*3.DAT> 2.ACC)
Lucille you.ACC them.DAT will.introduce
(Intended) ‘Lucille will introduce you to them.’ (Rezac 2011:180,93)

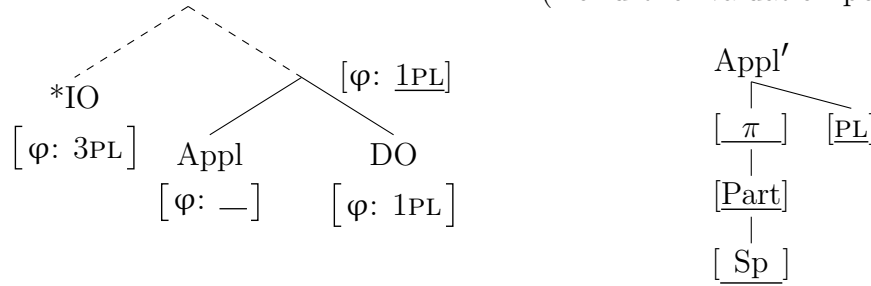
The DO in (16a-d) is either 1P or 2P, and as shown in (22c,d), 1P and 2P arguments are fully specified. Since the DO is the first argument to enter the derivation, when it merges with Appl, it will saturate the unvalued φ -feature on the head, leaving no unvalued dependent features. Since the Valuation-based Merge can only take place between two syntactic objects with appropriate features for valuation, the IO cannot enter the derivation, having no extra value to contribute to the functional head. A partial derivation of (16c) is shown in (17).

¹¹ A similar feature-overriding system has been suggested by Roberts (2010), who argues that 3rd person arguments ‘vacuously’ value the person probe on *v*, which can later be valued by 1st or 2nd person arguments (p.144). However, the exact mechanism of 1P/2P superseding 3P is not explored in his work, and the notion of ‘vacuous’ agreement may have undesirable consequences in the external systems for phi-feature agreement in general as non-agreement—which may trigger a default agreement morpheme—and ‘vacuous’ agreement—which should trigger 3P agreement—are featurally indistinguishable.

¹²One potential problem with the proposed system is that the number feature is always valued by the DO, and not by the IO. As I mentioned in Footnote 18 in Chapter 3, this may be problematic for omnivorous number agreement in Georgian as plural agreement appears on the verb whenever there is a plural argument in the sentence but it is never sensitive to the plurality of the DO in a ditransitive sentence.

(17) **nous leur* (*3 > 1)

(No further valuation possible)



As indicated in (17), the unvalued φ -feature is exhausted by the first instance of Merge; therefore, combining this structure (i.e., Appl') with the IO is impossible. Therefore, the PCC-violating sentences cannot be generated with the system at hand.¹³

4.2.3 PCC “REPAIRS”

For the ungrammatical double-clitic sentences in (16), we have already seen that there is an alternative construction where the IO is realized as a PP rather than as a preverbal clitic. As is clear in (18), the 1P/2P DO is still a clitic, but the IO is in a PP after the verb.

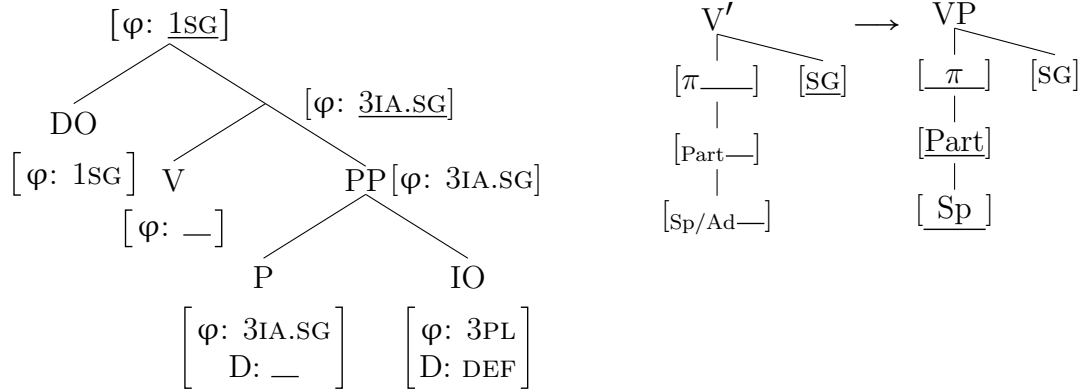
(18) *French* (Strong PCC varieties) [repeated from Chp2(9)]

- a. Elle te présenta à moi. (1 > 2.ACC)
 she you.ACC introduced to me
 ‘She introduced you to me.’
- b. Elle me présenta à toi. (2 > 1.ACC)
 she me introduced to you.SG
 ‘She introduced me to you.’ (modified—Nicol 2005)
- c. Lucille nous présentera à eux. (3 > 1.ACC)
 Lucille us.ACC will.introduce to them
 ‘Lucille will introduce us to them.’
- d. Lucille te présentera à eux. (3 > 2.ACC)
 Lucille you will.introduce to them
 ‘Lucille will introduce you to them.’ (Rezac 2011:180,93)

¹³There is nothing in the syntax that precludes the derivation proceeding without the IO. However, the resulting construction will be semantically anomalous as the Appl head establishes a relation between two entities, and without the IO, there will be one argument missing for the applicative function, which may result in a type clash. I consider the semantic computation to take place after the syntactic derivation passes through the LF interface; as such, I claim that this type of anomaly is not a syntactic one (or a crash in an interface-driven system).

With the assumed structure for the PCC “repair” constructions, the PP merges first with the verb bearing an unvalued φ -feature, and the direct object comes in later. Since the preposition is specified as 3rd person inanimate, the person of the indirect object becomes opaque.¹⁴ The PP Merges with the verb and values the number feature. Since the person features are still unvalued at this point, 1P or 2P arguments can come into the derivation as the DO to value the person features as shown in the partial derivation of (18c) in (19). As such, regardless of the person of the indirect object, 1P and 2P can be the DO.

(19) ✓ *nous ... à eux* (3 > 1)



As was the case with PCC-compliant sentences, the “repair” sentences in (18) can be generated as both the *à*-phrase and the DO have features to contribute to the unvalued φ -feature on the verb.

4.2.4 “REPAIRS” FOR PCC-COMPLIANT SENTENCES

Crucially, Rezac (2011) reports that the “repair” construction was not available for the PCC-compliant sentences as shown in (20).

¹⁴I assume that the indirect object 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 other language, we find definiteness agreement between a preposition and its nominal complement as shown in (i).

(i) *Scottish Gaelic*

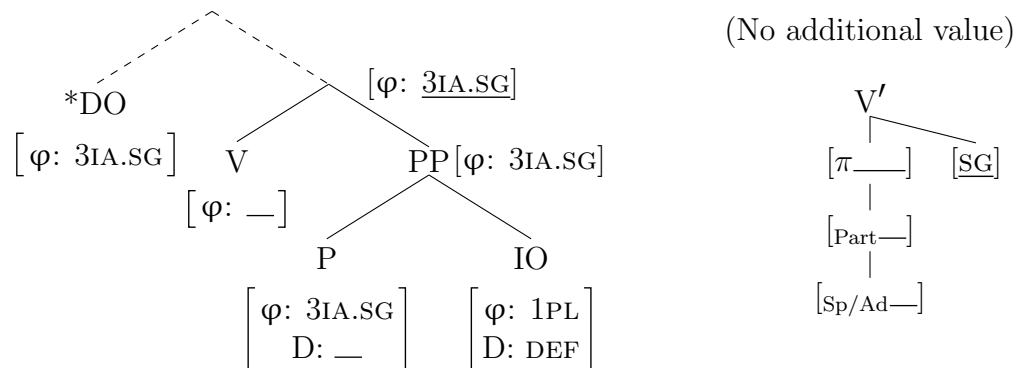
a. le clann
with.INDEF children.F.DAT
‘with children’

b. leis a’ chloinn
with.DEF the children.F.DAT
‘with the children’
(Byrne 2002:31; cited in Robinson 2008:(9))

- (20) *French* (Strong PCC varieties) [repeated from Chp2(10)]¹⁵
- a. *(%)Elle le présentera à nous. (*(%)1 > 3.ACC)
 she him.ACC will.introduce to us
 (Intended) ‘She will introduce him to us’
- b. *(%)Elle le présentera à vous. (*(%)2 > 3.ACC)
 she him.ACC will.introduce to you.PL
 (Intended) ‘She will introduce him to you(pl).’
- c. *(%)Lucille la présentera à eux. (*(%)3 > 3.ACC)
 Lucille her.ACC will.introduce to them
 (Intended) ‘Lucille will introduce her to them.’
- (elicited judgments in parentheses—Rezac 2011:2,93)

Since the PP and the 3P DO are both inanimate 3rd person, the latter cannot come into the derivation; the number feature has already been valued by the PP as shown in the partial derivation of (20a) in (21). Regardless of the person of the IO, a 3P inanimate DO is impossible in this structure.

- (21) **le ... à nous*



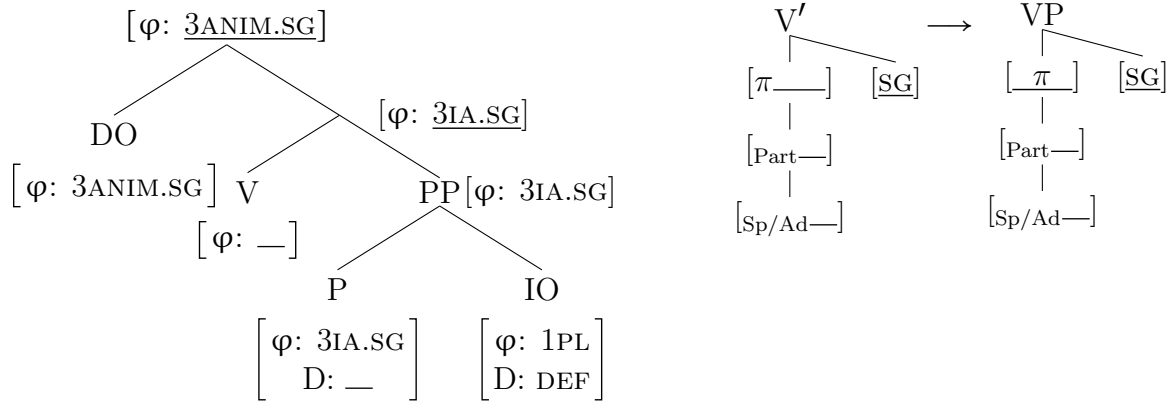
A question remains as to why the DO has to be inanimate if it is 3P, which is causing the ungrammaticality. I stipulate that this is due to the fact that the default interpretation of the theme argument is inanimate regardless of the animacy of the referent of the argument.¹⁶ It seems that this restriction is relaxed for some speakers. Specifically, there are at least some French speakers that accept sentences in (20) without any special focus on the strong pronoun, as indicated by ‘%.’ For those speakers, the DO could be animate,

¹⁵Note that these sentences are grammatical for all speakers if the strong pronoun bears contrastive focus. The judgments given in (20) are based on a non-contrastive context where the strong pronoun carries no emphasis.

¹⁶In the sentence *Alex saw the police officer*, for example, there is no grammatical requirement that the theme argument *the police officer* be an animate or sentient being, even though the referent of the DP happens to be animate, unlike the experiencer argument *Alex*. Since there is no independent evidence to suggest that there is a requirement that the theme argument be inanimate, I leave this as a stipulation that for some speakers, a DP argument introduced by the verb is by default specified as inanimate. See Section 4.2.5 for a discussion of the animacy of the DO.

which makes it possible for the DO to value the unvalued φ -feature on the verb after it has been valued by the PP specified as 3P inanimate as shown in (22).

(22) *le ... à nous* (for the speakers who accept (20a-c))



Therefore, the present analysis of the PCC and its “repair” accommodates these judgments. However, because Rezac’s (2011) analysis uses a PCC violation as a trigger for the PCC repair, this additional fact is detrimental for his global mechanism as the double-clitic construction and the “repair” construction are not in complementary distribution for these speakers.

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 the apparent complementarity between them is still explained. 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. Before extending this analysis to the weak PCC, the following section discusses the asymmetrical specifications between the DO and the IO.

4.2.5 Animacy and structural height

The Incremental Valuation mechanism described in the previous sections forces the two internal elements in an applicative structure to be featurally asymmetric. The situation where this is most pertinent is when both arguments are 3P. An applicative structure with two arguments of the same level of specification will not be generated (*3ANIM > 3ANIM, *3IA > 3IA) with the current system. The only possible combination is 3ANIM > 3IA. This is consistent with the observation that applied objects (including RECIPIENT arguments)

are generally animate. Moreover, the proposed system explains the generalization in (23) suggested by Adger and Harbour (2007).

- (23) The features which a functional head requires its specifier to bear cannot be used as probes in the head’s complement domain
(Adger and Harbour 2007:(77); cf. Nevins and Săvescu 2010:(19))

In the relevant cases, Appl requires a participant feature in its specifier, so the head cannot licence its complement argument which bears a participant feature. This generalization, as a stipulation, is necessary in an Agree system in order to account for the general tendency for a structurally higher argument to be animate. However, the current valuation system with articulated person features automatically predicts what the generalization is meant to explain.

There is still an issue with the feature specification of the DO, however. The referent of the DO can be either animate (e.g., *Emery will introduce Casey to Alex*) or inanimate (e.g., *Emery will introduce a new concept to the class*). The proposed system forces the DO to be featurally inanimate if the IO is also 3P. It may seem that this compromises the system; however, there is a good reason to believe that morphosyntactic inanimacy does not entail semantic (or actual-world) inanimacy. As introduced in Section 3.2.3, *leísta* dialects of Spanish make a morphological animacy distinction in the object clitics. The examples are repeated in (24).

(24) *Leísta Spanish*

- | | | | | | |
|----|-------------------------------|-----|----|-------------------------------|-----|
| a. | Lo | vi. | b. | Le | vi. |
| | 3SG.ACC _[−animate] | saw | | 3SG.ACC _[+animate] | saw |
| | ‘I saw it.’ | | | ‘I saw him.’ | |

(Ormazábal and Romero 2007:(15))

An additional interesting fact about these varieties of Spanish is that only the inanimate clitic can be the DO in the presence of an IO clitic as shown in (25).

(25) *Leísta Spanish*

- | | | | | | | | |
|----|--------------------------|-------------------------------|-------|----|---------------------------------|-------------------------------|-------|
| a. | Te | lo | di. | b. | *Te | le | di. |
| | 2SG.DAT | 3SG.ACC _[−animate] | gave. | | 2SG.DAT | 3SG.ACC _[+animate] | gave. |
| | ‘I gave it(him) to you.’ | | | | (Intended) ‘I gave him to you.’ | | |

(Ormazábal and Romero (2007):(16))

What is crucial here is that the inanimate clitic in (25a) may have a human referent (Ormazábal and Romero 2007:fn.9) even though the clitic is used for inanimate objects in other contexts. I take this to be indicative of the fact that when the grammar forces underspecification of some feature on an element, its interpretation can be flexible. Accordingly, a DO that is underlyingly inanimate in French, too, can refer to a human entity.^{17,18} The following section shows that the proposed syntactic mechanism explains even the weak PCC pattern where there is an overlap in availability between the double-clitic construction and the “repair” construction.

4.3 The weak PCC

Section 2.5.4 introduced the weak PCC varieties of French, in which both the double-clitic construction and the “repair” construction are available for 1P/2P combinations of internal arguments as shown in (26) and (27) repeated below.

- (26) DOUBLE-CLITIC CONSTRUCTION (Weak PCC varieties of *French*) [repeated from Chp2(23)]
- a. Elle me t' a présenté. (2SG>1SG)
she me.ACC you.DAT have introduced
'She introduced me to you'
- b. Elle te m' a présenté. (1SG>2SG)
she you.ACC me.DAT have introduced
'She introduced you to me.'
- c. *Elle me lui a présenté. (*3SG>1SG)
she me.ACC him.DAT have introduced
(Intended) 'She introduced me to him.'
- (Rezac 2011:150)

¹⁷Nevins and Săvescu (2010) draws a similar conclusion for Romanian (see (17c) and (19) therein).

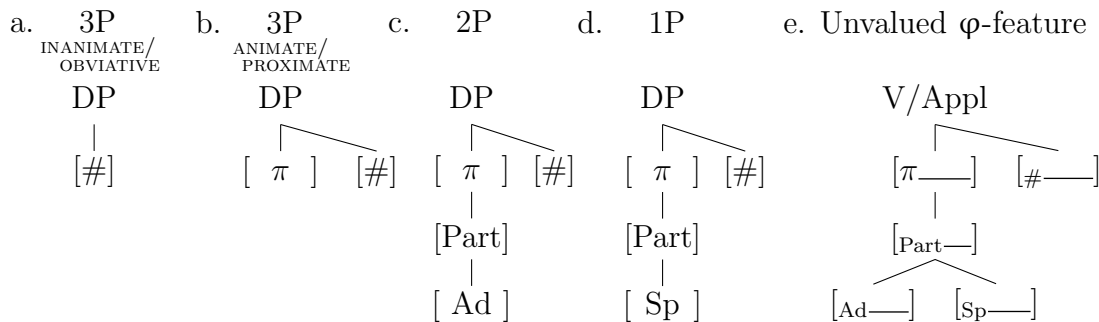
¹⁸As pointed out by Omer Preminger and Elizabeth Cowper (p.c.), the Strong PCC ($\checkmark 1/2/3 > 3, *1/2/3 > 2/1$) is in a way a context where the grammar forces a certain specification on the direct object (i.e., 3P). If the claim here is that a featural restriction in syntax does not restrict the interpretation, it should be possible for a 3P direct object in ditransitive sentences to be interpreted as 1P or 2P. However, this is clearly not the case. I suggest this is because there is an alternative way to express the intended meaning (e.g., *Elle m'a présenté à toi* [French PCC repair] 'She introduced me to you'). Speakers would naturally opt for the alternative as it is more specific than using a 3P clitic. As for the animacy contrast, there is no morphologically animate alternative to a 3P clitic in typical Romance languages. If it is the case that Leísta Spanish does not have a repair structure for the sentence in (25b), then the generalization I make here, that the interpretive component can supply an addition meaning when it is completely barred in syntax, still holds.

- [illegible]

essentially a PLC violation as both arguments can be licensed by the sole probe.¹⁹ Yet another account is given by Nevins (2007), who proposes a special condition on *Multiple Agree* called *Matched Values*, whose details are discussed in Chapter 5, in order to account for the strong vs. weak distinction. These analyses may capture the difference between the two types of PCC but introduce an idiosyncratic set of syntactic operations and conditions for different languages, which obscures the source of variation. In this section, I show that a simple modification of the unvalued ϕ -feature we used for the strong PCC captures the weak PCC pattern without having to stipulate non-argumental status for one of the arguments or a special syntactic operation/condition.

As already mentioned, 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 (28),²⁰ then we can explain the availability of 1/2 > 2/1 clitic combinations in the weak PCC varieties.

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



For the strong PCC varieties, the unvalued ϕ -feature (22e) has only one unvalued feature for the two participant features, so it could be exhausted either by 1P argument or by 2P argument. As shown in (28e), the unvalued ϕ -feature in the weak PCC languages has

¹⁹Anagnostopoulou (2005) argues that 3 > 1/2 combinations are ruled out in weak PCC languages because of the following condition on Multiple Agree.

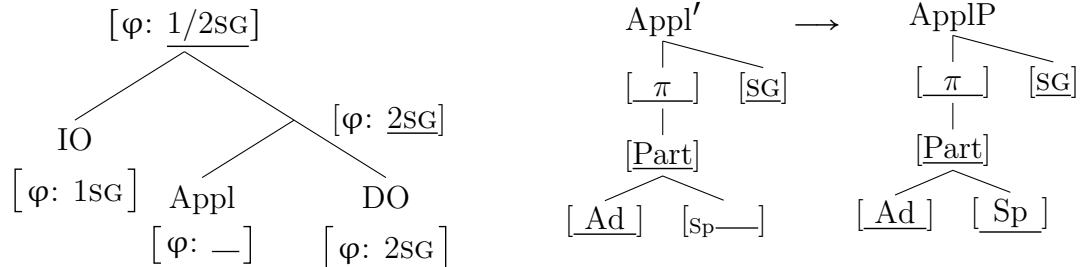
- (i) A condition on Multiple Agree (Anagnostopoulou 2005:(40))
Multiple Agree can take place only under non-conflicting feature specifications of the agreeing elements

According to her analysis, since 3P arguments are specified as [-person] and 1P/2P arguments are specified as [+person], this creates a conflict. Since Multiple Agree is prohibited in this context, the probe on *v*(-Tr) can only agree with the higher argument (3P IO) and this results in something similar to a PLC violation as the lower argument with 1P/2P feature is not licensed.

²⁰Harley and Ritter (2002a) propose this feature structure for 1st person inclusive (whose reference set includes the speaker and the addressee) for languages that have a morphological clusivity distinction. A discussion of person features in relation to clusivity is in Chapter 6

both unvalued Addressee and Speaker features, which allows for valuation by both 1P and 2P arguments. A partial derivation of the double-clitic construction with the $1 > 2$ argument combination is shown in (29).

(29) ✓ *te me* ($1 > 2$)



The first Merge operation in (29) values all dependent features of the unvalued φ -feature of Appl except for the Speaker 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 (see (17)). The “repairs” for $1/2 > 2/1$ would still be available since the preposition *à* conceals the person feature of the indirect object in the “repair” construction (see (19)). Therefore, with the syntactic machinery at hand, we can explain the weak PCC pattern without introducing a new syntactic operation/condition. In the following section, I discuss two types of “repairs” other than the *à*-phrase “repair” that I have already discussed, namely the locative “repair” in French and the *Object Camouflage* in Georgian and how we can account for these sentences without a repair mechanism.

4.4 Other types of PCC “repairs”

This section deals with two other types of PCC “repairs” aside from the prepositional “repair” that we have already dealt with. One is the locative “repair” in French, which was briefly introduced in Section 2.3, and the other is so-called *Object Camouflage* in Georgian. Although these “repairs” do not pose problems for Rezac (2011), this section explains how the proposed analysis of the PCC can be extended without difficulty to these types of “repairs”.

4.4.1 Locative “repair” in French

Rezac (2011) reports that the locative clitic *y* is used in place of the IO to construct another type of “repair” in some varieties of French.²¹ The examples are repeated in (30). This type of repair is also observed in Catalan (Bonet 1991:209).

- (30) *Varieties of French* (LOCATIVE “REPAIRS”) [repeated from Chp2(12)]
- a. *Elle l’ *y* présentera. (*LOC[2] > 3.ACC)
 she him.ACC LOC introduced
 ‘She introduced him to you.’
 - b. Lucille nous *y* présentera. (LOC[2/3] > 1.ACC)
 Lucille us.ACC LOC will.introduce
 ‘Lucille will introduce us to you/them.’
 - c. Lucille vous *y* présentera. (LOC[3] > 2.ACC)
 Lucille you.ACC LOC will.introduce
 ‘Lucille will introduce you to them.’
- (Rezac 2011:2,96,180)

As you can see in (30), the DO is a regular clitic while the IO is realized as a locative clitic *y* whose interpretation depends on the context. Although the full paradigm is not shown in (30), it is reported that the availability of the locative “repair” aligns perfectly with the *à*-phrase “repair” we have seen, meaning that this type of “repair” is also in complementary distribution with the construction with two non-locative clitics.

- (31) The PCC and its two types of “repairs” in French

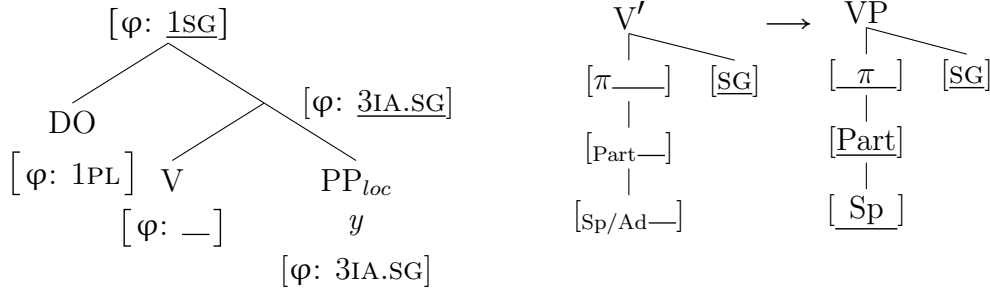
| DAT | ACC | DOUBLE CLITIC | <i>À</i> -phrase “REPAIR” | LOCATIVE “REPAIR” |
|-----|-----|---------------|---------------------------|-------------------|
| 1 | 3 | ✓ (13a) | */% (20a) | * |
| 2 | 3 | ✓ (13b) | */% (20a) | * (30a) |
| 3 | 3 | ✓ (13c) | */% (20b) | * |
| 1 | 2 | * (16a) | ✓ (2 V à 1) (18a) | ✓ |
| 2 | 1 | * (16b) | ✓ (1 V à 2) (18b) | ✓ (30b) |
| 3 | 1 | * (16c) | ✓ (1 V à 3) (18c) | ✓ (30b) |
| 3 | 2 | * (16d) | ✓ (2 V à 3) (18d) | ✓ (30c) |

This is one of the facts that motivated Rezac (2011) to take a global approach to the PCC, with the “repairs” contingent on the presence of a PLC violation. Rezac’s (2011)

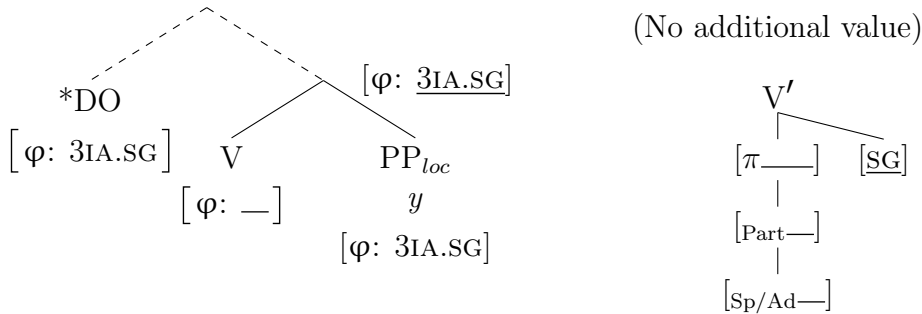
²¹French speakers I consulted do not accept the locative repair in (30b). It seems that even speakers who accept the locative PCC “repair” require a very rich context to supply the meaning of the locative clitic.

analysis of this type of repair is analogous to the \hat{a} -phrase repair where the locative clitic is a non-intervener for agreement, allowing the accusative argument to be licensed. The syntactic system proposed here can also explain the availability of locative “repair”, if we assume that like \hat{a} -phrases, the locative clitic is specified as 3P inanimate singular. The locative clitic is essentially a PP just as \hat{a} -phrases with an unfocused strong pronoun are, but it is phonologically dependent, so cliticization is required.²² A partial derivation of relevant cases are shown in (32) and (33).

(32) ✓ *nous y* (LOC > 1)

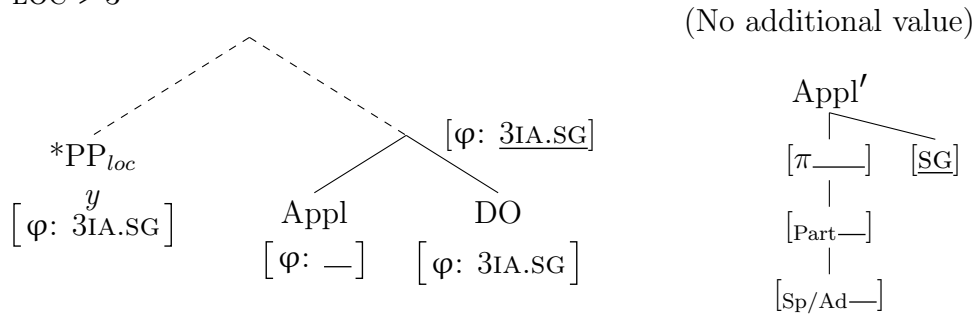


(33) **l' y* (LOC > 3)



It may seem plausible to place a locative clitic in the applicative construction. However, if we replace the IO with a locative clitic, we always obtain an undervivable structure as it is specified as 3P inanimate singular as exemplified by (34).

(34) * $_{LOC} > 3$



²²In the case of \hat{a} -phrases with a strong pronoun, the pronoun inside does not cliticize because, as I have suggested in Section 2.5.1, \hat{a} -phrases constitute phases. The locative clitic, although also being a PP, the whole PP is phonologically dependent, so it can undergo cliticization to the verb.

If we replace the DO with a locative clitic, on the other hand, it will cause a semantic type clash (this applies to the previous case where the locative clitic is in the specifier of ApplP as well). The syntactic system proposed here does allow the locative to be the complement of Appl; however, this results in an uninterpretable structure. Pyllkänen’s (2008) semantics of low recipient applicative is in (35).

- (35) *Low-AppI* (Recipient applicative)

$$\llbracket \text{AppI} \rrbracket = \lambda x. \lambda y. \lambda f_{\langle e, \langle s, t \rangle \rangle}. \lambda e. f(e, x) \wedge \text{theme}(e, x) \wedge \text{to-the-possession}(x, y)$$

In (35), the applicative head denotes a function that takes two individuals as its initial arguments, saturating the two individual variables x and y . However, as Kayne (1975) shows, the locative clitic in French is a Pro-PP. It stands in for PP elements such as *à*-phrases and locative adverbials as shown in (36).

- (36) a. J’ **y** répondrai volontiers, **à tes questions**.
 I LOC will.answer gladly to your questions
 ‘I will gladly answer your questions.’
 b. Il **y** pense souvent, **à cette fille**.
 he LOC think often about that girl
 ‘He often thinks about that girl.’
 c. Elle **y** a rencontré Jean, **à Paris**.
 she LOC has met Jean in Paris
 ‘She met Jean in Paris.’
 d. On a trouvé ton livre **sur la table**; on **y** a trouvé le mien
 they have found your book on the table they LOC have found the mine
 aussi.
 too.
 ‘They found your book on the table; they found mine there too.’
 (Kayne 1975:106)

Moreover, the locative clitic is not quantifiable unlike a pronoun inside a PP as shown in (37).

- (37) a. Paul **leur** fait confiance **à toutes**.
 Paul them.DAT make confidence in all
 ‘Paul has confidence in them all.’
 b. *Il s’ **y** fie **à toutes**.
 he REFL LOC relies on all
 (Intended) ‘He trusts them all.’
 (Kayne 1975:107)

We can conclude from these facts that the locative clitic is not an individual-denoting element. Since it can replace a PP, it is most likely a function of type $\langle e, t \rangle$. Since the applicative head cannot take something of type $\langle e, t \rangle$ as its first argument, the semantic derivation will fail, leaving the structure uninterpretable. In sum, locative “repairs” are simply \dot{a} -phrase “repairs” with the \dot{a} -phrase replaced with the locative clitic. Therefore, they pattern exactly like \dot{a} -phrase “repairs” as expected. The locative clitic may enter the applicative construction in the syntax; however, the resulting structure cannot be interpreted as there is a type clash. The following section discusses another type of repair observed in Georgian. My analysis of this type of repair is essentially the same as Rezac’s (2011); however, it involves no repair process.

4.4.2 *Object Camouflage in Georgian*

Georgian prohibits agreement with 1st/2nd person direct object in the presence of an indirect object (Boeder 2002, Harris 1981). It essentially exhibits the strong PCC pattern as illustrated in (38).

- (38) a. *vano (me) m- adar -eb -s givi-s. (*3 > 1)
 Vano-NOM me-DAT 1SG.O- compare -TS -3SG.SU Givi-DAT
 (Intended) ‘Vano is comparing me to Givi.’
- b. *vano (šen) g- adar -eb -s givi-s. (*3 > 2)
 Vano-NOM you-DAT 2SG.O- compare -TS -3SG.SU Givi-DAT
 (Intended) ‘Vano is comparing you to Givi.’
- c. *vano (me) g- adar -eb -s. (*2 > 1)
 Vano-NOM me-DAT 2SG.O- compare -TS -3SG.SU
 (Intended) ‘Vano is comparing me to you.’
- d. vano anzor-s Ø- adar -eb -s givi-s. (3 > 3)
 Vano-NOM Anzor-DAT 3.IO- compare -TS -3SG.SU Givi-DAT
 ‘Vano is comparing Anzor to Givi.’
- e. m- ašlev -s sačukr-eb-s.²³ (1 > 3)
 1SG.O- give -3SG.SU gift-PL-DAT
 ‘He gives gifts to me.’
- (Harris 1981:48(1a)/(2a),282 note 3(i),49(5a))

²³The verb can be broken down further as *m-a-šl-ev-s* 1SG.O-NV-have-CAUS-3SG.SU ‘cause me to have’. However, in Georgian, PCC effects can also be found with causatives between the theme and the causee as shown below.

- (i) *anzor-ma ga- m- a- lanšyv -in -a vano-s (me).
 Anzor-ERG PV- 1SG.O- NV- insult -CAUS -3SG.SU Vano-DAT me-NOM
 ‘Anzor made Vano insult me.’ (Harris 1981:80; cited in Rezac 2011:249)

As an alternative to the ungrammatical sentences in (38a-c), Georgian uses what is called *object camouflage* or *tavization* (Harris 1981; Bonet 1994) where the direct object with a local person feature is expressed using a periphrastic form (i.e., *čem-i tav-i* ‘my self/head’ and *šen-i tav-i* ‘your self/head’—henceforth, *tav*-phrases) as shown in (39).

(39) *Georgian object camouflage*

- a. vano **čem-s** **tav-s** Ø- adar -eb -s givi-s. (3 > 1[*tav*])
 Vano my-DAT self-DAT 3.IO compare -TS -3SG.SU Givi-DAT
 ‘Vano is comparing me[myself] to Givi.’
- b. vano **šen-s** **tav-s** Ø- adar -eb -s givi-s. (3 > 2[*tav*])
 Vano your-DAT self-DAT 3.IO compare -TS -3SG.SU Givi-DAT
 ‘Vano is comparing you[yourself] to Givi.’

(Harris 1981:49(6a),(3a))

As you can see in (39), the DO is replaced with *čem-s tav-s* ‘my self/head-DAT’ or *šen-s tav-s* ‘your self/head-DAT’ and the verb agrees with the IO *givi-s*. The PCC and its “repair” in Georgian is summarized in (40).

(40) The PCC and its “repair” in Georgian

| GOAL | THEME ²⁴ | DOUBLE OBJECT | OBJECT CAMOUFLAGE |
|------|---------------------|---------------|--------------------------------|
| 1 | 3 | ✓ (38e) | * |
| 2 | 3 | ✓ | * |
| 3 | 3 | ✓ (38d) | * |
| 1 | 2 | * | ✓ (<i>šen-s tav-s</i>) |
| 2 | 1 | * (38c) | ✓ (<i>čem-s tav-s</i>) |
| 3 | 1 | * (38a) | ✓ (<i>čem-s tav-s</i>) (39a) |
| 3 | 2 | * (38b) | ✓ (<i>šen-s tav-s</i>) (39b) |

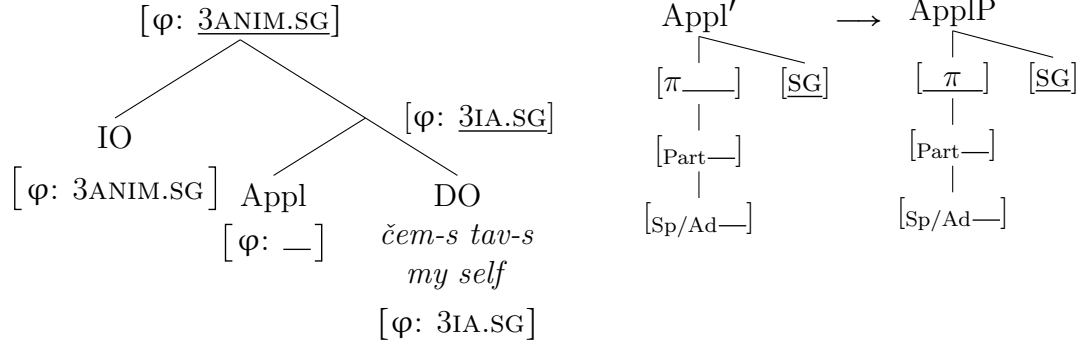
According to Rezac’s (2007; 2011) analysis, the interface algorithm \mathfrak{R} inserts an uninterpretable phi-probe (or an Agree/Case licenser) within the unlicensed 1P or 2P pronoun in order to ‘strengthen’ the argument. Since the phi-features of the 1P/2P argument are licensed within the DP, the head of the noun phrase *tav* agrees with the external probe as 3SG. Since the lower argument (DO or THEME) is now 3P for the probe on *v*, there is no PLC violation because even if the higher argument is 1P/2P, its person features can be licensed by *v*.

If we assume that the only available structure for ditransitives in Georgian is the applicative construction, we can straightforwardly account for the *tavization* pattern

²⁴In Georgian, there is no morphological case distinction between the goal argument and the theme argument in this clause type.

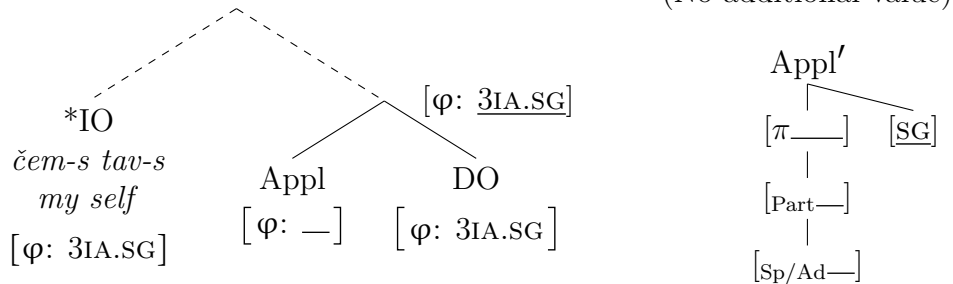
using the Incremental Valuation analysis as well. What is crucial is that the phrase *čem-s tav-s* ‘my self/head-DAT’ is not just 3P singular but 3P singular inanimate, which is implied by the translation of the head noun *tav*, ‘self’ or ‘head.’²⁵ The *tav* phrases are simply alternative forms of 1P and 2P pronouns, and these forms are featurally 3P inanimate. However, being 3P inanimate, it is only available as the DO (i.e., the complement of Appl) as illustrated by the partial derivation of (39a) in (42).

(42) $3 > 1[tav]$ (= (39a))



The *tav*-phrase as the DO is specified as 3P inanimat and the IO (*givi*) is specified as 3P animate. Since the second argument can contribute a value to the unvalued φ -feature on Appl, the structure is generable. However, if we reverse the order of arguments, the derivation cannot be generated as shown in (43).

(43) $*1[tav] > 3$



If the phrase *čem-s tav-s* ‘my self/head-DAT’ tries to enter the derivation as the IO as shown in (43), it does not have an additional value to contribute to the unvalued φ -

²⁵Basque also uses a word that is translated as ‘head’ for anaphors. This word triggers 3P agreement as shown in (i).

(41) egun-o-tan, neu-re buru-ak kezka-tzen na-Ø-u-Ø.
 day-ART-in me-GEN head-ART_{sg}.ERG worry-IMPERF 1ABS-ABS.SG-have-3SG.ERG
 ‘These days, my(own)self worries me.’ (Basque, Laka 1996:Chp8(85))

The subject in ergative case is a reflexive whose literal translation is ‘my own head’ and triggers a 3P singular agreement on the auxiliary.

feature on Appl. Since the *tav*-phrase does not have an appropriate feature to trigger a Merge operation, the structure with the *tav*-phrase as the IO is not generable. Thus, this explains why the sentences in (39) do not mean ‘Vano is comparing Givi to me/you.’²⁶

To summarize, the *tav*-phrases in Georgian are simply alternative forms of 1P and 2P arguments; however, because they are specified as 3P inanimate as a whole, their occurrence is limited to the complement position of Appl as is forced by the Incremental Valuation system. This rather coincidentally results in the object camouflage in Georgian filling in the interpretational gap created by the PCC. Therefore, as is the case with the French *à*-phrase “repair” in stong PCC varieties, we can explain the apparent complementarity between the PCC and what is elsewhere construed as a repair (that is, the object camouflage) without the latter being dependent on a PCC violation. The following section addresses the question of how the current structure building mechanism allows the features of the head noun to be visible at the root of a possessive noun phrase.

4.4.3 Note on possessive phrases and their feature specification

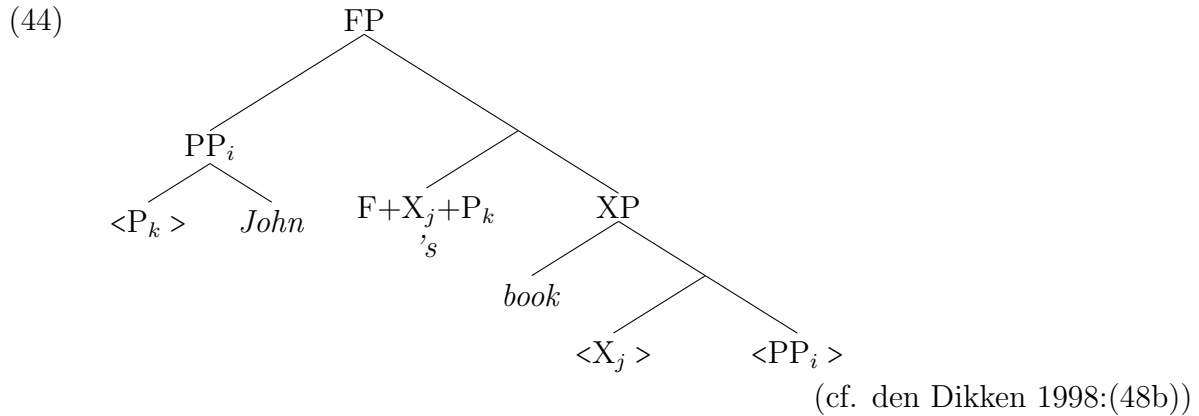
Under the standard assumptions, the features of the head noun of a possessive phrase control agreement with an external probe. For example, the possessive phrase *my father* is composed of a 1P possessor (*my*) and a 3P possessum (*father*) and triggers 3P agreement and not 1P agreement at least in English (i.e., *My father is/*am...*). Given the Incremental Valuation system, this is not trivial. If we assume that the possessor and the possessum value the same unvalued feature, just as the IO and the DO of a ditransitive sentence value the same unvalued ϕ -feature on Appl, and that the possessor is structurally higher, then we predict the features of the possessor to be visible at the root of the entire phrase (e.g., *my father*=1P singular). This is especially pertinent in light of the tavization pattern in Georgian as *tav*-phrases take a form of a possessive phrase (e.g., *čem-s tav-s* / me.GEN-DAT head-DAT / ‘myself, my head(DAT)’). I suggest

²⁶Outside of the PCC repair contexts, tavization is used as reflexive (Harris 1981; Boeder 2002; Rezac 2011). Therefore, in a ditransitive sentence, tavization can be applied to a 3P DO; however, it is only interpreted as reflexive as shown below.

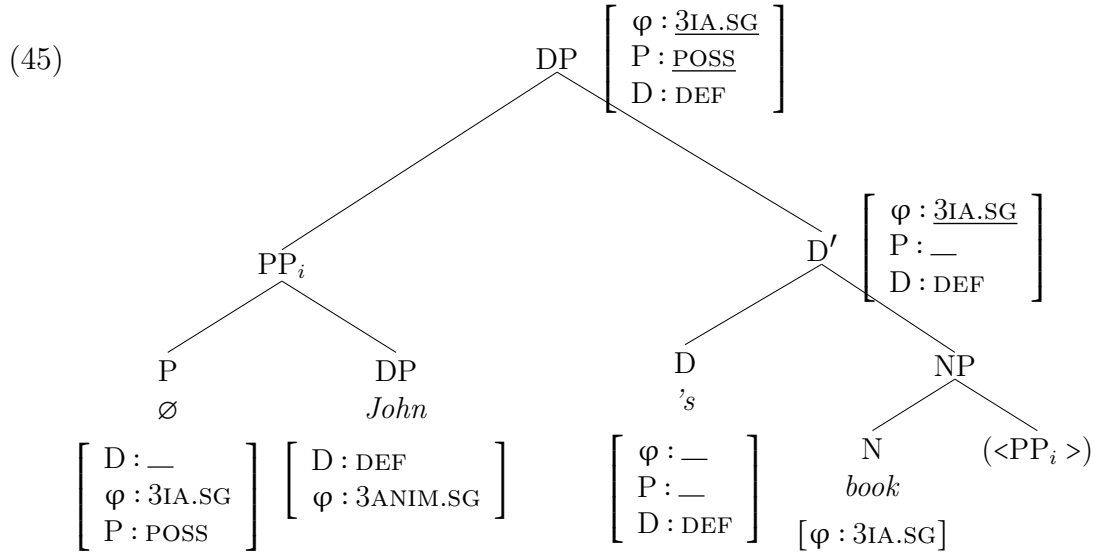
- (i) vano-m tavisi tav-i še- m- adar -a (me).
 Vano-ERG self’s self-NOM PV- 1SG.O- compare -3SG.SU me-DAT
 ‘Vano_i compared himself_i to me.’ (Harris 1981:283 Chp3 note5)

Although I am not aware of the distribution of Georgian reflexives in ditransitive sentences, the proposed system predicts that Georgian sentences corresponding to *Vano compared me/you to himself* and *I/you compared you/me to {my/your}self* are ruled out by the PCC because the reflexives are analyzed here as 3P inanimate. However, if the sentence corresponding to *Vano compared Anzor to himself* is grammatical (which I suspect is indistinguishable from *Vano compared himself to Anzor*), I would be forced to allow the reflexives to be featurally animate or inanimate just as I claimed for 3P human arguments in general.

that the possessor and the possessum of a possessive phrase do not featurally interact directly through phi-features. More specifically, if we employ the structure proposed by den Dikken (1998) for possessive DPs, we can explain why the *tav*-phrase (used as an alternative to 1P and 2P pronouns) is specified as 3P inanimate rather than 1P or 2P. den Dikken (1998) claims that phrases such as *John’s book* are derived from an underlying structure where the possessor (*John*) is within a prepositional phrase as shown in (44).



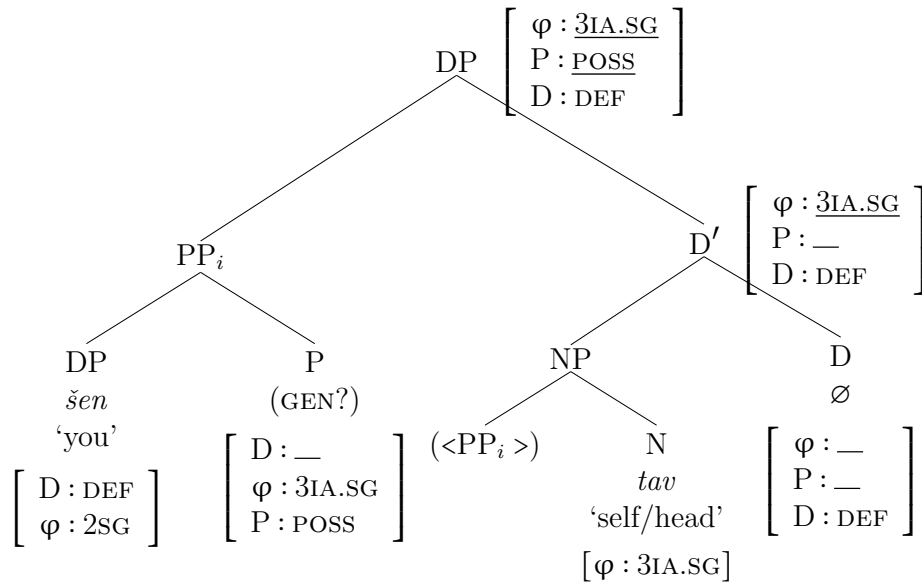
In (44), the possessum and the possessor in a PP are mediated by the head X, and the functional category F takes the XP as its complement. The preposition goes through successive cyclic head movement to F, which expands the minimal domain, allowing the possessor PP to move to Spec FP. The structure in (44) is problematic, in that it could generate a phrase such as **John’s the book* since the possessum seems to be a DP as well. I modify the structure for this reason, but what is crucial for our purposes is the fact that the possessor is in a PP (see (45) below). If this is the case, the person features of the possessor can be made opaque to features outside the whole DP in the same way the person features of the IO are concealed in the French *à*-phrase PCC “repair” discussed in Section 4.2.3. Essentially, the preposition is specified as 3P inanimate, and the preposition and the possessor DP merge for the D-feature. I suggest that the movement of the possessor PP is triggered by the P-feature, which makes the possessive D (realized as *’s*) distinct from the definite D (realized as *the*). The suggested structure for a possessive DP is shown in (45). I will not work out how the possessor PPs enter the derivation in the original position, but I will leave the PP movement as part of the structure as it is an essential component of den Dikken’s (1998) proposal. Note, however, that it would suffice for our purposes to have the possessor DP enclosed in a PP simply merge in the Spec DP for our purposes.



As shown in (45), the phi-features of the head noun (*book*) are visible at the root of the structure. This explains why phrases such as *my father* do not trigger 1P agreement and why the French equivalent *mon père*, being specified as 3P, can be the DO of a ditransitive sentence (e.g., *Elle a présenté mon père à Jean*) without causing a PCC violation.²⁷

Returning to tavization in Georgian, if we assume that the possessive DPs in Georgian have a structure analogous to (45), then the phi-features visible at the root of *tav*-phrases (*čem-i tav-i* ‘my self/head(NOM)’ and *šen-i tav-i* ‘your self/head(NOM)’ are those of the head noun *tav*, which is 3P inanimate. The structure for the 2P *tav*-phrase is shown in (46).

(46) *tav*-phrase in Georgian



²⁷I discuss ditransitive sentences in French with full DP arguments in Section 4.5.

The 2P feature of the possessor is concealed by the postposition, which is inherently valued as 3P inanimate. The phi-features of the head noun *tav* (3P inanimate) are visible at the root of the possessive phrase. Therefore, they can and must enter the low applicative construction as the DO and not as the IO. This explains the limited and complementary availability of the object camouflage in Georgian shown in (40) without implementing a repair mechanism as suggested by Rezac (2011). The following section discusses a difference between French and Georgian in the behaviour of full DP arguments in PCC sentences.

4.5 Full DP arguments and the PCC in French

One of the properties of French (and other Romance languages) that I have not discussed is that if at least one of the internal arguments is a full DP (as opposed to a clitic), no PCC violation arises. As is shown in (38a-b), this is not the case in Georgian. In this section, I show that the difference derives from the (un)availability of the prepositional dative construction. Specifically, French has two ditransitive configurations: the applicative construction in (2) and the prepositional dative construction in (4). The only ditransitive construction in Georgian, on the other hand, is the applicative construction. In essence, the availability of the prepositional dative construction gives French a way to obviate the PCC when there is a full DP internal argument. The relevant examples of French are in (47) along with Georgian examples in (48) for comparison.²⁸

(47) French

- a. Elle m’ a présenté {**Jean** / **à Jean**}. (1 > 3; 3 > 1)
 she me.DAT/ACC has introduced **Jean**_{DO} **to Jean**_{IO}
 ‘She introduced Jean to me/me to Jean.’
- b. Elle t’ a présenté {**Jean** / **à Jean**}. (2 > 3; 3 > 2)
 she you.DAT/ACC has introduced **Jean**_{DO} **to Jean**_{IO}
 ‘She introduced Jean to you/you to Jean.’

(48) Georgian

- a. vano (me) m- adar -eb -s **givi-s**. (1 > 3; *3 > 1)
 Vano-NOM me-DAT 1SG.O- compare -TS -3SG.SU **Givi-DAT**
 = ‘Vano is comparing Givi to me.’
 ≠ ‘Vano is comparing me to Givi.’

²⁸There is no morphological case distinction between the IO and the DO in this clause type; therefore, *givi-s* can either be the DO or the IO. Moreover, if the 1P/2P agreement on the verb is not present (hence, 3P zero agreement), then the sentences mean ‘Vano is comparing him to Givi/Givi to him.’ Overt 1P/2P pronouns without agreement are ungrammatical (**vano me/šen Ø-adarebs givis*).

- b. vano (šen) g- adar -eb -s **givi-s.** (2 > 3; *3 > 2)
 Vano-NOM you-DAT 2SG.O- compare -TS -3SG.SU **Givi-DAT**
 = ‘Vano is comparing Givi to you.’
 ≠ ‘Vano is comparing you to Givi.’ (Harris 1981:49(5a)/48(2a))

The person combinations of the internal arguments that constitute a PCC violation when both of the arguments are clitics (see (2c,d)) do not result in ungrammaticality when the IO is a full DP in an *à*-phrase as shown in (47). This is contrary to the Georgian pattern in (48) where PCC effects are observed even with a full DP IO.

Rezac (2011) considers all French ditransitive verbs to take the prepositional dative construction (p. 121). If the dative argument is a clitic, it moves to a position between the probe at *v* and the accusative argument, where it may act as an intervener as discussed in Chapter 2. When the dative argument is a full DP, there is no such movement and the accusative argument, if it is 1P/2P as in (47), can be licensed without the intervention of the dative argument. Although the clitic movement seems unmotivated, this analysis does explain the absence of PCC effects with a full DP argument in French. However, there is evidence suggesting that French ditransitive sentences with two full DP internal arguments take the applicative construction rather than the prepositional dative construction. The sentences in (49) have a quantified expression (Q) as one of the internal arguments and contain a bound variable pronoun (*x*) in the other internal argument.²⁹ The IO is in an *à*-phrase, and there is no marking on the DO DP.

(49) *French*

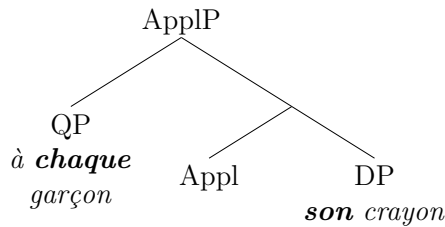
- a. Kim a donné [à chaque_i garçon] [son_i crayon]. (V [*IO* à Q] [*DO* *x*])
 Kim has given to every boy his pen
 ‘Kim gave every boy his pen.’
- b. % Kim a donné [son_i crayon] [à chaque_i garçon]. (V [*DO* *x*] [*IO* à Q])
 Kim has given his pen to every boy
 ‘Kim gave every boy his pen.’
- c. Kim a donné [chaque_i livre] [à son_i propriétaire]. (V [*DO* Q] [*IO* à *x*])
 Kim has given every book to its owner
 ‘Kim gave every book to its owner.’
- d. * Kim a donné [à son_i propriétaire] [chaque_i livre]. (V [*IO* à *x*] [*DO* Q])
 Kim has given to its owner every book
 (Intended) ‘Kim gave every book to its owner.’
 (judgements augmented—Malchukov et al. 2007:(80); cf. Harley 2002:(56))

²⁹Either order of internal arguments is possible in French (*V* à *IO* *DO* or *V* *DO* à *IO*; Roberge and Troberg 2007)

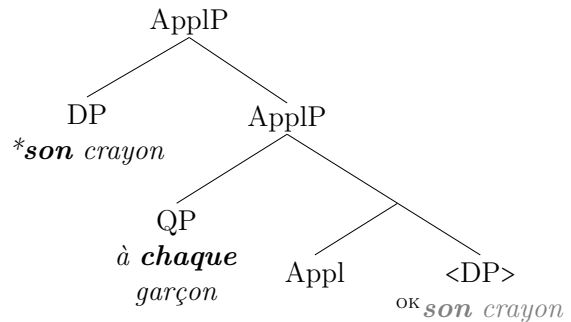
In (49a), the quantifier *chaque* ‘every’ is in the à-phrase IO, which precedes the DO with a bound pronoun. The order of the two internal arguments is reversed in (49b). In (49c), the quantifier is now in the DO, which is followed by the IO with a bound pronoun. The IO with a bound pronoun precedes the DO with the quantifier in (49d). The reported judgements for (49a), (49c), and (49d) are confirmed by speakers I consulted. They find (49a) and (49c) to be grammatical with the co-varying interpretation while (49d) is greatly degraded or ungrammatical. Speakers seem to disagree on the grammaticality of (49b). Let us consider how the applicative construction fares in comparison to the prepositional dative construction in accounting for these sentences. In the applicative construction, the IO c-commands the DO, and without movement, the IO precedes the DO. In order for the DO to precede the IO as in (49b/c), the DO needs to move to a position where it c-commands the IO. The four possible scenarios corresponding to the sentences in (49a-d) are illustrated in (50a-d). Here, I assume that the DO optionally undergoes A-movement to adjoin to ApplP.³⁰

(50) Applicative structure and predicted judgments (in line with actual judgments)

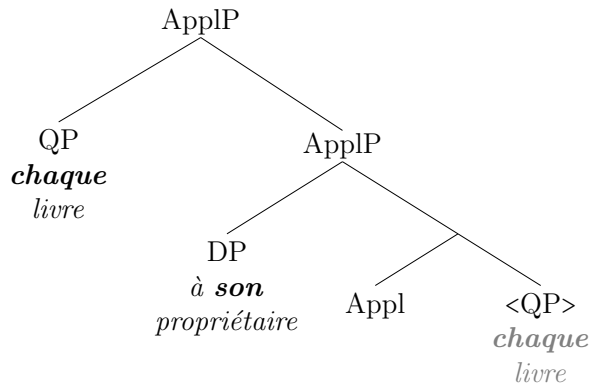
a. (49a)



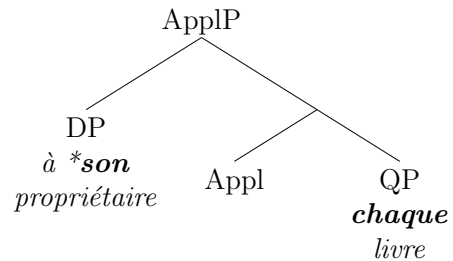
b. (*) (49b) WCO w/o reconstruction



c. (49c)



d. * (49d) WCO



³⁰I remain agnostic as to what motivates this optional movement. However, I consider the two surface orders of the DO and the IO to reflect the presence/absence of the optional movement.

The pattern can be explained in terms of weak crossover (WCO) if we assume the applicative construction as in (50). Assuming that Quantifier Raising (QR) is \bar{A} -movement, quantificational expressions and *wh* expressions raising over a possessive pronoun coindexed with them will cause a weak crossover violation (e.g., **Who_i was his_i dog fed by t_{wh}?* Wasow 1972:136; **Qui_i sa_i mère a vu t_{qui}?* [French] ‘Who_i did his_i mother see?’ Mathieu 1999:(28a)). In (50a) and (50c), the quantified expression c-commands the bound variable pronoun (after the optional A-movement in (c)); therefore, no crossover violation is expected. In (50d), the quantifier is c-commanded by the noun phrase with the bound pronoun, and this is a context where QR of the quantifier will cause a weak crossover violation. In fact, the corresponding sentence (49d) is ungrammatical. Even though the quantifier is c-commanded by the possessive DP in the surface position in (50b), this structure can escape the weak crossover violation by reconstructing the DO to its base-generated position. This obviation of weak crossover is possible in English as shown by Fox (1999).

- (51) a. ??[His₁ father]₂ wrote to every boy₁ [PRO₁ to be a genius].
 b. [His₁ father]₂ seems to every boy₁ [t₂ to be a genius].
- (Fox 1999:(6))

In (51a), we obtain a weak crossover violation because the noun phrase with the possessive pronoun coindexed with the quantified expression is in the path of QR. However, the raising construction in (51b) is grammatical because the possessive DP can reconstruct to the embedded infinitival clause to clear the path of QR. I suggest that the same reconstruction analysis can be applied to (50b) to account for the speakers that accept the sentence in (49b). For those speakers who do not accept (49b), the reconstruction is not available, which is why we obtain a weak crossover violation, resulting in the degraded judgement. Therefore, the applicative construction can straightforwardly explain the pattern in (49) including the variable judgement on (49b). Note that only \bar{A} -movement induces a weak crossover violation, but this is not true of A-movement as evidenced by the raising construction in (52).

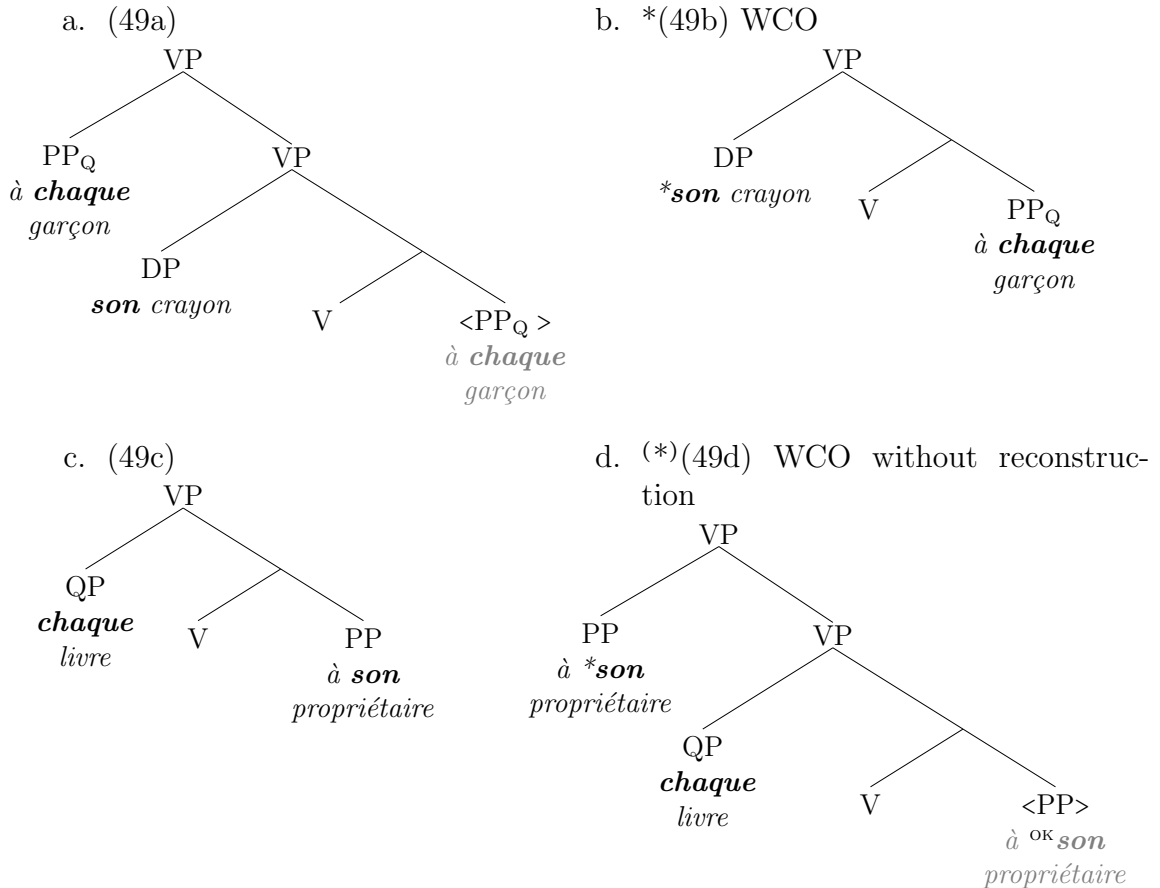
- (52) Every child₁ doesn’t seem to his₁ father [t₁ to be smart]. (Sauerland 2003:(7))

The quantified expression *every child* undergoes A-movement from within the embedded infinitival clause to Spec, TP in the matrix clause. This movement crosses over a possessive pronoun coindexed with the quantified expression but does not trigger a weak

crossover violation. I suggest that the same holds true of the optional A-movement in (50b,c) as well as in (53a,d) below.

If we assume the prepositional dative construction, on the other hand, we predict a slightly different, unattested pattern. The four possible scenarios in the order of the sentences in (49) are illustrated in (53) with the prepositional dative construction. The displaced *à*-phrase is assumed to adjoin to VP here although the landing site could well be higher than VP. With the prepositional dative construction, we predict that (49a) and (49c) are grammatical; however, (49b) is predicted to be ungrammatical due to a weak crossover violation as the possessive DP c-commands the quantified expression. Reconstruction may salvage the structure in (53d). The prepositional dative construction does not explain the variation in judgement of (49b) as the linear order suggests there is no movement, which precludes the option of reconstruction.

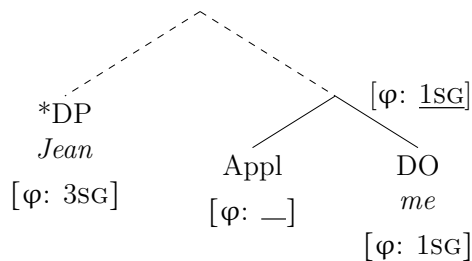
- (53) Prepositional dative structure and predicted judgments (inconsistent with actual judgments: a ✓, b %, c ✓, d ★)



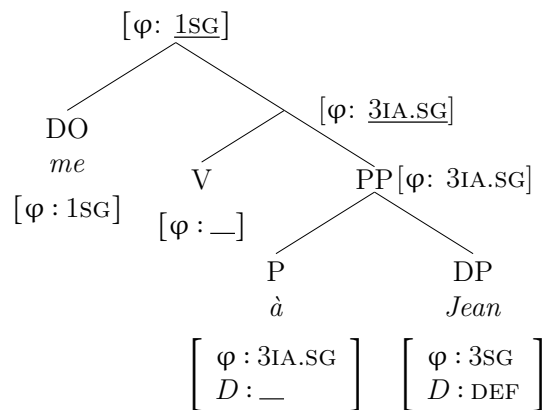
On the other hand, speakers seem to agree on the unacceptability of the sentence in (49d), but the option of reconstruction ought to be available for the structure in (53d). Even if reconstruction is not an option, the prepositional dative construction does not account for the speakers who accept the sentence in (49b). Therefore, the applicative construction in which the IO c-commands the DO is more suitable to account for the pattern in (49). This poses a challenge to Rezac’s (2011) conception of French ditransitive sentences with two full DP internal arguments. Nevertheless, Rezac’s (2011) Interface Algorithm analysis, as discussed in Chapter 2, still explains the grammaticality of the sentences in (47) even with the applicative construction. However, since full DP arguments do not undergo cliticization, the probes on v ($[u\pi]$ and $[u\#]$) will both agree with the higher argument (i.e., IO), leaving the lower argument completely unlicensed. If the higher argument is in a (full) PP, then both arguments can be licensed (IO by P and DO by v), but the availability of this full preposition (without the Interface Algorithm \mathfrak{R}) will render the whole global mechanism unnecessary.

The Incremental Valuation analysis proposed here easily accounts for the difference between Georgian and French as well as for the binding facts in (49). As for the sentences in (47), the proposed analysis only generates the prepositional dative construction. The two possible constructions and the relevant features for the sentence in (47a) (i.e., *Ell m’a présenté à Jean*) are shown in (54).

(54) a. Applicative construction



b. Prepositional dative construction

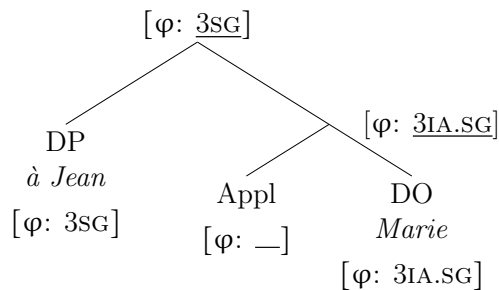


The applicative construction (54a) is ruled out as the IO has no additional value to contribute to the unvalued φ -feature on Appl after it has been valued by the 1P DO, which is exactly how the clitic combination *me lui* is ruled out. The prepositional dative construction (54b), on the other hand, is featurally feasible as the more highly specified argument (i.e., the 1P DO) enters the derivation after the less specified goal PP as in

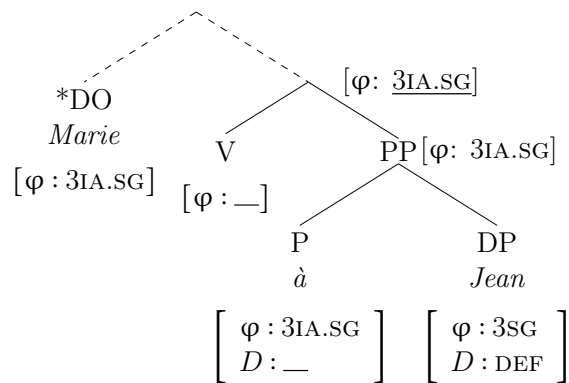
the case of *à*-phrase “repair.”³¹ The ungrammaticality of the Georgian counterparts in (38) can be explained if the language does not have the prepositional dative construction available or if there is no appropriate postposition for the verb.³² These sentences are not generable in the exact way shown in (54a) where the DO exhausts the φ -feature on Appl. This language needs to resort to an alternative form of 1P/2P with the person features concealed as discussed in the previous section.

Turning to ditransitive sentences with two full DP internal arguments like those in (49), the Incremental Valuation system only generates the applicative version as shown in (55) for the sentence *Elle a présenté Marie à Jean* ‘She introduced Marie to Jean.’

(55) a. Applicative construction



b. Prepositional dative construction



³¹Note that the sentences in (47) contain a 1P/2P clitic, and the binding facts I presented in (49) are for sentences with two full DP internal arguments. Binding facts in sentences with a 1P/2P clitic seem to support the prepositional dative structure in (54b).

- (i) Context: *The speaker was in a counselling session with a psychiatrist. She made the speaker discover his true nature.*

Elle m' a présenté *(à) moi-même.
she me has introduced to myself

‘She introduced me to myself.’

The reflexive *moi-même* can be properly bound by *me* in a prepositional dative construction. If we have an applicative structure, then in order to maintain the binding relation between the arguments, it must be the case that the clitic *me* is the IO and the reflexive is the DO; however, the preposition *à* cannot be removed in (i) above.

³²There is in fact a postposition that means ‘for’ that can be used for other ditransitive verbs.

- (i) turme dedas čau- bar -ebixar mašçavlebli-tvi
apparently mother.DAT PV- render -TS teacher-for
‘Apparently Mother turned you over to the teacher.’

(Harris (1981):124(15a))

The Incremental Valuation system again forces *Marie* in (55) to be featurally 3P inanimate. As discussed in Section 4.2.5, this does not entail semantic inanimacy. Since the IO *Jean* has an extra value to pass on to the φ -feature on Appl, the applicative construction is generable. However, the prepositional dative construction is not possible as the DO has no additional value to give to the φ -feature on V.³³ Consequently, the only available construction for ditransitives with two full DP arguments is the applicative construction, and the binding facts in (49) can be explained as described above. The summary of generable structures under the Incremental Valuation analysis for all the argument combinations is in (56).

(56) Incremental Valuation and generable structures

| DIRECT OBJECT | INDIRECT OBJECT | |
|---------------|--|---|
| | 1P/2P | 3P FULL DP |
| 1P/2P | Prepositional Dative <i>me V à toi/te V à moi</i> | Prepositional Dative <i>me/te V à DP_{io}</i> |
| 3P FULL DP | Applicative <i>me/te V DP_{do}</i> | Applicative <i>V DP_{do} à DP_{io}</i> |

Finally, the status of the word *à* may be of concern here as the present analysis generates two types of constructions for French ditransitive sentences. Following Jaeggli (1982), I consider the element *à* in the applicative construction to be a Case marker (specifically, a marker for dative Case assigned by Appl) and the homonymous element in the prepositional dative construction to be a preposition.^{34,35} Jaeggli’s (1982) arguments for this dual status of *à* have been challenged by Miller (1992) and Roberge and Troberg (2007). If the element *à* is uniformly a Case affix as Miller (1992) claims, then the prepositional dative construction is out of the picture and we predict the sentences in

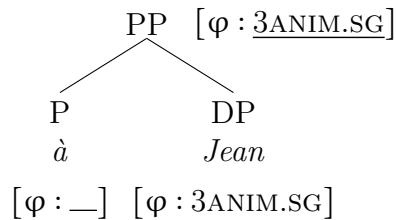
³³Because the variation in the acceptability of the sentences in (18) is explained here by the presence/absence of an animacy restriction on the DO, those speakers who accept the sentences are expected to allow the prepositional dative construction in (55b) as well. For these speakers, the applicative construction in (55a) is also available. Without the option of reconstruction, they are expected to reject the sentences with a quantifier-variable pair in (49b) and (49d); with reconstruction, they are expected to accept all the sentences in (49). However, I have not found a speaker that accepts (49d), and the reason why remains unclear.

³⁴The same dual status (a Case marker or a directional preposition) of an equivalent element *a* in Spanish is argued for by Cuervo (2003a,b).

³⁵One may take advantage of this dual status of *à* to account for the across-speaker variation in the acceptability of the “repairs” for PCC-compliant sentences in (18). Specifically, the variation could be attributed to the fact that those speakers who accept the sentences allow a case marker on pronouns. However, in this line of analysis, the case marker must be realized only when the pronoun is not cliticized. This means that two elements that are structurally identical receive two distinct forms (e.g., *leur* vs. *à eux*). This makes it unclear what triggers the cliticization process of weak pronouns.

(47) to be ungrammatical due to a PCC violation as in the case of Georgian, which is contrary to fact. The Incremental Valuation analysis, however, is still compatible with Roberge and Troberg’s (2007) claim that the element *à* is consistently prepositional. In this case, we can adopt Rezac’s (2011) distinction between defective dative PPs and full PPs. In the prepositional dative construction, *à*-phrases are full PPs, which is featurally encoded with a valued φ -feature (i.e., [φ : 3IA.SG]) on P as has been assumed. As for the applicative construction, the preposition *à* is defective in that it bears an unvalued φ -feature, which allows the phi-features of the nominal inside to be visible for the Appl head as illustrated in (57) when the PP merges as the second argument in the applicative phrase.³⁶

(57) Defective preposition *à*



It should be noted, however, that the system proposed here does not featurally require the presence of the defective preposition on the IO. The motivation only lies in the fact that full DP IOs get marked with *à* in French. Thus, although Roberge and Troberg (2007) presents a compelling empirical argument for the prepositional status of *à* in French, the idea that the element *à* is a Case marker is at least systemically preferable in the Incremental Valuation mechanism.

4.6 Chapter summary

This chapter has demonstrated how Incremental Valuation accounts for the strong version of PCC. Under the present analysis, all the instances of ungrammaticality is explained in terms of 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

³⁶In the case of clitics, the pronominal element inside the PP head-adjoins to the defective preposition, and the complex head is realized as a dative clitic, if it is 3P (i.e., *lui/leur*), which then goes through cliticization.

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; however, no transderivational dependency between the two, such as the one proposed by Rezac (2011), is necessary to account for the complementarity, which also eliminates the need for an interface condition like the PLC. Because of this independence of the PCC from its “repair,” we are able to account for the weak version of PCC, in which the two constructions overlap in availability, with the addition of [Sp] and [Ad] features to the unvalued φ -feature without having to stipulate a special status of the dative argument. I have also shown that Incremental Valuation can explain other types of “repairs” without implementing a global repair mechanism. The Incremental Valuation analysis is also capable of explaining why and how French ditransitive sentences with at least one full DP argument obviate the PCC. The following chapter discusses other attested patterns of PCC and show that Incremental Valuation can be extended to those patterns as well without the need to postulate different mechanisms or variety-specific conditions on a syntactic operation.

5

PCC typology and Incremental Valuation

The previous chapter dealt with the STRONG PCC and the WEAK PCC, but there are at least three other patterns identified as PCC effects in the world languages, namely ULTRA-STRONG, SUPER-STRONG, and *me*-FIRST. These five varieties of PCC are observed in a wide range of languages. I will first illustrate what the pattern is for each variety and in which language they can be found. Subsequently, I will discuss three previous analyses of the PCC typology: Nevins's (2007) Multiple Agree analysis, Pancheva and Zubizarreta's (2017) P(erson)-Constraint account, and McGinnis's (2017) Underspecification analysis. I will point out some limitations of these accounts and then move on to my proposed account of the variation. The essence of the analysis proposed in this chapter is that the PCC variation has its source in the person specifications of syntactic elements, and that the five varieties should not all be attributed to the same syntactic phenomenon. As will be shown, there are good reasons to exclude one of the PCC varieties, whose restrictions can be attributed to different conditions. This analysis is preferable to the previous accounts of the PCC variation in that not only does it explain the surface patterns, but it also explains why such variation exists.

5.1 Five attested patterns

There have been at least five different patterns that are characterized as PCC effects: STRONG, WEAK, ULTRA-STRONG, SUPER-STRONG, and *me*-FIRST. In this section, I lay out the patterns and show some examples from each variety.

5.1.1 STRONG PCC

The PCC restricts the person features on the indirect object (IO) and the the direct object (DO) in a ditransitive construction. In the the strong PCC pattern, the DO

has to be 3rd person (3P). As discussed in Section 2.1, many French varieties have this pattern in ditransitive sentences with two clitics (Perlmutter 1971; Anagnostopoulou 2003; Haspelmath 2004; Nicol 2005; Rezac 2011, a.o.). The examples are repeated in (1).

(1) *French* (STRONG PCC varieties)

- a. Elle nous le présentera. (1.DAT > 3.ACC)
 she us.DAT him.ACC will.introduce
 ‘She will introduce him to us.’
- b. Elle vous le présentera. (2.DAT > 3.ACC)
 she you.DAT him.ACC will.introduce
 ‘She will introduce him to you.’
- c. Lucille la leur présentera. (3.DAT > 3.ACC)
 Lucille her.ACC them.DAT will.introduce
 ‘Lucille will introduce her to them.’ (Rezac 2011:2,93)
- d. *Elle me te presenta. (*1.DAT > 2.ACC)
 she me.DAT you.ACC introduced
 (Intended) ‘She introduced you to me’
- e. *Elle te me presenta. (*2.DAT > 1.ACC)
 she you.DAT me.ACC introduced
 (Intended) ‘She introduced me to you’ (Nicol 2005:160)
- f. *Lucille nous leur présentera. (*3.DAT > 1.ACC)
 Lucille us.ACC them.DAT will.introduce
 (Intended) ‘Lucille will introduce us to them.’
- g. *Lucille te leur présentera. (*3.DAT > 2.ACC)
 Lucille you.ACC them.DAT will.introduce
 (Intended) ‘Lucille will introduce you to them.’ (Rezac 2011:180,93)

Greek (Anagnostopoulou 2003), Kiowa (Adger and Harbour 2007), and some varieties of Catalan and Spanish (Bonet 1991, Nicol 2005) also have this pattern. The pattern is summarized in (2) (the person combinations are represented as ‘IO > DO,’ and ineffable combinations are marked with ‘*’).

(2) STRONG PCC

| 1 > 3 | 1 > 2 | 2 > 1 | 2 > 3 | 3 > 1 | 3 > 2 | 3 > 3 |
|-------|-------|-------|-------|-------|-------|-------|
| ✓ | * | * | ✓ | * | * | ✓ |

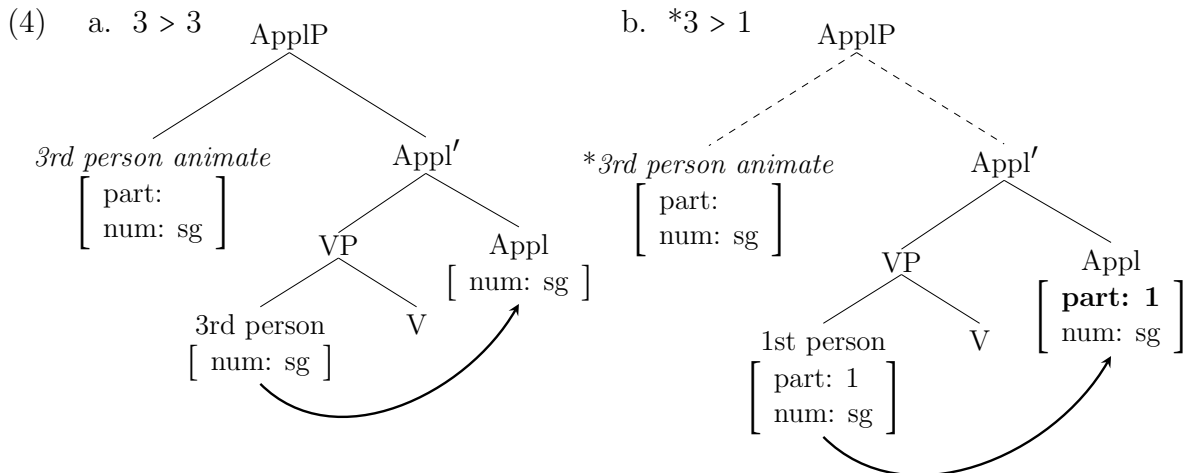
Several accounts have been given for this specific pattern (Bonet 1991, 1994; Anagnostopoulou 2003; Béjar and Rezac 2003; Adger and Harbour 2007), some of which are

discussed in Chapter 2. An account not discussed there is the agreement bleeding analysis of Adger and Harbour (2007). I briefly describe the analysis here as it is pertinent for McGinnis’s (2017) analysis discussed below. Adger and Harbour (2007) put forth the generalization in (3).

(3) Generalization

The features which a functional head requires its specifier to bear cannot be used as probes in the head’s complement domain (Adger and Harbour 2007:(77))

In the case of Appl, Adger and Harbour (2007) claim that it requires an argument with a [Participant:] specification in its specifier, which, according to (3), prevents an argument with the same specification from occurring in its complement domain. For example, a 3P (inanimate) argument without [Participant:] specification can be the DO, and Appl can take any argument with a [Participant:] specification including 3P animate as shown in (4a). However, if a 1P/2P argument, specified as [Participant: 1/2], occurs as the DO, the Appl head will agree with the argument, leaving the head unable to select an argument with the same specification (i.e., [Participant: null/1/2]) in its specifier as in (4b). Here, arrows represent feature valuation/checking.



The generalization about functional heads in (3), in conjunction with the fact that Appl requires a participant argument in its specifier, can be construed as Appl being defective in that it is unable to license a participant argument in its complement domain. As discussed below, McGinnis (2017) builds on this idea of defective Appl in order to account for certain types of PCC. It should be noted that Adger and Harbour’s (2007) analysis uses features similar to the ones used by the Incremental Valuation account proposed in

this thesis, and the mechanism is also very similar. However, the Incremental Valuation analysis does not rely on an arbitrary condition on a functional head. Rather, it derives the bleeding effect seen in (4b) from the direct interaction of features of the arguments, as described in Section 4.2. Therefore, Incremental Valuation is able to explain not only how but also why we obtain such person complementarity effects. Adger and Harbour’s (2007) account faces a further challenge when extended to other types of PCC, as it requires revising the generalization in (3) for each variety of PCC. This fails to shed any light on why we have such cross-linguistic variation.

5.1.2 WEAK PCC

Some languages allow the $1/2 > 2/1$ clitic/agreement combinations. Since the constraint is looser in these languages, this pattern is called the weak PCC. Some varieties of Spanish (Perlmutter 1971), Catalan (Bonet 1994:41), French (Heger 1966; Ashby 1977; Simpson and Withgott 1986; Schwegler 1990; Laenzlinger 1993; Nicol 2005) and Italian (Bianchi 2006; Nicol 2005) have this pattern. An example from Spanish is shown in (5).

- (5) *Spanish* (WEAK PCC varieties)
- a. El te me recomendó (a mí). (1 > 2; 2 > 1)
 he you me recommend (to me)
 =‘He recommended you to me.’
 =‘He recommended me to you.’
- b. *Me le recomendaron. (*3 > 1)
 me him.DAT recommend
 ‘They recommended me to him.’ (Pancheva and Zubizarreta 2017:(23),(24))

(6) WEAK PCC

| 1 > 3 | 1 > 2 | 2 > 1 | 2 > 3 | 3 > 1 | 3 > 2 | 3 > 3 |
|-------|-------|-------|-------|-------|-------|----------------|
| ✓ | ✓ | ✓ | ✓ | * | * | ✓ ¹ |

¹In Spanish, the combination of two 3P clitics (*le lo*) is ruled out, and there is a rule to replace the dative one with *se* (*spurious se*: Perlmutter 1971). A similar pattern is seen in some Catalan varieties (Bonet 1993; Walkow 2012).

- (i) *Spanish*
- A Pedro, el premio, se/*le lo dieron ayer.
 to Pedro the prize SE/him.DAT it.ACC gave.PL yesterday
 ‘As for Pedro and the prize, they gave it to him yesterday.’ (Nevins 2007:(2),(3))

5.1.3 ULTRASTRONG PCC

(7) *Catalan* (ULTRAstrong PCC varieties)

- The same pattern in (7) is reported for Barceloní Catalan (Walkow 2012). More clear case of ultrastrong PCC pattern is seen in Classical Arabic (Fassi-Fehri 1988; Bonet 1991; Nevins 2007).

- (8) *Classical Arabic*

- ³As reported by Pancheva and Zubizarreta (2017), this sentence is accepted by some speakers with the two possible interpretations (WEAK PCC), and it is also completely unacceptable for some speakers (STRONG PCC). Bonet (2008) notes that the judgments seem to vary a great deal from speaker to speaker, and some speakers even accept the $2 > 1$ interpretation, while rejecting the other interpretation ($1 > 2$).

- c. *ʔaʕtaː-ka-niː (∗2 > 1)
gave.3SU-2DAT-1ACC
‘He gave me to you.’
- d. ʔaʕtay-tu-ka-hiː (2 > 3)
gave-1SU-2DAT-3ACC
‘I gave him to you.’
- e. *ʔaʕtay-ta-huː-niː (∗3 > 1)
gave-2SU-3DAT-1ACC
‘You gave me to him.’
- f. *ʔaʕtay-tu-huː-kaː (∗3 > 2)
gave-1SU-3DAT-2ACC
‘I gave you to him.’
(Fassi-Fehri 1988:(15); Bonet 1991:183-4; Nevins 2007:(71)-(76))
- g. ʔaʕtaː {-huː-haː / -haː-huː} (3 > 3)
gave.3SU -3.M.DAT-3.F.ACC -3.F.DAT-3.M.ACC
‘He gave {her to him/him to her}.’
(Sibawayh 1881:336; cited in Walkow 2013:(8a))

Pronominal elements in Classical Arabic are suffixed to the verbal root in the IO-DO (DAT-ACC) order. As shown in (8), whenever the IO is outranked by the DO (assuming the 1P>2P>3P ranking), we obtain ungrammaticality. The ultrastrong PCC pattern is summarized in (9).

(9) ULTRASTRONG PCC

| 1 > 3 | 1 > 2 | 2 > 1 | 2 > 3 | 3 > 1 | 3 > 2 | 3 > 3 |
|-------|-------|-------|-------|-------|-------|----------------|
| ✓ | ✓ | * | ✓ | * | * | ✓ ⁴ |

⁴As with Spanish spurious *se* mentioned in footnote 1, Central Catalan uses an impersonal clitic for the dative argument when there are two 3P clitics, as shown in (i).

(i) *Barceloní Catalan*

Als nois, la poma, əl- {∗lzi / zi} donaré mé tard.
to.the.PL boys, the apple 3- {3PL.DAT / PL.DAT} will.give 1SG later

‘I will give the apple to the boys later.’

(Walkow 2012:29)

Kambera (Malayo-Polynesian) has yet another, slightly different pattern. In Kambera, two pronominal internal arguments are realized as post-verbal clitics. The one closer to the verb root is the recipient, while the outer clitic is the theme, as shown in (10).

- In addition to the restrictions seen in the strong PCC, two 3P clitics cannot co-occur, as in (10e). This pattern is called SUPER-STRONG PCC (Haspelmath 2004). The data is not available for $2 > 1$ and $3 > 2$; however, Klamer (1998:64) reports that they are also ungrammatical.

While a complete paradigm is not provided by Klammer (1997, 1998), the fact that 3>3 is ruled out is in and of itself intriguing, and she provides the repair strategy employed in Kambera.

- (12) *Kambera*
- a. Na- wua -nya. (3 > 3)
3SG.NOM- give -3SG.DAT
'He gives (it) to him'/'He gives it (to someone)'

- b. Na- wua -ngga. (3 > 1; 1 > 3)
 3SG.NOM- give -1SG.DAT
 ‘He gives me (to someone)’/‘He gives (it) to me’ (Klamer 1998:81(83a,b))

In (12), one of the two internal arguments is omitted, which seems to be the way to express the interpretations blocked by the PCC in Kambera.

5.1.5 Me-FIRST PCC

Finally, there are languages that do not allow the 1P clitic to be the direct object (or to occupy in the second position in the cluster). Bulgarian and Romanian are reported to have this pattern, although there seems to be a lot of variation among speakers. Bulgarian exhibits the pattern with post-verbal pronominal elements, as shown in (13). The goal argument in dative case (IO) precedes the theme argument in accusative case (DO), and when the theme is 2P, the sentence is grammatical regardless of the person of the goal (13a); however, when the theme is 1P, the result is ungrammatical regardless of the person of the goal (13b).

- (13) *Bulgarian*
- a. Preporâčaha {mu / mi} te entusiazirano. (3/1 > 2)⁵
recommended.3PL {him.DAT / me.DAT} you.ACC enthusiastically
'They recommended you to him/me enthusiastically.'
- b. Preporâčaha {*mu / *ti} me entusiazirano. (*3/2 > 1)
recommended.3PL {him.DAT / you.DAT} me.ACC enthusiastically
'They recommended me to him/you enthusiastically.'
- (Pancheva and Zubizarreta 2017:(29))

Exactly the same pattern is found with pre-verbal clitics in Romanian. Note that the clitics are in the order DAT-ACC. Only when the 1P is the theme or in the second position is the construction ungrammatical, as shown in (14).

- (14) *Romanian*
- a. Maria me- te- a prezentat.
Maria me.DAT- you.ACC- has introduced
'Maria has introduced you to me.'
- (1 > 2)

⁵The 3 > 2 combination is reported by Haspelmath (2004) to be ungrammatical (originally from Hauge 1999:(23)) although Pancheva and Zubizarreta (2017) report that at least five native Bulgarian speakers accept this clitic combination.

- b. *Maria tie- m- a prezentat. (*2 > 1)
 Maria you.DAT- me.ACC- has introduced
 ‘Maria has introduced me to you.’
- c. *Maria i- m- a prezentat. (*3 > 1)⁶
 Maria her.DAT- me.ACC- has introduced
 ‘Maria_i has introduced me to her_k.’
- d. Maria i- te- a prezentat. (3 > 2)⁷
 Maria her.DAT- you.ACC- has introduced
 ‘Maria_i has introduced you to her_k.’ (Nevins 2007:(67)-(70))
- e. I- l- am arătat. (3 > 3)
 her.DAT- it.ACC- have shown
 ‘I have shown it to him/her.’ (Săvescu Ciucivara 2011:(25))

The *me*-FIRST PCC pattern is summarized in (15).

(15) *Me*-FIRST PCC

| | | | | | | |
|----------------|-------|-------|-------|-------|-------|-------|
| 1 > 3 | 1 > 2 | 2 > 1 | 2 > 3 | 3 > 1 | 3 > 2 | 3 > 3 |
| ✓ ⁸ | ✓ | * | ✓ | * | ✓ | ✓ |

The five varieties of PCC along with their patterns are listed in (16). Here, I take the STRONG PCC to be the basic pattern, and any diversion from it is underlined.

⁵Săvescu Ciucivara (2011) reports that there are at least some Romanian speakers that accept the 3 > 1 combination. Whether these speakers also accept 2 > 1 is not stated.

- (i) %I- m- au recomandat ieri. (%3 > 1)
 3SG.DAT- 1SG.ACC- have.3PL recommended yesterday
 ‘They recommended me to him yesterday.’

⁷Pancheva and Zubizarreta (2017) note that Romanian speakers disagree on the acceptability of 3 > 2. It is not clear whether the judgments were solicited for pre-verbal clitics or post-verbal clitics. This seems to be an important distinction as the judgments seem to differ depending on which context the clitics are in (Nevins and Săvescu 2010).

⁸Hauge (1999) reports that this is possible in Bulgarian.

- (i) Ivan mi go preporăca
 Ivan 1SG.DAT 3SG.M.ACC recommended
 ‘Ivan recommended him to me.’ (Hauge 1999:(26))

(16) Five attested patterns of PCC

| | | PERSON COMBINATIONS | | | | | | |
|----|------------------|---------------------|----------|----------|-----|-----|----------|----------|
| | PCC VARIETIES | 1>3 | 1>2 | 2>1 | 2>3 | 3>1 | 3>2 | 3>3 |
| 1. | STRONG | ✓ | * | * | ✓ | * | * | ✓ |
| 2. | WEAK | ✓ | <u>✓</u> | <u>✓</u> | ✓ | * | * | ✓ |
| 3. | ULTRA-STRONG | ✓ | <u>✓</u> | * | ✓ | * | * | ✓ |
| 4. | SUPER-STRONG | ✓ | * | * | ✓ | * | * | <u>*</u> |
| 5. | <i>Me</i> -FIRST | ✓ | <u>✓</u> | * | ✓ | * | <u>✓</u> | ✓ |

As is clear in the table, there is a wide range of variation among the five patterns, and providing an account that captures the variation while still explaining the similarity among them (i.e., $1/2>3$, $*3>1$) is not an easy task. There have been at least three previous attempts at explaining the PCC variation, which I discuss in the following section.

5.2 Previous accounts of the PCC variation

This section examines three previous accounts of the PCC typology, and shows in some detail how the PCC patterns are derived in each account. While all three accounts are insightful and explain the variation on the surface, they face with some theoretical challenges, as pointed out in the following sections.

5.2.1 Multiple Agree analysis (Nevins 2007)

Nevins (2007) provides an account of the PCC variation using Multiple Agree with the probe relativized for a specific value in each PCC variety. He uses binary features and represents person features as in (17).

- (17) Person features
- a. 1st person: [+Auth, +Part]
 - b. 2nd person: [-Auth, +Part]
 - c. 3rd person: [-Auth, -Part]

Nevins (2007) adopts notions of feature markedness and contrastiveness from phonology and posits that + is the marked value for both [Auth(or)] and [Part(icipant)] and that a feature is contrastive if its value is the only distinguishing factor between two persons. He

proposes a parameter in feature relativization where a probe of a certain type of feature can be relativized for all values ($[+/-F]$), for only the marked value ($[+F]$), or for only the contrastive value ($[\pm F]$) of the same feature. In Nevins’s (2007) account, there are two conditions on Multiple Agree: Contiguous Agree and Matched Values as defined in (18) and (19).

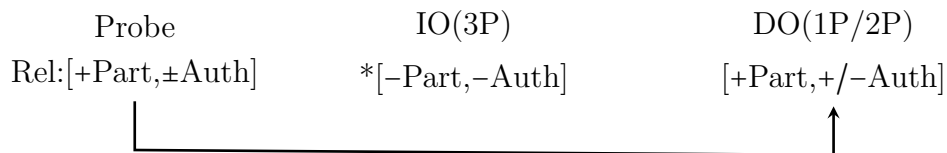
- (18) CONTIGUOUS AGREE (CA) (Nevins 2007:(50),(62))
 For a relativization R of a feature F on a Probe P, and $x \in \text{Domain}(R(F))$,
 $\neg \exists y$, such that $y > x$ and $P > y$ and $y \notin \text{Domain}(R(F))$
 “There can be no interveners between P and x that are not in the domain of relativization that includes x ”
- (19) MATCHED VALUES (MV) (Nevins 2007:(51),(63))
 For a relativization R of a feature F, $\exists \alpha, \alpha \in \{+, -\}$,
 $\forall x, x \in \text{Domain}(R(F))$, $\text{val}(x, F) = \alpha$
 “All elements within the domain of relativization must contain the same value.”

Simply put, Contiguous Agree ensures that there is no intervener of the wrong type, and Matched Values requires that the agreeing arguments have the same value (+ or –) for the feature of relativization. The following sections go through how each PCC variety is explained using Contiguous Agree and Matched Values.

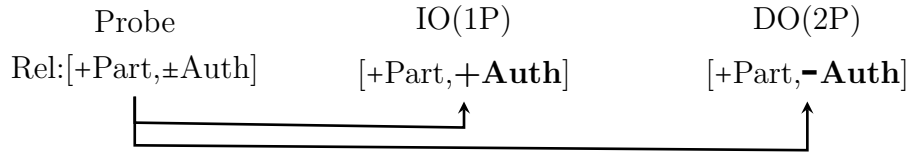
5.2.1.1 STRONG PCC ($1 > 3$, $*1 > 2$, $*2 > 1$, $2 > 3$, $*3 > 1$, $*3 > 2$, $3 > 3$)

The relativization of the probe in this variety of PCC is contrastive [Auth]. Within the tripartite person system, the [Auth] feature is contrastive when an element is specified as [+Part] since both values (+ and –) are available for local persons (1P: [+Part, +Auth]; 2P: [+Part, –Auth]). However, the same feature is not contrastive when the element is specified as [-Part] since not being a participant (i.e., [-Part]) necessarily entails being non-author (i.e., [-Auth]). Contiguous Agree rules out $3 > 1$ and $3 > 2$ because the lower argument (1P and 2P, respectively) bears the feature of relativization (contrastive [Auth]) but the higher argument (3P) bears a non-contrastive [Auth] (20). Matched Values rules out $1 > 2$ and $2 > 1$ because 1P and 2P have different values for the [Auth] feature (21).

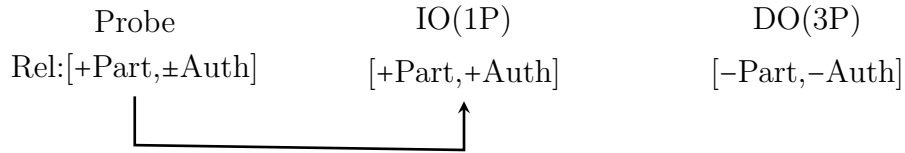
- (20) $*3 > 1/2$ (due to CA violation)



(21) *1>2 (due to MV violation)



(22) 1>3 (no violation)

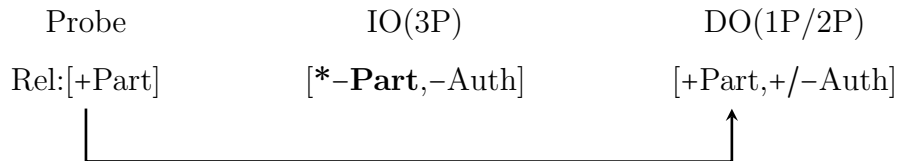


Contiguous Agree is not violated in the cases of 1>3 and 2>3 as the closest argument has a contrastive [Auth]. Since the lower argument does not bear the feature of relativization (a contrastive [Auth]), Matched Values is irrelevant in these cases.

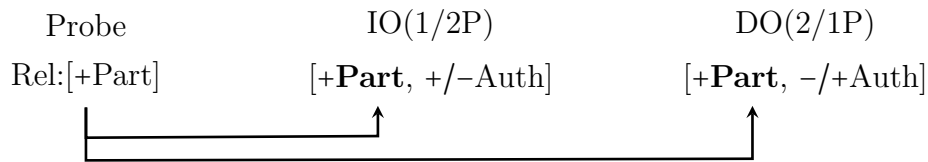
5.2.1.2 WEAK PCC (1>3, 1>2, 2>1, 2>3, *3>1, *3>2, 3>3)

In the weak PCC, the probe is relativized for marked [Part] (i.e., [+Part]). Contiguous Agree rules out 3>1 and 3>2 as the higher argument does not bear [+Part], thus constituting an intervener (23). Matched Values is not violated as 1P and 2P both bear the [Part] feature with the same value (i.e., [+Part]) as shown in (24).

(23) *3>1/2 (due to CA violation)



(24) 1/2>2/1 (no violation)

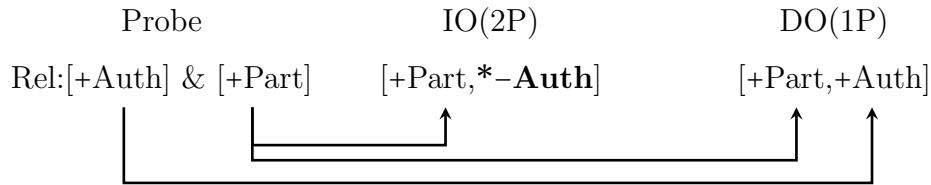


Matched Values is not relevant for this pattern as the probe only agrees with arguments with a feature of a specific value. Therefore, when the probe agrees with two arguments, the value will always be the same.

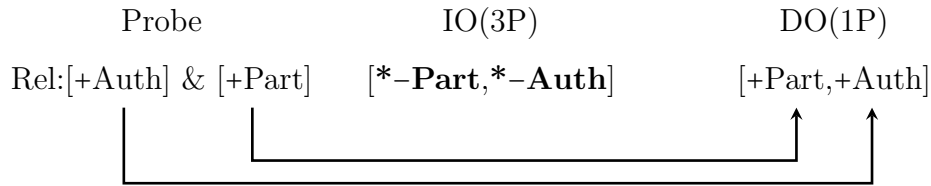
5.2.1.3 ULTRAstrong PCC (1>3, 1>2, *2>1, 2>3, *3>1, *3>2, 3>3)

The probe is relativized for marked [Auth] and marked [Part] in the ultrastrong PCC. The 2>1 combination is ruled out because the higher argument (2P) does not bear [+Auth] when the lower argument (1P) does, which violates Contiguous Agree (25). The same condition is violated in the case of 3>1 because the higher argument (3P) does not bear [+Auth] or [+Part] while the lower argument does (26). 3>2 also violates Contiguous Agree as the higher argument (3P) does not carry [+Part] while the lower argument (2P) does as shown in (27).

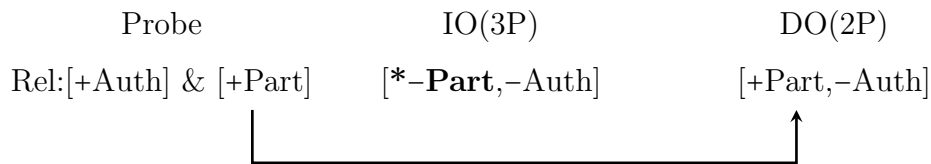
(25) *2>1 (due to CA violation)



(26) *3>1 (due to CA violation)



(27) *3>2 (due to CA violation)

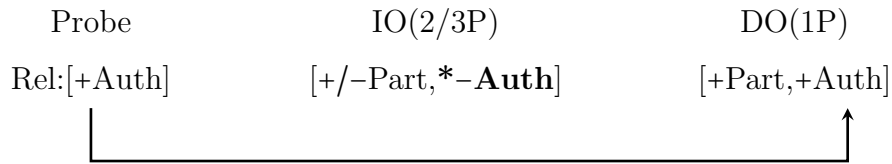


No intervention occurs for 1>3, 1>2, and 2>3: either the argument with the feature of relativization is closer to the probe, or both arguments bear the relevant feature.

5.2.1.4 *Me*-FIRST PCC (1>3, 1>2, *2>1, 2>3, *3>1, 3>2, 3>3)

The probe in the *me*-FIRST PCC variety is relativized for marked [Auth] (i.e., [+Auth]). 2/3>1 are ruled out because the higher argument (2P/3P) with an unmarked feature [-Auth] intervenes between the probe and the lower argument (1P) with the feature of relativization [+Auth], violating Contiguous Agree as shown in (28).

(28) *2/3>1 (due to CA violation)



Matched Values is again inoperative in the *me*-first PCC as the only argument with [+Auth] is 1P. The summary of how each pattern of PCC is explained by Nevins's (2007) Multiple Agree analysis is in (29).

(29) Summary of Nevins's (2007) Multiple Agree analysis

| PCC types | Relativization | 1>3 | 1>2 | 2>1 | 2>3 | 3>1 | 3>2 | (3>3) |
|------------------|-------------------|-----|-----|-----|-----|-----|-----|-------|
| STRONG | [(+Part,)+/-Auth] | – | *MV | *MV | – | *CA | *CA | – |
| WEAK | [+Part] | – | – | – | – | *CA | *CA | – |
| ULTRA-STRONG | [+Auth] & [+Part] | – | – | *CA | – | *CA | *CA | – |
| <i>Me</i> -FIRST | [+Auth] | – | – | *CA | – | *CA | – | – |

As shown in (29), Matched Values is only operative in the strong PCC languages and the probe is relativized for different features in each variety of PCC. Under this approach, the ungrammaticality is explained in terms of intervention (Contiguous Agree violations), or disparity in features (Matched Values violations).

5.2.1.5 Limitations of Nevins's (2007) analysis

Nevins's (2007) analysis does account for the four PCC types discussed above; however, it is not without problems. First, Nevins (2007) does not consider 3>3 cases (aside from spurious *se* in Spanish). His system does not allow for the SUPER-STRONG PCC (1>3, *1>2, *2>1, 2>3, *3>1, *3>2, *3>3). It is, in fact, impossible to rule out 3>3 with any relativization of the probe in his system as the two arguments will have identical person features (i.e., [-Part, -Auth]; no Matched Values violation) and if the two concurrent 3P arguments bear the feature of relativization, then the contiguity condition on Multiple Agree is automatically satisfied since the closer argument is not an intervener (no Contiguous Agree violation).

The analysis also faces some systemic issues. It is not clear how the conditions on Multiple Agree, namely Contiguous Agree and Matched Values, are implemented. Contiguous Agree is violated when the lower argument has the feature of relativization of the probe and the closer argument does not. To state this in a different way, agreement

with an element which bears a feature that the probe is specifically looking for is prevented by a more local element that the probe is not relativized for. If the purpose of feature relativization is to find an appropriate goal, it would be odd for an argument without appropriate features to be an intervener (cf. *Relativized Minimality* Rizzi 1990). Furthermore, 3P arguments do not enter into an Agree relation with the probe in the ULTRAstrong PCC, and this does not cause ungrammaticality (3>3 is well-formed). It is implausible that an intervening 3P argument would cause a crash since it does not seem to be necessary for 3P arguments to be in an Agree relation with the probe. If the ungrammaticality derives from the fact that the intervener indeed prevents the appropriate goal from entering into an Agree relation with the probe, we need some independent requirement that 1P/2P arguments be licensed (such as Béjar and Rezac’s 2003 *Person Licensing Condition*). Matched Values, on the other hand, is contingent on the notion of feature contrastiveness. To be more specific, only when the probe is relativized for a contrastive feature (i.e., $[\pm F]$) is Matched Values active, since it is impossible for a probe relativized for a marked feature (i.e., $[+F]$) to enter into an Agree relation with two elements of differing feature values due to Contiguous Agree.⁹ This is precisely why Matched Values plays no role in the three PCC varieties—WEAK, ULTRAstrong, and *Me*-FIRST—where the probe is relativized for a marked feature. The feature relativization in the STRONG PCC (i.e. contrastive $[Auth]$) allows the probe to agree with both 1P and 2P; however, Matched Values rules out 1>2 and 2>1 because the arguments bear features with contrasting values. Therefore, Matched Values differs from Contiguous Agree in that Matched Values is imposed only after the probe establishes an Agree relation with two arguments. It is at least questionable whether a grammatical system should actively allow a certain situation to arise in the first place if it is to be ruled out by a condition in the end. It seems more economical to explain the ungrammaticality without taking the extra step of creating an illicit structure.

Nevins’s (2007) system is not as parsimonious as it appears to be on the surface either. Nevins begins with the desideratum in (30). He explains the PCC variation using only the Multiple Agree operation, which is seemingly desirable.

- (30) *Desideratum*: All versions of the PCC should be explained by the same syntactic mechanism, differing only in relativization to which (values of which) features must obey the constraint. (Nevins 2007:(52))

⁹This can be thought of as Matched Values being fed by feature relativization involving contrastiveness and bled by contiguity (and feature markedness).

However, the conditions he proposes utilize a number of abstract notions such as feature relativiation, markedness, contrastiveness, contiguity, and feature matching. Although all the syntactic machinery in this approach is subsumed under a single operation, there is clearly a wide range of variation in its workings, and there is also a variety-specific condition (Matched Values, which is only applicable to the STRONG PCC). The reason for the variation in PCC patterns is not readily explicable in this analysis. The next section discusses an approach to the PCC typology that appears on the surface to be different from Nevins’s (2007), but runs into the same problem of making the source of variation opaque.

5.2.2 P(erson)-Constraint (Pancheva and Zubizarreta 2017)

Pancheva and Zubizarreta’s (2017) extensive study of the PCC patterns certainly deserves careful consideration. Given that in a double object construction in some Romance languages, a 3P DO cannot refer to the perspective centre or the attitude holder of the clause (Charnavel and Mateu 2015) as shown in (31), Pancheva and Zubizarreta (2017) incorporate perspective as part of their analysis.

(31) *Spanish*

*Según el niño_i, las maestras se_k lo_i encomendarán, a la
 according.to the boy the teachers DAT 3SG.M.ACC entrust.FUT.3PL to the
 asistent_k.
 assistant

(Intended) ‘According to the child_i, the teachers will entrust him_i to the assistant_k.’
 (Charnavel and Mateu 2015:(21b); cited in Pancheva and Zubizarreta 2017:(7))

Pancheva and Zubizarreta (2017) propose the person feature specifications in (32). They use binary features, and in addition to the features we have already discussed, they use the feature [proximate], whose positive value marks perspectival centres. This feature also introduces a proximate/obviative distinction in the 3rd person.¹⁰

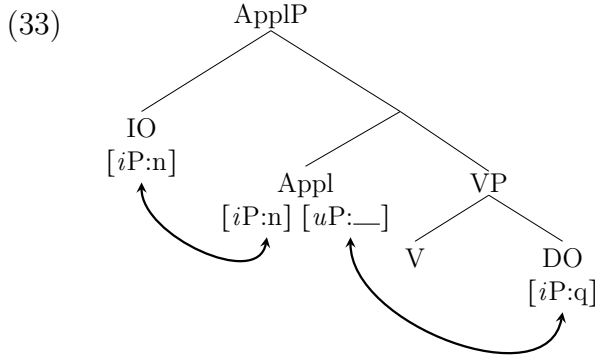
¹⁰Pancheva and Zubizarreta (2017) suggest that languages may equate this distinction with an animacy contrast. This thesis proposes that this is the case for some of the PCC languages and uses the privative feature [π] to make an underlying animacy distinction instead of the [proximate] feature (see Section 3.2.3).

(32) Person specifications

- a. 1st person: [+proximate], [+participant], [+author]
- b. 2nd person: [+proximate], [+participant], [-author]
- c. 3rd person proximate: [+proximate], [-participant], [-author]
- d. 3rd person obviative: [-proximate], [-participant], [-author]

(Pancheva and Zubizarreta 2017:(11))

Unlike Nevins (2007), Pancheva and Zubizarreta (2017) place the probe between the two arguments. Instead of using Multiple Agree, they posit two separate probes for the two arguments. They assume the structure in (33).



(Pancheva and Zubizarreta 2017:(13))

Pancheva and Zubizarreta (2017) propose a syntactic constraint called *P(erson)-Constraint*, which consists of four components: domain of application, P-prominence, P-uniqueness, and P-primacy; the definition of each is in (34). These subconstraints ensures that the IO is the perspective centre rather than the DO, and as will be shown, different settings of these subconstraints explain the variation in the PCC languages.

(34) P-Constraint on phases α headed by an interpretable p(erson)-feature

- a. Domain of application: The interpretable person feature is present on all heads of a certain functional category (default), unless restricted
- b. P-Prominence: There must be an n -valued D located at the edge of α . n is [+proximate] (default) or restricted to [+participant] or [+author]
- c. P-Uniqueness: There can be at most one DP in α eligible to agree with the interpretable p-feature on the head of α
- d. P-Primacy: 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

(Pancheva and Zubizarreta 2017:(12))

Although this constraint is proposed as a general constraint on person agreement, in the case of PCC contexts specifically, the domain of application (34) ensures that the Appl head bears an interpretable person feature with a specific value in addition to an uninterpretable person feature that is to be valued by the theme argument (=DO).¹¹ P-prominence places a restriction on what type of specifier (or goal argument) the Appl head can take. P-uniqueness, if active, requires that there be no two arguments with the feature specified as prominent in the language. Finally, P-primacy ensures that if there are two arguments with the [+proximate] feature, the one with [+author] is the goal argument. The following subsections look at how each PCC variety is derived using P-constraint.

5.2.2.1 STRONG PCC (1>3, *1>2, *2>1, 2>3, *3>1, *3>2, 3>3)

In the STRONG PCC, the prominent feature is the default [+proximate], and P-uniqueness is active. Therefore, 3>1 and 3>2 are ruled out because of the P-prominence requirement that the goal argument be [+proximate] (3P arguments can be specified as [+proximate], but then it would violate the P-uniqueness in these cases). 1>2 and 2>1 are ruled out due to the P-uniqueness requirement that there be only one argument with [+proximate]. This requirement is similar to Nevins's (2007) Matched Values condition.

5.2.2.2 WEAK PCC (1>3, 1>2, 2>1, 2>3, *3>1, *3>2, 3>3)

In the weak PCC variety, the feature of prominence is the default [+proximate]. P-uniqueness and P-primacy are both inactive. The 1>2 and 2>1 combinations are permitted because of the absence of the P-uniqueness requirement.

5.2.2.3 ULTRA STRONG PCC (1>3, 1>2, *2>1, 2>3, *3>1, *3>2, 3>3)

The prominent feature is set to the default [+proximate] in the ultrastrong PCC variety as well. P-uniqueness and P-primacy are both active. The 1>2 combination is allowed while the 2>1 combination is ruled out because P-primacy, being active, requires that the goal argument be [+author] although it is unclear why 1>2 does not violate P-uniqueness.

¹¹The term 'domain' does not refer to a specific part of the structure but rather to structures that meet certain criteria. As discussed below, in the case of *me*-FIRST PCC, P-Constraint applies only to an ApplP that contains a 1P argument.

5.2.2.4 SUPER-STRONG PCC (1>3, *1>2, *2>1, 2>3, *3>1, *3>2, *3>3)

The prominence setting for the super-strong PCC variety is [+participant], so the indirect object has to be a [+participant] argument. Additionally, P-uniqueness is active. 1>2 and 2>1 are ruled out due to P-uniqueness. 3>1, 3>2, and 3>3 are disallowed because of the prominence setting for this variety, which requires the goal argument to be [+participant], and 3P arguments are [-participant].

5.2.2.5 *Me*-FIRST PCC (1>3, 1>2, *2>1, 2>3, *3>1, 3>2, 3>3)

The prominent feature in the *me*-first PCC is [+author], requiring that the indirect object be 1P. However, the domain of application is limited to Appl phrases with at least one DP with a [+author] feature. P-uniqueness is also active. 2>1 and 3>1 are ruled out for the prominence requirement on the indirect object. Since the domain of application is restricted to constructions with a 1P argument, 2>3, 3>2, and 3>3 are ruled in.

Pancheva and Zubizarreta’s (2017) analysis is summarized in (35). It is shown on the table which person combinations are ruled out by which constraint, and different combinations of the four constraints derive the five PCC patterns. ‘?’ indicates that P-uniqueness is supposed to rule out 1>2 as both arguments are specified as [+proximate].

(35) Summary of P-constraint analysis by Pancheva and Zubizarreta (2017)

| PCC types | Domain | P-Prominence | P-Uniqueness | P-Primacy |
|------------------|----------------------------|------------------------------------|----------------------|----------------|
| STRONG | Appl | [+proximate] *3>1, *3>2 | active *1>2, *2>1 | — |
| WEAK | Appl | [+proximate] *3>1, *3>2 | — | — |
| ULTRA-STRONG | Appl | [+proximate] *3>1, *3>2 | active ? | active *2>1 |
| SUPER-STRONG | Appl | [+participant] *3>1, *3>2, *3>3 | active *1>2, *2>1 | — |
| <i>Me</i> -FIRST | Appl with a 1P argument | [+author] *2>1, *3>1 | active ¹² | — |

¹²It is questionable whether we need P-uniqueness in the *me*-FIRST variety as it is vacuous.

5.2.2.6 Problematic aspects of Pancheva and Zubizarreta’s (2017) analysis

While Pancheva and Zubizarreta’s (2017) analysis has broad empirical coverage, there is an issue with the ultrastrong PCC. P-uniqueness is required in order to rule out the $3([+proximate]) > 2$ combination as P-prominence is satisfied by the 3P proximate argument and P-primacy is not relevant for this combination because there is no [+Author] argument. However, P-uniqueness would also wrongly rule out the $1 > 2$ combination since both arguments are [+proximate]. Moreover, the premise in the condition (that there are two [+proximate] arguments (34d)) contradicts P-uniqueness; consequently, P-primacy is not applicable if P-uniqueness is active. If only P-primacy is active in the ultrastrong PCC instead, then $3[+proximate] > 2$ will be incorrectly ruled in. Furthermore, just as *Matched Values* was only operative in the strong PCC in Nevins’s (2007) system, P-primacy is only active in the ultrastrong PCC. This again make it unclear where the PCC variation comes from.

Pancheva and Zubizarreta’s (2017) analysis also has some theoretical problems. The P-prominence condition is difficult, if not impossible, to implement featurally. In their system, the requirement is that two interpretable valued features agree. However, since there is no change in the features themselves (i.e., no valuation), it is difficult to enforce the condition. There needs to be some kind of feature matching requirement similar to Nevins’s (2007) *Matched Values*, which also requires a holistic view of the structure to impose the condition. Another problem with the system is with the domain of application for the *me*-FIRST PCC. The domain of application is limited to when there is a 1P argument in the structure. However, this will cause a look-ahead problem. If the Appl head bears an interpretable person feature valued as [+author] but there is no 1P argument in the structure, then it would wrongly rule out all the possible person combinations (i.e., $2 > 3$, $3 > 2$, $3 > 3$) because P-prominence, which requires 1P as the IO, cannot be satisfied. If the Appl head does not have the interpretable [+author] feature when there is a 1P argument, then $2 > 1$ and $3 > 1$ combinations are wrongly ruled in as P-prominence is vacuous/inactive in this case. The choice of whether to have the feature specification on Appl has to be made prior to building the structure, but it is dependent on the features on the arguments. Therefore, even though the conditions do derive the *me*-first PCC pattern, it is difficult to implement the restricted-domain mechanism for the *me*-first PCC.

The following section discusses a third analysis of the PCC typology by McGinnis (2017), which uses articulated person features, whose dependent features require licensing

by the Appl head. The feature specification of the Appl head is different in each variety of PCC, which explains the variation among PCC languages. Although this analysis is quite distinct from Nevins’s (2007) or Pancheva and Zubizarreta’s (2017), there are some technical issues with it, which I discuss below.

5.2.3 Underspecification analysis (McGinnis 2017)

While Pancheva and Zubizarreta’s (2017) analysis imposes a prominence condition on the IO, McGinnis’s (2017) approach to the PCC variation, which I call the underspecification analysis, explains ungrammaticality in terms of failure to license the DO or the complement of Appl. She uses articulated person features similar to the ones used in this thesis, but instead of a $[\pi(\text{person})]$ feature, she uses the feature $[\text{Sentient}]$ to make an animacy distinction in the 3P as shown in (36).

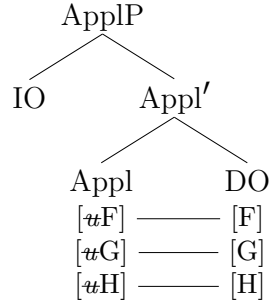
- (36) Person specifications of McGinnis (2017)
- | | | | |
|------------------------|------------------------|----------------------------|------------------------------|
| a. 1st Person | b. 2nd Person | c. 3rd Person (animate) | d. 3rd Person (inanimate) |
| π | π | π | π |
| | | | |
| $[\text{Sentient}]$ | $[\text{Sentient}]$ | $[\text{Sentient}]$ | |
| | | | |
| $[\text{Participant}]$ | $[\text{Participant}]$ | | |
| | | | |
| $[\text{Author}]$ | | | |

The 1P argument is fully specified with $[\text{Sent}(\text{ient})]$, $[\text{Part}(\text{icipant})]$, and $[\text{Auth}(\text{or})]$ while the 2P argument is specified only up to $[\text{Participant}]$. 3P animate arguments are specified as $[\text{Sentient}]$ whereas 3P inanimate arguments are not specified at all. Under McGinnis’s (2017) analysis, the Appl head is the licenser of the DO, which requires full licensing of its person features, and there are two classes of PCC. In one class, the Appl head is underspecified to varying degrees, and if the head is underspecified for a certain dependent feature, it cannot license a DO with that feature, as schematized in (37). In the other class, there is a θ -matching requirement between the IO and the Appl head, where the features of the head need to match those of the argument that the head introduces, and the licensing ability of the Appl head is dependent on the person features of the IO as schematized in (38). As argued by McGinnis (2017), three PCC varieties—namely, STRONG, *me*-FIRST, and what she calls SENTIENT PCC—belong to the first class and can be explained by the defective nature of Appl head. The second class of PCC includes two PCC varieties—ULTRA STRONG and WEAK, and can be explained by licensing of the DO being dependent on the features of the IO. Subsequent sections go through the three PCC

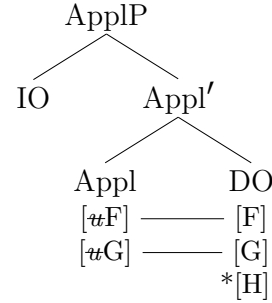
varieties in the underspecification class followed by the two varieties in the θ -matching class and show how each of the PCC patterns is accounted for.

(37) Underspecification of Appl

a. Successful licensing of the DO

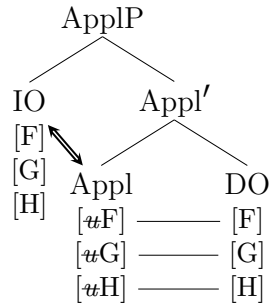


b. Unsuccessful licensing of the DO

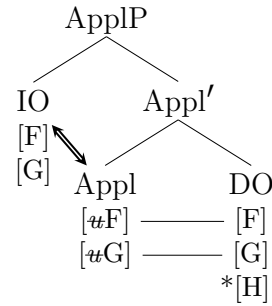


(38) θ -matching between IO and Appl (\Leftrightarrow)

a. Successful licensing of the DO



b. Unsuccessful licensing of the DO

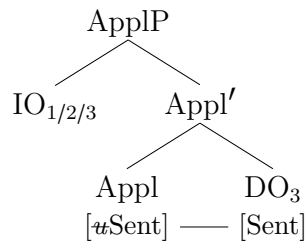


5.2.3.1 STRONG PCC ($1>3, *1>2, *2>1, 2>3, *3>1, *3>2, 3>3$)

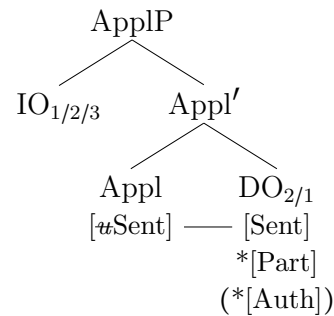
In the strong PCC, the Appl head bears an uninterpretable person feature that is underspecified for [Part] and [Auth]. Because this head cannot agree with [Participant] and [Author], it can only fully license 3P arguments in the complement position (39a). Therefore, 1P and 2P as the DO are ruled out as shown in (39b).

(39) STRONG PCC (Appl underspecified for [Part] and [Auth])

a. $1/2/3 > 3$



b. $*1/2/3 > 2/1$



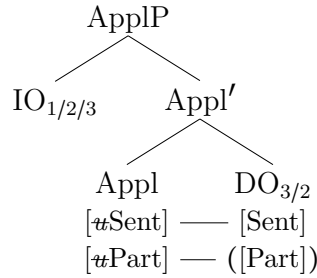
McGinnis (2017) is not explicit about the IO DP, but a higher head such as *v* or Voice can license the argument.

5.2.3.2 *Me*-FIRST PCC ($1>3$, $1>2$, $*2>1$, $2>3$, $*3>1$, $3>2$, $3>3$)

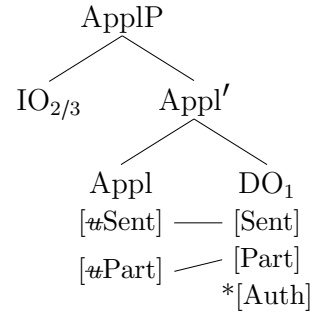
For the *me*-first PCC, the Appl head is underspecified for [Auth]; therefore, 3P and 2P, but not 1P, can be licensed in the complement position of the head as shown in (40).

(40) *Me*-FIRST PCC (Appl underspecified for [Auth])

a. $1/2/3 > 3/2$



b. $*2/3 > 1$

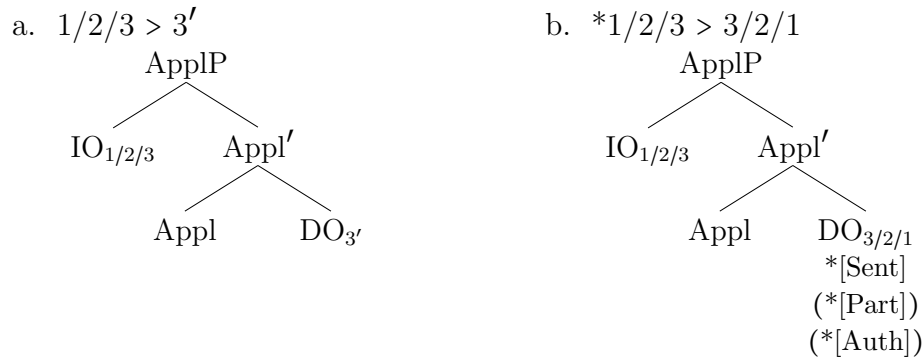


5.2.3.3 SENTIENT PCC ($1>3'$, $*1>2$, $*2>1$, $2>3'$, $*3>1$, $*3>2$, $3>3'$, $*1/2>3$)

As briefly discussed in Section 4.2, *leísta* dialects of Spanish exhibit a morphological animacy distinction in the object clitics. In ditransitive constructions of these varieties, only the inanimate 3P clitic can be the DO (Ormazábal and Romero 2007). Aside from the animacy restriction, the pattern is otherwise the same as the strong PCC,¹³ and McGinnis (2017) calls this pattern SENTIENT PCC. She accounts for the animacy restriction by the fact that Appl is not specified at all. Since it has no licensing ability, only an argument without any specification (i.e., 3P inanimate [represented as $3'$]) is allowed in the complement position.

¹³Ormazábal and Romero (2007) is not explicit about the judgements on other clitic combinations, but if speakers of *leísta* dialects of Spanish accept $1>2$ and/or $2>1$, it is problematic for McGinnis's (2017) analysis as it cannot explain the pattern either by underspecification of the probe on Appl or by θ -matching.

(41) SENTIENT PCC (Appl completely underspecified)



In sum, the strong PCC, the *me*-first PCC, and the sentient PCC are derived from the uninterpretable person feature on Appl being underspecified to different degrees. These three represent all the possible ways to underspecify the articulated person feature as there are only three component features (i.e., [Sent], [Part], and [Auth]). If the uninterpretable person feature is fully specified, no PCC effects arise, and this is the case for Haya, Polish, Kabardian, Noon, Lakhota, and Tblisi Georgian (languages reported by Haspelmath (2004) to lack PCC effects). In the following sections, I discuss McGinnis's (2017) other class of PCC in which the licensing of the DO is dependent on the features of the IO.

5.2.3.4 ULTRA-STRONG PCC ($1 > 3$, $1 > 2$, $*2 > 1$, $2 > 3$, $*3 > 1$, $*3 > 2$, $3 > 3$)

McGinnis (2017) argues that for the second class of PCC, there is a θ -matching requirement for the person feature on Appl. The requirement is such that the person feature on Appl must match the person feature on the IO, which is introduced by the Appl head in its specifier, in the level of specification. In the case of the ultrastrong PCC (the 'weak-ish' PCC in terms of McGinnis 2017), total matching between the person features on Appl and the IO is required. This means that the licensing ability of Appl is dependent on the person specification of the IO, which in turn means that licensing of the DO is contingent on the person specification of the IO. When the IO is 1P with the full person specification, the uninterpretable person feature on Appl will be fully specified, allowing both 2P and 3P to be the DO (42a). When the IO is 2P, the uninterpretable feature on Appl will be underspecified for [*uAuth*]; thus, only 3P can be licensed in the complement position (42b). When the IO is 3P (animate), Appl will be specified as [*uSent*],

and 3P animate or 3P inanimate can be licensed as the DO (42c). The double arrow (\Leftrightarrow) represents θ -matching, and the simple line ($—$) represents feature licensing.

(42) ULTRAstrong PCC (Total θ -matching between IO and Appl)

a. 1>2/3

IO₁ \Leftrightarrow Appl DO_{2/3}
 [Sent] [uSent] — [Sent]
 [Part] [uPart] — ([Part])
 [Auth] [uAuth]

b. 2>3

IO₂ \Leftrightarrow Appl DO₃
 [Sent] [uSent] — [Sent]
 [Part] [uPart]

*2>1

IO₂ \Leftrightarrow Appl DO₁
 [Sent] [uSent] — [Sent]
 [Part] [uPart] — [Part]
 *[Auth]

c. 3>3

IO₃ \Leftrightarrow Appl DO₃
 [Sent] [uSent] — [Sent]

*3>1/2

IO₃ \Leftrightarrow Appl DO_{1/2}
 [Sent] [uSent] — [Sent]
 *[Part]
 (*[Auth])

This θ -matching requirement ensures that the IO is equal to or higher than the DO in the level of person feature specification, resulting in the pattern that strictly follows the person ranking (1P>2P>3P).

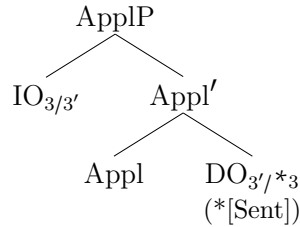
5.2.3.5 WEAK PCC (1>3, 1>2, 2>1, 2>3, *3>1, *3>2, 3>3)

The θ -matching requirement is relaxed for the weak PCC, and [uAuth] comes as a default dependent on [uPart]. As such, when the IO is 1P or 2P, the uninterpretable person feature on Appl will be fully specified, allowing 1/2>2/1 combinations (43a). As with the ultrastrong PCC, when the IO is 3P, only 3P can be licensed as the DO (43b). In short, the availability of [uAuth] on Appl with 1P/2P IOs allows 1P/2P DOs to be licensed, which distinguishes the weak PCC from the ultrastrong PCC.

underspecification class as there is no restriction on the IO in this class. Adger and Harbour (2007), citing Fillmore (1968) and Pesetsky (1995), notes that in Kiowa as well as in Indo-European languages in general, the IO of a double object construction is interpreted as animate. This, for example, induces oddness in sentences like ?*We sent the conference the abstract* as *the conference* needs to be interpreted as a person or an institution (Adger and Harbour 2007:21). McGinnis’s (2017) analysis does not account for the fact that the IO needs to be interpreted as animate for strong PCC, *me*-first PCC, and sentient PCC languages. There thus needs to be an independent explanation for this property of the IO.

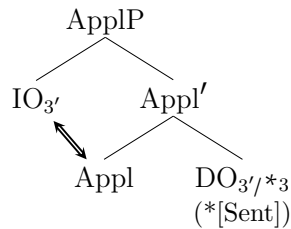
There is another empirical challenge for this analysis. McGinnis (2017) does not consider the SUPER-STRONG PCC ($*3>3$); however, the pattern would present a problem for this analysis as there is no way to rule out 3P DOs in this system. 3P inanimate DOs, which do not require licensing, will always be permissible, and 3P animate DOs are ruled out only if Appl is not specified as $[uSent]$. If Appl is underspecified for $[uSent]$, then we obtain the sentient PCC pattern as in (45). If Appl needs to match the IO as in (46), then the only illicit 3P combination would be 3.IA>3.ANIM (e.g., ??*We sent the conference some MA students*), which we already know to be odd as mentioned above.

- (45) Total underspecification of Appl ($3/3'>3'$, $*3/3'>3$)

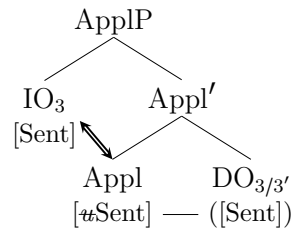


- (46) θ -matching between 3P IO and Appl ($3'>3'$, $3>3/3'$, $*3'>3$)

- a. 3P inanimate IO



- b. 3P animate IO

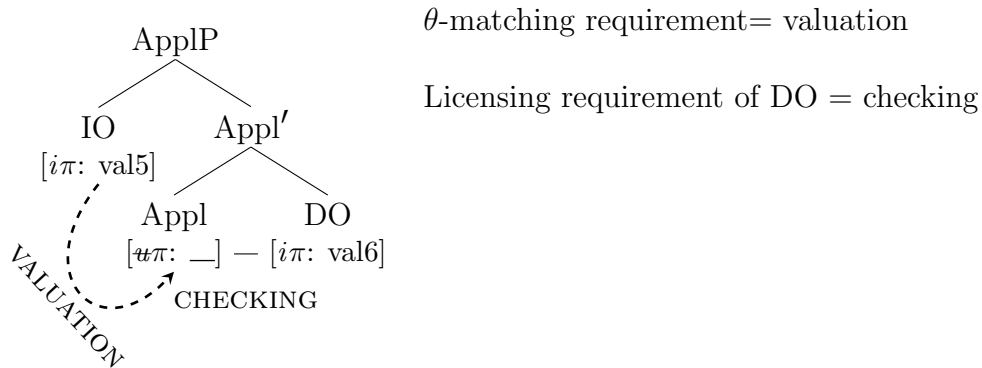


Crucially, the system predicts that at least the 3.ANIM>3.IA combination is permissible in either class. Even if we assumed that there is no (featural) animacy distinction in the

3P (i.e., no [Sent] feature), the system still predicts that 3>3 is possible as 3P DOs, being unspecified, would not require licensing.

In addition to the interpretation of the IO and the SUPER-STRONG PCC, McGinnis’s (2017) system is systemically difficult to implement. As I have suggested for Pancheva and Zubizarreta’s (2017) *P-Prominence*, a matching requirement in syntax without feature checking or feature valuation would be impossible to enforce if the interface is to evaluate each terminal node separately (e.g., whether or not a certain feature is checked/valued).¹⁵ Even if McGinnis’s (2017) θ -matching requirement is enforced using features, it will suffer from the same look-ahead problem as Pancheva and Zubizarreta’s (2017) approach. For the sake of discussion, let us suppose that feature interpretability is separate from feature valuation (Pesetsky and Torrego 2007) in McGinnis’s (2017) system. We could then attribute the θ -matching requirement to the unvalued person feature on Appl, which needs to be fully valued by the argument in its specifier. The licensing requirement of the DO or the complement argument would be attributed to the interpretability of the person feature as schematized in (47). Here, the dependent person features (i.e., [Sent], [Part], and [Auth]) are collapsed into the $[\pi]$ feature.

(47) Potential feature system of McGinnis (2017)



Although this feature system seems plausible, the level of feature specification (i.e., up to $[uSent]$, $[uPart]$, or $[uAuth]$) of Appl needs to be determined by the feature specification of the specifier prior to building the structure. It could be that the feature specification of Appl is randomly selected and the structures with a mismatch between Appl and its

¹⁵If the interface is allowed to evaluate the well-formedness of a syntactic structure by comparing two elements within it, there would be no need for an operation such as Agree because agreement can then be achieved by a feature identity condition at the interface (e.g. **The children*[PL] *is*[SG] *playing outside* ··[#: PL]≠[#: SG]). However, the feature specification of elements (e.g., *is*[SG] vs. *are*[PL]) has to be randomly determined, and whether two elements featurally match has to be left to chance.

specifier (or Appl with an unvalued feature that is left unvalued) are filtered out at the interface.¹⁶ However, this would at least not be an economical system.

Finally, this dichotomous approach to the PCC also makes the source of PCC variation unclear. In the first three PCC varieties, there is no θ -matching requirement between Appl and its specifier while in the last two varieties, the feature specification of the head needs to match that of its specifier. Nevertheless, within each class (i.e., underspecification or θ -matching), the variation can be attributed to the feature specifications of Appl, which comes closer to a comprehensive explanation of the PCC variation.

5.2.4 Summary

The three previous analyses presented here make use of different syntactic machinery to account for the PCC variation. Nevins (2007) uses relativized probes on v and conditions on Multiple Agree, namely *Contiguous Agree*, which defines what constitutes an intervener, and *Matched Values*, which requires that the two arguments be featurally dissimilar. Pancheva and Zubizarreta (2017) devise constraints on Agree called *P-Constraint*, consisting of *P-Prominence*, which requires certain features on the IO, *P-Uniqueness*, which ensures that two arguments are featurally distinct, and *P-Primacy*, which prevents 1P from occurring as the DO when the IO is also prominent. McGinnis (2017) employs varying degrees of underspecification of the articulated person probe on Appl, which may or may not depend on the person feature specification of the IO. These PCC accounts are summarized in (48).

(48) Three previous analyses of PCC variation

| | Nevins (2007) | P&Z (2017) | McGinnis (2017) |
|-----------------|-------------------|-------------------------|-------------------------------|
| OPERATION | Multiple Agree | Agree | Agree |
| PROBE/LICENSOR | v (relativized) | Appl | Appl |
| CONSTRAINT ON: | | | |
| INDIRECT OBJECT | No intervention | Specified prominence | None (θ -matching) |
| DIRECT OBJECT | No matching value | Uniqueness | Complete licensing |
| UNEXPLAINED PCC | SUPER-STRONG | ULTRA-STRONG | SUPER-STRONG |

¹⁶There is a further problem with this system. A mismatch such that the IO is more highly specified than Appl (e.g., IO [*iSent*, *iPart*, *iAuth*] and Appl [*uSent*_, *uPart*_] cannot be ruled out at the interface because all the unvalued features on Appl can successfully be valued.

As is clear in the table, each analysis has at least one PCC variety that it cannot explain.¹⁷ In fact, the Incremental Valuation analysis, which is put forth in the following section, also falls short with one variety, namely the *me*-first PCC. I present reasons why this particular variety should not be treated as a result of person feature interaction between arguments. What makes this analysis stand out from the previous analyses is that the source of variation is clear in the analysis, while the syntactic operation (i.e., Incremental Valuation) is kept constant across varieties.

5.3 Incremental Valuation and PCC variation

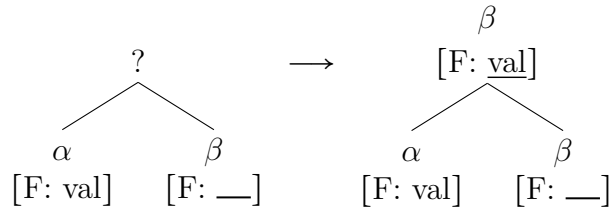
Part of the proposal was presented in Chapter 4 for the difference between the strong PCC and the weak PCC. This section illustrates how the same analysis can be extended to other PCC varieties without introducing any syntactic machinery beyond what is introduced in Chapter 3, thus addressing the parsimony concerns I raised for previous accounts. The present analysis also differs from previous accounts in that the *me*-first “PCC” pattern is, in fact, not a result of person feature interactions between arguments. I present an argument that this pattern can be explained simply by a restriction on the order of clitics within a cluster, which, in turn, can be regarded as a restriction on the order of clitic movement. The subsequent section recapitulates the components of the proposal before we discuss the analysis.

5.3.1 Components of Incremental Valuation

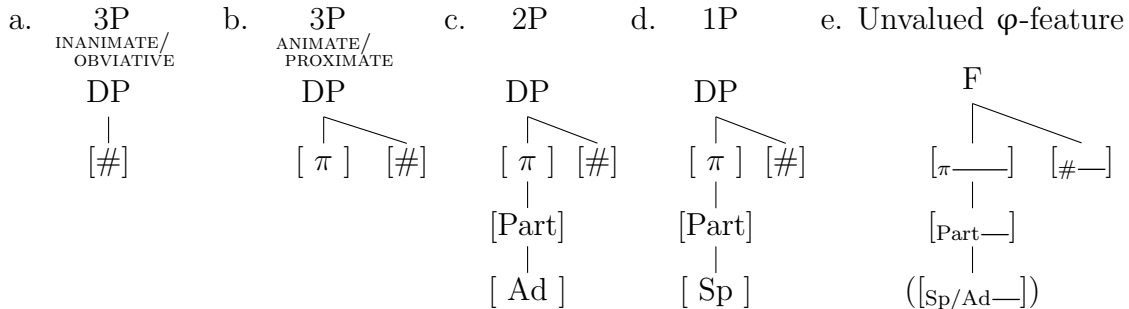
There are two components to the Incremental Valuation mechanism proposed. One is Val(uation-based)-Merge, which requires transmission of some value between the two constituents merged (see Section 3.1.4 for details). This transmission of a value can only take place between two features of the same type. One of the two features needs to be able to receive a value (i.e., it must be fully or partially unvalued), while the other needs to be able to provide a value that the recipient feature does not already have. The element whose feature receives a value projects with the valued counterpart of the feature, rendering all of its features visible at the root of the constituent created by the Merge operation. An abstract representation of the operation is illustrated in (49).

¹⁷Coon and Keine (2018) present a hybrid analysis that utilizes articulated person probes on *v*, Multiple Agree, and Split Agree. They derive the ungrammaticality in PCC sentences from the tension between two syntactic conditions on movement, namely, *Best Match* (Oxford 2018) and *Attract Closest* (Chomsky 1995). Although I will not present their analysis in detail, the super-strong PCC, which they do not consider, is a challenge for their analysis as well.

(49) Val-Merge



The other component of the proposed analysis is articulated person features (see Section 3.2 for details). Following Béjar and Rezac (2009), I regard person features to be composed of dependent features, $[\pi(\text{Person})]$, $[\text{Part}(\text{icipant})]$, $[\text{Ad}(\text{dressee})]$, and $[\text{Sp}(\text{eaker})]$, organized in such a way that represents their entailment relation (i.e., $[\text{Ad}]/[\text{Sp}] \rightarrow [\text{Part}] \rightarrow [\pi]$). The number feature is specified on a branch separate from person features as there is no entailment relation between person and number. The unvalued φ -features also consist of unvalued dependent features as well as an unvalued number feature, although the structural organization of the dependent features is not necessary to account for the PCC patterns.¹⁸ The person specifications of the strong PCC are shown in (50).

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


As will be shown below, the source of variation is the varying person specifications of the arguments and the unvalued feature in different PCC varieties.

As already presented in Section 3.3, Val-Merge and articulated person features together allow arguments to featurally interact with each other through incrementally valuing the same unvalued feature. An unvalued φ -feature can trigger a Merge operation as long as it is capable of receiving a value; therefore, it can potentially trigger multiple instances of Merge. For example, an unvalued φ -feature can be valued by an inanimate 3P argument and subsequently by a 1P argument as the former only transmits a number

¹⁸If we are to maintain that the feature geometry proposed by Harley and Ritter (2002a) is universal, then the dependency relations between component features are typologically significant. It is predicted that no language would have an unvalued (or valued) person feature which consists of $[\pi]$ and $[\text{Speaker}]$ without $[\text{Participant}]$, for example, as $[\text{Speaker}]$ is dependent on $[\text{Participant}]$.

value, which then allows other features ($[\pi]$, $[\text{Part}]$, and $[\text{Sp}]$) to be valued by the 1P argument as illustrated in (51).

(51) Example of Incremental Valuation

a. Initial Merge (Appl, 3IA.SG)

| APPL MERGING WITH 3P INANIMATE ARGUMENT | | | | |
|---|--|--|---------------|--|
| <i>Feature representation on the tree</i> | $\begin{array}{c} \diagup \quad \diagdown \\ [\varphi: 3\text{IA.SG}] \quad [\varphi: \text{—}] \end{array}$ | | \Rightarrow | $\begin{array}{c} \diagup \quad \diagdown \\ [\varphi: 3\text{IA.SG}] \quad [\varphi: \underline{3\text{IA.SG}}] \end{array}$ |
| | | | | |
| <i>Underlying feature structure</i> | $\begin{array}{c} \text{DP} \\ \\ [\text{SG}] \end{array}$ | | \Rightarrow | $\begin{array}{c} \text{DP} \\ \\ [\text{SG}] \end{array}$ |
| | $\begin{array}{c} \text{Appl} \\ \diagup \quad \diagdown \\ [\pi\text{—}] \quad [\#\text{—}] \\ \\ [\text{Part—}] \\ \\ [\text{Sp/Ad—}] \end{array}$ | | | $\begin{array}{c} \text{Appl}' \\ \diagup \quad \diagdown \\ [\pi\text{—}] \quad [\underline{\text{SG}}] \\ \\ [\text{Part—}] \\ \\ [\text{Sp/Ad—}] \end{array}$ |

b. Subsequent Merge (1SG, Appl')

| APPLICATIVE PROJECTION MERGING WITH 1P ARGUMENT | | | | |
|---|--|--|---------------|---|
| <i>Feature representation on the tree</i> | $\begin{array}{c} \diagup \quad \diagdown \\ [\varphi: 1\text{SG}] \quad [\varphi: \underline{3\text{IA.SG}}] \end{array}$ | | \Rightarrow | $\begin{array}{c} \text{(RE)VALUATION} \\ \diagup \quad \diagdown \\ [\varphi: 1\text{SG}] \quad [\varphi: \underline{1\text{SG}}] \end{array}$ |
| | | | | |
| <i>Underlying feature structure</i> | $\begin{array}{c} \text{DP} \\ \diagup \quad \diagdown \\ [\pi] \quad [\text{SG}] \\ \\ [\text{Part}] \\ \\ [\text{Sp}] \end{array}$ | | \Rightarrow | $\begin{array}{c} \text{DP} \\ \diagup \quad \diagdown \\ [\pi] \quad [\text{SG}] \\ \\ [\text{Part}] \\ \\ [\text{Sp}] \end{array}$ |
| | $\begin{array}{c} \text{Appl}' \\ \diagup \quad \diagdown \\ [\pi\text{—}] \quad [\underline{\text{SG}}] \\ \\ [\text{Part—}] \\ \\ [\text{Sp/Ad—}] \end{array}$ | | | $\begin{array}{c} \text{ApplP} \\ \diagup \quad \diagdown \\ [\pi] \quad [\underline{\text{SG}}] \\ \\ [\underline{\text{Part}}] \\ \\ [\underline{\text{Sp}}] \end{array}$ |

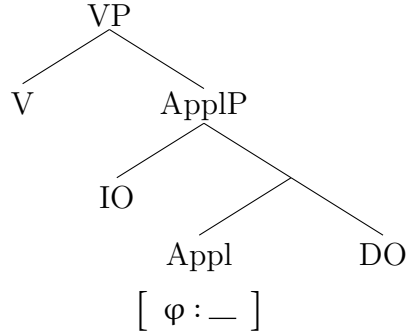
This Incremental Valuation system precludes valuation of an unvalued φ -feature by two arguments of the same person specification (e.g., 3P inanimate & 3P inanimate) as the argument later merged will not have an additional value to give to the unvalued feature. For the same reason, it prevents merging of an argument after another argument that is more highly specified has already valued the unvalued feature (e.g., 1P→3P).

Finally, I assume a low applicative structure for ditransitive sentences (excluding prepositional dative constructions) in all varieties of PCC, as discussed in Section 4.1.¹⁹

¹⁹Benefactive applicative constructions (with a ‘high’ applicative phrase) in French are discussed in Section 5.6.2.

As is the case with French non-repair sentences, the DO (THEME) enters the derivation before the IO (GOAL/RECIPIENT) and the two arguments are mediated by the applicative head with an unvalued φ -feature, as shown in (52).

(52) Ditransitive construction



The subsequent sections show how the Incremental Valuation mechanism explains the different types of PCC.

5.3.2 STRONG PCC (1>3, *1>2, *2>1, 2>3, *3>1, *3>2, 3>3)

The Incremental Valuation analysis for the strong PCC was discussed in Section 4.2; however, it is repeated here for completeness. The person specifications in the strong PCC languages are as in (53).²⁰ As is mentioned in Section 4.2 fn.7, the system explains the STRONG PCC pattern without the $[_{Sp/Ad}—]$ specification on the unvalued φ -feature. For simplicity, I will omit this feature in the representation of the derivations below.

(53) STRONG PCC languages and their φ -feature specifications

| 3P | 3P | 2P | 1P | Unvalued φ |
|-----------|-------------|-------------|-------------|--------------------|
| INANIMATE | ANIMATE | | | |
| [#] | [π] [#] | [π] [#] | [π] [#] | [π —] [# —] |
| | | [Part] | [Part] | [Part—] |
| | | [Ad] | [Sp] | ([Ad/Sp—]) |

The derivation of the possible person combinations is schematized in (54). I use a shorthand representation of the derivations here. As indicated by the brackets (i.e., [IO [Appl DO]]), the DO always enters the derivation first and values the unvalued φ -feature of the applicative head, and the IO comes in later. All the dependent features

²⁰Gender features are omitted.

are collapsed into a column. The dashed arrows (\dashrightarrow) indicate successful valuation, and \times signifies that the valuation is impossible because the value is already there. The direction of the arrows indicates the direction of valuation, not the direction of search (in a probe-goal Agree system).

- (54) a. **✓1>3**
- | | | |
|-----------|---------------------------------|-------------------------|
| [IO | [Appl | DO]] |
| [sg] | [#___] | \dashleftarrow [sg] |
| [π] | \dashrightarrow [π ___] | |
| [Part] | \dashrightarrow [Part___] | |
| [Sp] | | |
- b. ***3>1**
- | | | |
|-----------|---------------------------------|--|
| [*IO | [Appl | DO]] |
| [sg] | \dashrightarrow [sg] | [#___] \dashleftarrow [sg] |
| [π] | \dashrightarrow [π ___] | [π] \dashleftarrow [π ___] |
| | | [Part___] \dashleftarrow [Part] |
| | | [Sp] |
- c. ***1>2**
- | | | |
|-----------|---------------------------------|--|
| [*IO | [Appl | DO]] |
| [sg] | \dashrightarrow [sg] | [#___] \dashleftarrow [sg] |
| [π] | \dashrightarrow [π ___] | [π] \dashleftarrow [π ___] |
| [Part] | \dashrightarrow [Part___] | [Part] \dashleftarrow [Part] |
| [Sp] | | [Ad] |
- d. ***2>1**
- | | | |
|-----------|---------------------------------|--|
| [*IO | [Appl | DO]] |
| [sg] | \dashrightarrow [sg] | [#___] \dashleftarrow [sg] |
| [π] | \dashrightarrow [π ___] | [π] \dashleftarrow [π ___] |
| [Part] | \dashrightarrow [Part___] | [Part] \dashleftarrow [Part] |
| [Ad] | | [Sp] |
- e. **✓2>3**
- | | | |
|-----------|---------------------------------|-------------------------|
| [IO | [Appl | DO]] |
| [sg] | [#___] | \dashleftarrow [sg] |
| [π] | \dashrightarrow [π ___] | |
| [Part] | \dashrightarrow [Part___] | |
| [Ad] | | |
- f. ***3>2**
- | | | |
|-----------|---------------------------------|--|
| [*IO | [Appl | DO]] |
| [sg] | \dashrightarrow [sg] | [#___] \dashleftarrow [sg] |
| [π] | \dashrightarrow [π ___] | [π] \dashleftarrow [π ___] |
| | | [Part___] \dashleftarrow [Part] |
| | | [Ad] |
- g. **✓3>3**
- | | | |
|-----------|---------------------------------|-------------------------|
| [*IO | [Appl | DO]] |
| [sg] | [#___] | \dashleftarrow [sg] |
| [π] | \dashrightarrow [π ___] | |
| | | [Part___] |

Whenever the DO is a local person, it saturates the unvalued ϕ -feature on Appl. Therefore, the IO cannot enter the derivation as feature valuation is impossible. As discussed in Section 4.2.1, the DO is assumed to be inanimate if it is a 3P pronoun even when the referent of the pronoun is human. This allows the 3>3 combination as the IO is able to contribute the person (π) value.

5.3.3 WEAK PCC (1>3, 1>2, 2>1, 2>3, *3>1, *3>2, 3>3)

As discussed in Section 4.3, the person specifications in the weak PCC languages are the same as in the strong PCC except for the probe. The probe here has unvalued features of $[\#]$, $[\pi]$, $[\text{Part}]$, $[\text{Ad}]$, and $[\text{Sp}]$ as shown in (55).

| | | | | | |
|------|---|-----------------|-----------------|-----------------|---------------------|
| (55) | WEAK PCC languages and their phi-feature specifications | | | | |
| | 3P | 3P | 2P | 1P | Unvalued φ |
| | INANIMATE | ANIMATE | | | |
| | [#] | [π] [#] | [π] [#] | [π] [#] | [π —] [# —] |
| | | | [Part] | [Part] | [Part —] |
| | | | [Ad] | [Sp] | [Ad —] |
| | | | | | [Sp —] |

Because the probe has unvalued features for [Ad] and [Sp], 1>2 and 2>1 are grammatical as shown in (56).

[illegible]

Other person combinations are either allowed ($1/2/3 > 3$) or disallowed ($*3 > 1/2$) in the same way as the strong PCC (see (54a,b,e-g)).

5.3.4 ULTRAstrong PCC (1>3, 1>2, *2>1, 2>3, *3>1, *3>2, 3>3)

The person feature specifications in this variety of PCC are as in (57). The difference here from the strong PCC is that the probe bears an unvalued [Sp] feature but cannot host an [Ad] value.

(57) ULTRA-STRONG PCC languages and their phi-feature specifications

| 3P | 3P | 2P | 1P | Unvalued φ |
|-----------|-----------------|-----------------|-----------------|--------------------|
| INANIMATE | ANIMATE | | | |
| [#] | [π] [#] | [π] [#] | [π] [#] | [π —] [#—] |
| | | [Part] | [Part] | [Part—] |
| | | ([Ad]) | [Sp] | [Sp—] |

Since there is no unvalued [Ad] feature on the probe, 1>2 will be licit while 2>1 will be ruled out as illustrated in (58).

(58) a. ✓1>2

| | | |
|-----------|---------------|----------------|
| [IO | [Appl | DO]] |
| [sg] | [#—] | ←--- [sg] |
| [π] | [π —] | ←--- [π] |
| [Part] | [Part—] | ←--- [Part] |
| [Sp] | -----> [Sp—] | [Ad] |

b. *2>1

| | | |
|-----------|--------------------|--------------------|
| [*IO | [Appl | DO]] |
| [sg] | --✗--> [#—] | ←--- [sg] |
| [π] | --✗--> [π —] | ←--- [π] |
| [Part] | --✗--> [Part—] | ←--- [Part] |
| [Ad] | | [Sp—] ←--- [Sp] |

Note that the outcome will be the same without the [Ad] specification on the 2P argument as indicated by the shading in (58) in this variety of PCC.

5.3.5 SUPER-STRONG PCC (1>3, *1>2, *2>1, 2>3, *3>1, *3>2, *3>3)

The super-strong PCC has the same person feature specifications as the strong PCC except that there is no animacy/obviation distinction in the 3P arguments.²¹

(59) SUPER-STRONG PCC languages and their phi-feature specifications

| 3P | 2P | 1P | Unvalued φ |
|-----------------|-----------------|-----------------|--------------------|
| [π] [#] | [π] [#] | [π] [#] | [π —] [#—] |
| | [Part] | [Part] | [Part—] |
| | [Ad] | [Sp] | ([Ad/Sp—]) |

Since there is no animacy/obviation distinction in the 3P arguments, 3>3 combinations are not possible in this variety as the second argument (IO) has no additional value to contribute to the unvalued feature on Appl.

²¹Animacy in Kambera (a SUPER-STRONG PCC language) is discussed in Section 5.5.

(60) ***3>3**

$$\begin{array}{c}
 [*IO \quad [Appl \quad DO]] \\
 [sg] \dashrightarrow \times [\# ___] \dashleftarrow [sg] \\
 [\pi] \dashrightarrow \times [\pi ___] \dashleftarrow [\pi] \\
 [Part ___]
 \end{array}$$

In the following section, I present an analysis of *me*-FIRST PCC languages. Unlike the other four varieties of PCC, the *me*-FIRST PCC pattern is analyzed as the result of clitic ordering restrictions and not as a person interaction effect of two internal arguments.

5.4 Clitic ordering restrictions

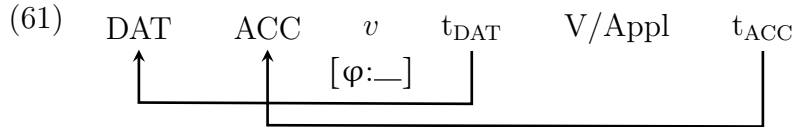
In this section, I claim that the *me*-first PCC is not a result of person-feature interaction between two arguments. As suggested by its name, it is simply a restriction against the 1P clitic being in the second position in the cluster. An ordering restriction which has its source in underlying conditions on clitic movement explains the pattern without referring to the relative feature specifications of the arguments. Thus, on the surface, the *me*-FIRST PCC pattern appears to be similar to other varieties of PCC, but the restriction has an entirely different source.

5.4.1 *Me*-FIRST “PCC” (1>3, 1>2, *2>1, 2>3, *3>1, 3>2, 3>3)

As introduced in Section 5.1.5, Romanian and Bulgarian prohibit 1P as the DO in ditransitive constructions with two clitics. I suggest that there is a simple explanation for this pattern—namely, an ordering restriction on the clitics. In the two *me*-FIRST languages, the order of clitics is set to DAT-ACC (Săvescu Ciucivara 2011:105 for Romanian; Ewen 1979, Hauge 1999:101, and Rivero 2005:1090 for Bulgarian). This forces the 1P accusative clitic to be in the second position, which violates a surface requirement that the 1P clitic be in the first position. These surface ordering restrictions can be explained by two underlying syntactic conditions. The DAT-ACC ordering restriction is due to a locality condition on clitic movement. *Attract Closest* (Chomsky 1995) with *Tucking-in* (Richards 1997) will necessarily derive the right order, as shown in (61).²² I assume here that Appl assigns dative Case to its specifier and *v* assigns accusative Case to the

²²Bošković (2002b) assumes AgrIO and AgrO and that the dative clitic and the accusative clitic are generated in their respective specifier positions. In his system, the surface order is achieved with the verbal head going through successive cyclic right-adjoining head movement as shown in (i).

theme/DO. I remain agnostic as to how the movement is triggered,²³ but the dative argument, being closer to the probe on v , moves first to adjoin to the v P and subsequently the accusative argument moves and is tucked in between the dative argument and v .²⁴



The other constraint, that 1P must be in the first position, can be derived from something similar to *Best Match* (Oxford 2018). In order to account for the Infl agreement pattern in Algonquian, Oxford (2018) proposes an Agree system that takes advantage of articulated person features as well as the fact that two arguments are equidistant from the probe. For example, in an independent transitive clause, when two local arguments (1P and 2P) are in the agreement domain of the probe on Infl, specified as $[uPerson]$, $[uProximate]$, and $[uParticipant]$, then the probe agrees with both arguments because they can equally satisfy the probe. However, when one argument is 1P and the other is 3P (regardless of which is external or which is internal), Infl agrees only with the 1P argument because the $[uParticipant]$ feature can only be satisfied by 1P, which makes it the better match of the two arguments. We can extend this type of competitive system to the *me*-FIRST PCC languages in attracting clitics. If some feature at v is specifically searching for 1P (or the best match that can satisfy $[\pi]$, $[Part]$, and $[Sp]$), then a 1P argument in the search domain will need to move first. However, if the 1P argument is the DO, this movement will violate *Attract Closest* as the IO is closer to the attractor,



Although this analysis gives the right clitic order, I do not adopt this analysis because in order to account for the *me*-FIRST PCC pattern it requires a special property of AgrO which prevents it from introducing a 1P argument.

²³It should be noted that clitic movement should not be motivated by the same valuation mechanism as Val-Merge, as the need to move, is in the clitics rather than in an argument-introducing head. Yokoyama (2015a) proposes that the clitic (head-)movement in Kinyarwanda is motivated by the uninterpretability of phi-features on clitics (e.g., $[u\varphi: 3SG]$), which is satisfied by adjoining to an element with its interpretable counterpart (i.e., $[i\varphi: 3SG]$). This may also explain cliticization in Romanian and Bulgarian.

²⁴If we are to maintain cyclicity, then two instances of cyclic movement of the two arguments (instead of *Tucking in*) will result in the right order, although this requires two landing sites.

resulting in the ineffability of $2/3 > 1$ in these languages.²⁵ The conditions are summarized in (62).

(62) Restrictions on the clitic ordering in the *me*-FIRST PCC languages

| | SURFACE GENERALIZATIONS | UNDERLYING CONDITIONS |
|----|-------------------------|------------------------------|
| a. | *ACC-DAT | <i>Attract Closest</i> |
| b. | *Cl-Cl[1P] | <i>(Absolute) Best Match</i> |

As will be discussed in Section 5.6.1, I consider that Romanian and Bulgarian lack PCC effects altogether. The feature valuation system proposed here allows certain languages to obviate the PCC. The person specifications of arguments are assumed to be the same as other PCC languages (with or without an animacy distinction), and *(Absolute) Best Match* targets the [Speaker] feature in these two languages. As with the Incremental Valuation account of the PCC, this analysis of the *me*-FIRST PCC falls within the non-generation approach to ungrammaticality as we can explain the pattern using the two above-mentioned syntactic conditions without the need to posit surface constraints or filters such as *ACC-DAT and *Cl-Cl[1P]. The proposal that the *me*-FIRST PCC pattern is derived from the clitic ordering restrictions and not from person interaction between arguments is also supported by facts in a related language. Though Romanian is classified as a Romance language, it received a significant amount of influence from South Slavic languages, especially Bulgarian (Du Nay 1996:98-108). Given this, it is not surprising that these two languages exhibit the same PCC pattern. The following section looks at person restrictions in Slovenian, another South Slavic language.

5.4.2 Person restrictions in Slovenian

Slovenian ditransitive sentences with two clitics appear quite different from those in Romanian and Bulgarian, but this section shows that Slovenian is similar to Romanian and Bulgarian: the surface pattern can be explained by a clitic ordering restriction. The Slovenian pattern superficially looks like the strong variety of PCC but in fact, there is no restriction derived from featural interaction between the arguments as in the case of *me*-FIRST languages. The person combinations are shown as IO > DO irrespective of the clitic order.²⁶

²⁵This conflict between these two syntactic conditions is used by Coon and Keine (2018) to account for all varieties of PCC, but my position differs in that the *me*-FIRST PCC is the only variety whose pattern can be explained solely by these conditions on movement.

²⁶This is not to be confused with Stegovéc's (2016; 2017) notation '>>,' which represents the linear order of clitics—for example, '1P>>2P' represents 1P preceding 2P regardless of their case or thematic roles.

(63) *Slovenian* (DAT-ACC)

- a. Sestra {mi/ti} ga bo predstavila. (1/2 > 3)
 sister me/you.DAT him.ACC will introduce
 ‘The sister will introduce him to me/you.’
- b. *Sestra {mi/ti} {te/me} bo predstavila. (*1/2 > 2/1)
 sister me/you.DAT you/me.ACC will introduce
 (Intended) ‘The sister will introduce you to me/me to you.’
- c. *Sestra mu {me/te} bo predstavila. (*3 > 1/2)
 sister him.DAT me/you.ACC will introduce.
 (Intended) ‘The sister will introduce me/you to him.’
- d. Gospa mu ga je opisala. (3 > 3)
 lady him.DAT him.ACC is described
 ‘The lady described him to him.’

(Stegovec 2016:(15),(16a))

If we look at the data in (63), the pattern appears to be exactly the same as the STRONG PCC (that is, the accusative cannot be 1P or 2P). However, in Slovenian, there is no clitic ordering restriction based on case. The sentences with the clitic order DAT-ACC are in (63), and the order can be inverted as shown in (64).

(64) *Slovenian* (ACC-DAT)

- a. Sestra {me/te/ga} mu bo predstavila. (3 > 1/2/3)
 sister me/you/him.ACC him.DAT will introduce
 ‘The sister will introduce me/you/him to him.’
- b. *Sestra {me/te/ga} {ti/mi} bo predstavila. (*2/1 > 1/2/3)²⁷
 sister me/you/him.ACC you/me.DAT will introduce
 (Intended) ‘The sister will introduce him to me/you/him.’

(Stegovec 2016:(2))

As shown in (64), the IO can be 3P with the clitic order ACC-DAT, which is unexpected given the PCC patterns we have seen. The restriction is such that the dative argument cannot be 1P or 2P in this clitic order. If we combine the data in (63) with the data in (64), the only person combinations that are ruled out in either clitic order are 1 > 2 and 2 > 1. The facts in Slovenian are summarized in (65).²⁸ If only the Slovenian pattern

²⁷Stegovec (2017) reports that some speakers of Slovenian accepts 1/2 > 2/1 combinations (see (9) and (10) therein).

²⁸I elicited judgments for the same set of sentences from a Slovenian speaker (see Appendix); however, for this particular speaker, the judgments appear to be not as clear-cut as Stegovec’s.

(*1>2, *2>1), disregarding the clitic order effect, is considered, the intervention analysis of Béjar and Rezac (2003) and Rezac (2011) explains the pattern if we assume that the underlying structure is the same for both clitic orders and that by virtue of being non-participant, 3P arguments do not constitute an intervener (thus, 3>1/2 combinations do not constitute a PLC violation).

(65) Slovenian double-clitic construction

| DAT | ACC | CLITIC ORDER | | | |
|-----|-----|--------------|-------|---------|-------|
| | | DAT-ACC | | ACC-DAT | |
| 1 | 3 | ✓ | (63a) | * | (64b) |
| 2 | 3 | ✓ | (63a) | * | (64b) |
| 3 | 3 | ✓ | (63d) | ✓ | (64a) |
| 1 | 2 | * | (63b) | * | (64b) |
| 2 | 1 | * | (63b) | * | (64b) |
| 3 | 1 | * | (63c) | ✓ | (64a) |
| 3 | 2 | * | (63c) | ✓ | (64a) |

However, as we have established, this analysis fails to account for the weak PCC pattern.

Stegovec (2016, 2017) attributes the Slovenian pattern to the optional movement of the accusative clitic. He claims that v^0 is specified for person and that clitics are unvalued for person. The person feature on the more local argument can be valued by v^0 , leaving the more distant argument to be realized as 3P by default for being unvalued for person.

$$\begin{aligned}
 (66) \quad & \text{a.} \quad v^0 \quad \begin{array}{c} \text{DAT} \\ \text{Appl}^0 \end{array} \quad \text{ACC} \\
 & \quad \left[\begin{array}{c} u\varphi : - \\ u\pi : val \end{array} \right] \xrightarrow[\text{---VALUE---}]{\text{AGREE}} \left[\begin{array}{c} i\varphi : val \\ i\pi : - \end{array} \right] \quad \left[\begin{array}{c} i\varphi : val \\ i\pi : - \end{array} \right] \Rightarrow \text{default } 3P \\
 & \quad \text{b.} \quad v^0 \quad \text{ACC} \quad \text{DAT} \quad \text{Appl}^0 \quad t_{\text{ACC}} \\
 & \quad \left[\begin{array}{c} u\varphi : - \\ u\pi : val \end{array} \right] \xrightarrow[\text{---VALUE---}]{\text{AGREE}} \left[\begin{array}{c} i\varphi : val \\ i\pi : - \end{array} \right] \quad \left[\begin{array}{c} i\varphi : val \\ i\pi : - \end{array} \right] \Rightarrow \text{default } 3P \quad (\text{Stegovec 2016:(29),(32)})
 \end{aligned}$$

If the accusative argument undergoes the optional movement, we obtain the clitic order ACC-DAT and the dative argument, being more distant from v^0 , cannot be valued as 1P or 2P as shown in (66b). If there is no optional movement of the accusative argument, then the clitic order is DAT-ACC and the accusative argument, being farther away from v^0 with a person value, cannot be 1P or 2P as shown in (66a). This optional movement analysis explains the surface pattern; however, French ditransitive sentences with two full DP internal arguments permit variable ordering of the arguments (*V DO à IO* or *V à IO DO*; Roberge and Troberg 2007:302). With the assumption that clitics are introduced in the same argument positions, the optional movement of the lower argument should allow the 3 > 1/2 combinations in French to escape the PCC as well. Nevertheless, the clitic

combinations *me lui* ‘me to him’ and *te lui* ‘you to him’ (both ACC-DAT) are ruled out in French, and the reason why the optional movement does not rescue these combinations is unclear with this analysis.

There is, in fact, a very simple surface generalization we can make about the Slovenian data, which is that 1P and 2P clitics cannot be in the second position (this can potentially be called the ‘*me-AND-you-FIRST*’ PCC). As is clear in (65), the person combinations $1/2 > 3$ allow the clitic order DAT-ACC but not the reverse order (ACC-DAT). The person combinations $3 > 1/2$ only permit the ACC-DAT order while the DAT-ACC order is ruled out. Neither order is acceptable for the person combinations $1/2 > 2/1$. Therefore, the surface generalization is simply $*Cl-Cl[1/2P]$. Slovenian is different from Romanian or Bulgarian in that there is no case-based clitic ordering restriction. This can be analyzed as a lack of strict locality in Slovenian. The two internal arguments in a ditransitive sentence are taken to be equidistant from *v*; therefore, *Attract Closest* does not apply. This allows the $3>3$ combination to surface as either DAT-ACC or ACC-DAT. However, (*Absolute*) *Best Match* is active in clitic movement, and the triggering feature is specifically searching for [Part]. Accordingly, 1P and 2P clitics will always move first, so no clitic order with 1P/2P in the second position will ever be generated. In the case of $1/2 > 2/1$ combinations, there are two potential participant clitics that can be attracted; however, once one of the participant argument moves, the triggering feature is satisfied and cannot attract another participant argument.^{29,30,31} Slovenian facts can therefore also be attributed

²⁹Stegovec (2017) reports that some Slovenian speakers accept $1/2 > 2/1$ combinations. I suggest that for those speakers, attracting the second participant pronoun is an option. I leave the exact mechanism to be worked out.

³⁰In Oxford’s (2018) analysis of Algonquian, the probe on Infl can agree with two local arguments simultaneously; however, whether this will trigger movement of both arguments is not clear as there is no independent realization of local arguments in Algonquian.

³¹One might suspect that the explanation of the Slovenian pattern provided here requires an interface condition as it appears that participant clitics that are not attracted by *v* and fail to cliticize need to be ruled out. I suggest that clitics that remain in their base-generated argument positions are in fact not ruled out but can be realized as post-verbal strong pronouns (*tebe/mene/tebi/meni*) in Slovenian, resulting in what could be called “repair” sentences shown in (i).

- (i) a. Sestra mi/ti bo predstavila tebe/mene.
 sister me/you.DAT will introduce you/me.ACC
 ‘The sister will introduce you/me to me/you.’
 b. Sestra me/te bo predstavila tebi/meni.
 sister me/you.ACC will introduce you/me.DAT
 ‘The sister will introduce me/you to you/me.’ (Stegovec 2016:(37))

However, this would require a dual status of strong pronouns (non-cliticized pronouns vs. FocusP; the latter briefly discussed in Chapter 7) in Slovenian because ditransitive sentences are grammatical as long as one of the internal arguments is realized as a post-verbal strong pronoun.

to the clitic ordering restriction. Unlike other types of PCC, which are derived from featural interaction of the two internal arguments, the patterns in Romanian, Bulgarian, and Slovenian can be accounted for without reference to the relative level of φ -feature specifications of arguments.³²

Finally, it should be noted that other varieties of PCC cannot be attributed to morpheme ordering restrictions. As I have already hinted above, mere ordering does not explain the French patterns (the strong/weak PCC). There is no case-based ordering restriction in French. The 1/2SG > 3SG combinations are realized as *me le* ‘him to me’ and *te le* ‘him to you’ (both DAT-ACC) while the 3SG > 3SG combination is realized in the opposite order as *le/la lui* ‘him/her to him/her’ (ACC-DAT). Object clitics in French are generally ordered by person—1P and 2P precedes 3P (cf. Bonami and Boyé 2007:Table1, Jouisseau and Rezac 2008:Sec2.9). However, the 3 > 1/2 combinations are still not possible even though the clitics do not violate the ordering restriction by person (**me lui* and **te lui*).³³ The pronominal elements in Classical Arabic (an ultrastrong PCC language) as shown in (8) are ordered as DAT-ACC or IO-DO. There is no generalization we can draw about the order of elements for illicit combinations (**2>1*, **3>1*, **3>2*). 1P can be in the first position (*1>2*) but not in the second position (**2>1*, **3>1*) while 2P can be in either position (*2>3*, *1>2*). 3P can also be in either position (*3>3*). Thus, the pattern in Classical Arabic also cannot be explained without referring to the relation of two arguments. Kambera (a super-strong PCC language) cannot be explained by the surface ordering of pronominal elements either. As shown in (10), the internal arguments are ordered as IO-DO (there is no case distinction between the two arguments). The ungrammatical combinations (**1>2*, **2>1*, **3>1*, **3>2*, **3>3*) do not have a consistent pattern with respect to the order of elements aside from the fact that 1P and 2P can-

³²The feature-based analysis of clitic ordering restrictions predicts that there would be variation in the clitic ordering restrictions just as there is variation in the PCC patterns. More specifically, what is considered the best match may vary depending on the language. For the *me*-FIRST languages, arguments with the [Speaker] feature is the best match, and for Slovenian and French, it seems to be arguments with the [Participant] feature. There are two other possibilities: certain languages may consider arguments with the [Addressee] feature to be the best match (Spanish is likely of this type as clitics are generally ordered 2P-1P-3P) and other languages could be sensitive to $[\pi]$, in which case the clitics are ordered by animacy. There could also be variation as to whether the condition is absolute or relative. For the *me*-FIRST PCC, the ordering restriction is only on 1P, and there is no restriction between 2P and 3P; therefore, the condition is absolute. In Spanish, 2P argument clitics precede clitics of other persons, and 1P precedes 3P. The condition must be relative, and the restriction is sensitive to the best matching element among the arguments in the domain (i.e., [Participant] if not [Addressee]).

³³If we are to assume that *Attract Closest* is responsible for a strict ordering of clitics based on their case in Romanian and Bulgarian, then the fact that French allows either order (ACC-DAT or DAT-ACC) is reflective of the fact that French lacks this condition on clitic movement. This line of thought would be problematic for Coon and Keine’s (2018) analysis, where the PCC effects are explained by a conflict between two conditions on movement—namely, *Attract Closest* and *Best Match*.

not be in the second position; however, this still does not explain the ungrammaticality of *3>3. Therefore, the *me*-FIRST PCC is the only variety that can be explained by clitic ordering.

To summarize the proposed account of the PCC variation, the PCC effects arise from the two internal arguments directly featurally interacting through an unvalued φ -feature. The source of PCC variation is in the different ways person features are specified in different languages. This makes clear why there is such variation. I have also argued that the *me*-FIRST PCC is different from other varieties of PCC in that it can be explained without making reference to the interactive effects of person features of the arguments. I have shown that mere ordering of clitics explains the person effects found in this variety. The following section highlights the fact that the absence of a featural animacy distinction in the super-strong PCC does not prevent the language from making the distinction structurally.

5.5 Lexically specified animacy vs. syntactically derived animacy

As I have shown in Section 5.3.5, I attribute the super-strong PCC pattern to the lack of a featural animacy distinction. However, the fact that the animacy distinction is not lexically encoded does not prevent the language from making the distinction syntactically. Kambera (super-strong PCC language) makes an animacy distinction by means of a case distinction as shown in (67).

(67) *Kambera*

- a. Na- rongu -**ya**_j [na kareuku -na_k]_j.
 3SG.NOM- hear -**3SG.ACC** DET talk -3SG.GEN
 ‘She hears his talking.’
- b. Na- rongu -**nya**_k [kareuku -na_k]_j.
 3SG.NOM- hear -**3SG.DAT** talk -3SG.GEN
 ‘She hears him talking.’

(Klamer 1998:201(60))

The verb in (67a) has a 3P accusative clitic, and the sentence is interpreted as involving hearing an inanimate object (i.e., ‘his talking’ \approx his voice). The same verb is cliticized with 3P dative in (67b), and it is now interpreted as involving hearing an animate entity (i.e., ‘him’). Klamer (1998) describes the dative argument in (67b) as an applicative

object. In fact, we can analyze the contrast in (67) as possessor raising or external possession (Deal 2013, 2017), a cross-linguistically observed phenomenon (*Japanese* Ura 1996; *French* Langacker 1968; Guéron 1985; *Spanish* Kempchinsky 1992; Cuervo 2003a; *Hebrew* Borer and Grodzinsky 1986; a.o.). Romance languages (e.g., French) have so-called possessor dative constructions, in which a pre-verbal dative clitic represents the possessor of the post-verbal DP object, as shown in (68b). This is nearly equivalent to the sentence in (68a) where the possessive relation is expressed within the direct object.

- (68) *French*
- a. J' ai coupé ses cheveux.
I have cut his hair
'I cut his hair.'
 - b. Je **lui** ai coupé les cheveux.
I **3SG.DAT** have cut the hair
'I cut his hair.'
- (Guéron 1985; cited in Deal 2017:(18),(17a))

An interesting property of a raised or external possessor like the one in (68b) noted by Deal (2017) is that it must be interpreted as a living, animate entity. As shown for French in (69), the possessor dative construction is not available for an inanimate possessor.

- (69) *Elle lui a cassé le pied, à cette table.
she 3SG.DAT has broken the leg to this table
'She broke this table's leg.'
- (Barnes 1985:168; cited in Deal 2017:(19))

There are two schools of thought regarding possessor raising. One is that external possession, as in (68b), is syntactically derived from the internal possession in (68a). Under this approach, the two constructions have the same underlying structure (Fillmore 1968; Langacker 1968; Keenan 1972; Kuno 1972; Perlmutter and Postal 1972/1983 a.o.). The other, more recent approach to external possession takes the external possessor to be base-generated outside the possessum phrase and bind an anaphoric element in the possessum phrase (Guéron 1985; Borer and Grodzinsky 1986; Kempchinsky 1992 a.o.). In this view, the external possessor is considered to be an affected argument and the anaphoric element it binds establishes a possessive relation with the possessum. The advantage of this approach is that it explains the contrast between external possession with an animacy restriction and internal possession with no such restriction, as it assumes different structures for the two.

Returning to the Kambara sentences in (67), if we take the affectee analysis of external possession and assume that there is a functional element that introduces the external

possessor, which also carries affectedness as part of its semantics, then the animacy effect seen in (67b) can be explained since it is easier to construe an affected argument as a sentient/animate being (Mithun 1991, Malchukov 2008:212).³⁴ Therefore, even if a language does not have a featural animacy distinction, it can still make the distinction structurally.

In the following section, I discuss how the PCC may be obviated in different constructions or in different languages. PCC effects are found in a number of languages; however, even within PCC languages, there are certain constructions with two arguments that do not exhibit PCC effects. There are also languages that seem to be unaffected by the PCC. The section offers a way to explain the partial or total absence of PCC effects.

5.6 Ways to induce or obviate the PCC

Although PCC effects are widespread, they are not found in every language. This section discusses how the syntactic system proposed in this thesis might deal with cases where we observe PCC effects and others where we do not in a rather exploratory manner.

5.6.1 Ditransitives with no PCC effects

Kinyarwanda (Bantu) does not show PCC effects in ditransitive sentences, as shown in (70).^{35,36}

³⁴The term ‘affected(ness)’ is generally used to mean ‘undergoing a change of state’ (Anderson 1971; Gropen et al. 1991; Anderson 2007; Beavers 2011 a.o.). However, it is used here to refer specifically to psychological affectedness. As is evident in (69), the table is undergoing a physical change of state (i.e., having its leg broken), but the possessor dative construction is still incompatible with an inanimate possessor. In Japanese adversity passives, the subject is emotionally affected by the event described in the sentence as in (i).

(i) Taroo-ga dorobou-ni heya-o aras-are-ta.
 Taro-NOM thief-DAT room-ACC destroy-PASS-PST
 ‘Taro’s room got destroyed on him by the thief.’ (Pylkkänen 2008:64(119b))

Taro is affected by the thief destroying his room. The passive morpheme is expressing the adverse effect of the event.

³⁵I omit the noun classes here. The morphemes glossed as 3SG are noun class 1; the morphemes glossed as 3PL are noun class 2. Both classes represent human entities.

³⁶OMs in Bantu languages may be analyzed as agreement markers instead of clitics. However, the distinction is not of importance here as the PCC is observed with agreement markers (e.g., Basque) and clitics (e.g., French).

(70) *Kinyarwanda*

- a. Azakumpa. (1 > 2; 2 > 1)
 a- za- **ku-** **n-** ha
 3SG.SM- FUT- 2SG.OM- 1SG.OM- give
 =‘He will give you to me.’
 =‘He will give me to you.’
- b. Azamumpa. (1 > 3; 3 > 1)
 a- za- **mu-** **n-** ha
 3SG.SM- FUT- 3SG.OM- 1SG.OM- give
 =‘He will give her to me.’
 =‘He will give me to her.’
- c. Azamuguha. (2 > 3; 3 > 2)
 a- za- **mu-** **ku-** ha
 3SG.SM- FUT- 3SG.OM- 2SG.OM- give
 =‘He will give him to you’
 =‘He will give you to him’
- d. Azakumuha. (3 > 2)
 a- za- **ku-** **mu-** ha
 3SG.SM- FUT- 2SG.OM- 3SG.OM- give
 ‘He will give you to him’
- e. Azamubaha. (3 > 3)
 a- za- **mu-** **ba-** ha
 3SG.SM- FUT- 3SG.OM- 3PL.OM- give
 ‘He will give her to them’
- f. Azabamuha. (3 > 3)
 a- za- **ba-** **mu-** ha
 3SG.SM- FUT- 3PL.OM- 3SG.OM- give
 ‘He will give them to her’

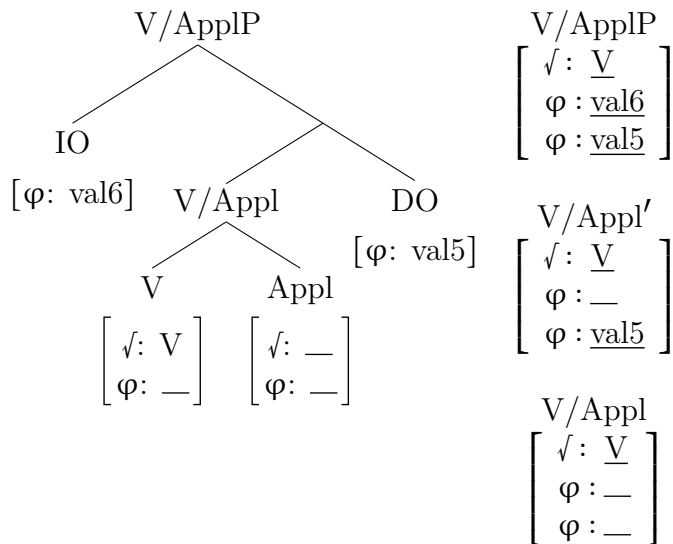
(Contini-Morava 1983: (3)-(6))

There are indeed person effects in the order of object markers (OMs) or object clitics.³⁷ However, as is clear in (70), all the person combinations are possible in Kinyarwanda.

³⁷1P OM must be closer to the verb root than other persons as shown in (70a,b). Concurrent 2P and 3P can be in either order in this particular variety, but one is ambiguous (70c) while the other is not (70d). In other varieties of Kinyarwanda, the order of 2P and 3P is restricted to 3P-2P- \sqrt{ROOT} with the same ambiguity. For a detailed description and an analysis of these ordering restrictions, see Yokoyama (2016).

Under the Incremental Valuation analysis of the PCC I have presented in this thesis, two arguments value the same unvalued φ -feature; this is how the person interaction effects are derived. If two arguments do not interact directly, there must be two separate unvalued φ -features for the two arguments. One potential way to obviate the PCC suggested by Yokoyama (2015a,b) is directly merging and simultaneously head-adjointing the verbal head and the low Appl head before the two internal arguments enter the derivation.³⁸ If we assume that both heads bear an unvalued φ -feature, then the two internal arguments each have an unvalued φ -feature to value, resulting in no interactive effects between the arguments as illustrated in (71).³⁹ The features at the intermediate and maximal projections are shown on the side. Yokoyama (2015b) proposes that head-to-head adjunction allows features of both heads to project and creates a complex head. The relevant case here is the ambiguously labeled head V/Appl.⁴⁰

(71) Ditransitive construction with no PCC effects



³⁸The head-adjunction mechanism that results in the projection of both uniting elements is a separate operation from Val-Merge, proposed in this thesis. Val-Merge is proposed as an asymmetrical operation, and only one of the uniting elements projects as a result. The suggestion here is that a symmetrical operation that is independently necessary for head movement might explain total obviation of the PCC. This additional mechanism of head adjunction is also briefly discussed in Footnote 26 in Chapter 3. One might pursue an alternative account of obviation of the PCC in terms of reordering of arguments within syntax (e.g., Rezac 2008, Stegovec 2019); however, idiosyncretic sets of rules might be necessary to regulate this type of reordering to account for different types of the PCC in languages that do exhibit PCC effects.

³⁹Section 3.5 explains how the derivation proceeds with the current feature system.

⁴⁰The suggested way of adjoining two heads may have implications for, for instance, V-V compounds or serial verb constructions (Sebba 1987; Baker 1989; Nishiyama 1998 among many others). The proposed mechanism allows the transitivity of the components of a compound to control the transitivity of the whole compound. While it is an interesting area of inquiry, I will leave this to be explored in future research.

Because V and Appl both bear an unvalued φ -feature, two arguments will not value the same unvalued feature, avoiding the person interaction effects. The derivation in (71) is also what I suggest for the *me*-FIRST languages and Slovenian—in which we do find person effects but no person ‘interaction’ effects between the two internal arguments (see Section 5.4). This solution may also be extended to languages that lack PCC effects such as Haya, Polish, Kabardian, Noon, Lakhota, Tblisi Georgian.

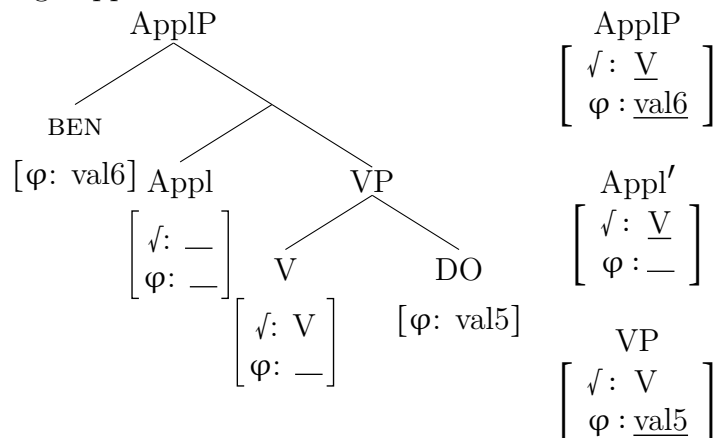
5.6.2 Benefactive applicatives in French

The above suggested derivation for Kinyarwanda ditransitives depends on the assumption that we have been making, which is that each Merge operation is triggered by a single pair of features. However, if the system allows the first argument to value both unvalued φ -features (one on V and the other on Appl), then we would expect the same person effects we have been discussing. This might indeed be the case in French. I have extensively discussed ditransitive constructions in French as well as in other languages; however, Rezac (2011) reports that the PCC is observed in other constructions such as benefactive applicatives in French as shown in (72).

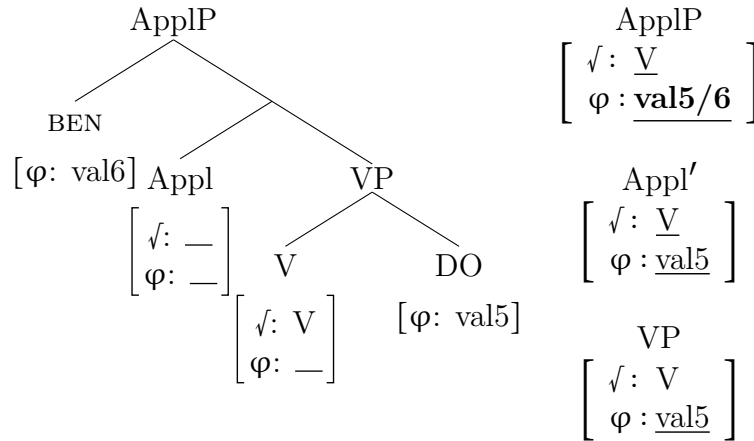
- (72) On {le/*me} lui a dévalisé. (3 > 3; *3 > 1)
 one him/me.ACC him.DAT have robbed
 ‘They robbed {him/*me} on him.’ (Rezac 2011:123(53a))

Assuming that the beneficiary argument (BEN) is introduced by a high applicative head (McGinnis 2001; Pylkkänen 2002, 2008; cf. Cuervo 2003a:Sec4.3.2 for Spanish benefactives), the structure for sentences like (72) will be as in (73). As presented in Section 3.1.4, the result of the proposed Merge operation (Val-Merge) is the element that receives a value projecting together with all of its features.

- (73) a. High applicative with no PCC effects



b. High applicative with PCC effects (French benefactives)



If we continue to assume that a single pair of features triggers a particular instance of Merge, then we would not expect PCC effects as the two arguments are in two separate projections as shown in (73a). However, the fact that we do find PCC effects with benefactives in French suggests that the derivation must allow the features of the DO to interact with those of the applied argument. This is made possible if we let the VP transmit its ϕ -feature values as well as its $\sqrt{\text{Root}}$ -feature value to Appl as shown in (73b). If this type of bleeding of values is possible, we can explain person interaction effects between two arguments at a distance.⁴¹

5.6.3 Restructuring causatives vs. ECM causatives in French

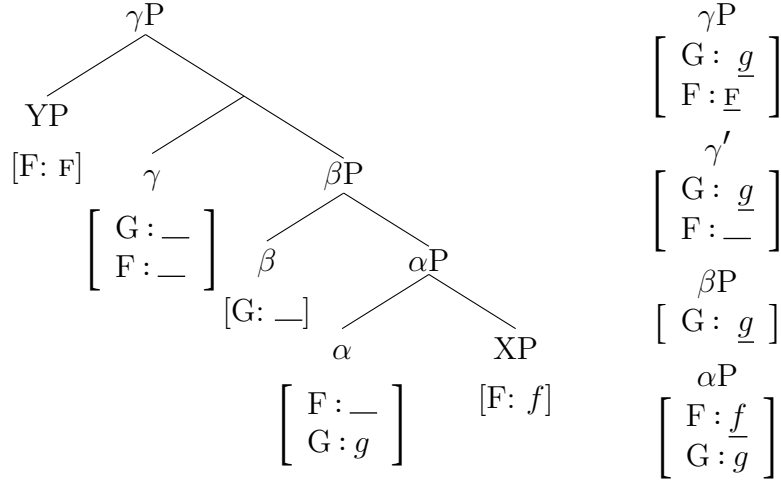
In the previous section, I considered a case where the presence or absence of PCC effects may be explained by parametric variation in how the feature values are projected upward through Merge. This section considers a case where the climbing of ϕ -feature values through iterations of Merge, as described above, is interrupted because of an element that lacks an unvalued ϕ -feature. Rezac (2011) discusses two types of causatives in French: restructuring causatives and ECM causatives.⁴² Examples of each are given in (75) and (76). These two types of causatives are crucial for our current purposes because PCC effects are observed in restructuring causatives but not in ECM causatives. I suggest below how this difference between the two causatives can be explained in the

⁴¹There remains a question of what determines whether this extra valuation process is allowed. The details will be left to be worked out in the future research; however, I suggest that it should be a cross-linguistic variation rather than an intra-linguistic variation. In other words, if a language allows more than one feature to be valued within a particular instance of Merge, then it should be allowed everywhere in that language.

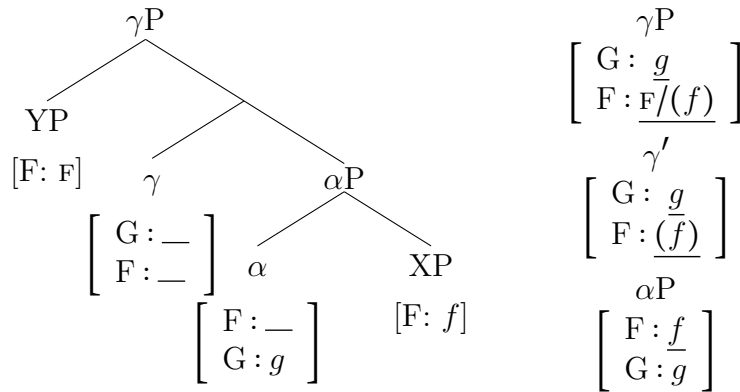
⁴²This is a distinction different from the traditional division, *faire*-infinitive construction vs. *faire-par* construction (Kayne 1975; Rouveret and Vergnaud 1980; Postal 1989; Guasti 2006).

structure-building mechanism proposed in this thesis. In essence, the difference can be explained by an intervening element that prevents a certain feature value from being carried up so that it cannot interact with a value of the same feature type higher up in the structure. An abstract illustration of this mechanism is shown in (74).

(74) a. No feature interaction between XP and YP



b. Feature interaction between XP and YP possible



The F-feature value of XP (f) is projected up to αP since α has an unvalued F-feature; however, in (74a), it does not reach βP because its head β does not bear an F-feature at all. Thus, in this configuration, it is impossible for XP and YP to featurally interact. In the structure in (74b), on the other hand, αP directly merges with γ , which bears an unvalued F-feature, and this makes it possible for the feature value f of XP to be carried up to γ' where Incremental Valuation (Section 3.3) may take place for F-feature between the value f , originating in XP, and the feature value F of YP, which is merged in the specifier of γP .⁴³

⁴³As discussed in the previous section, I suggest that this is dependent on whether the language allows multiple instances of valuation at the time of Merge. In (74b), when γ and αP merge, some languages

Before showing the proposed account for the difference between the two types of causatives in French, I lay out some distinguishing properties of the causatives with examples. Basic examples of each are shown in (75) and (76). The arguments in the (a) sentences are full DPs while those in the (b) sentences are clitics.⁴⁴

(75) Restructuring causatives (*French*)

- a. Azenor fait manger les gâteaux à Nelson.
Azenor makes eat.INF the cakes to Nelson
'Azenor makes Nelson eat the cakes.'
- b. Azenor lui les fait manger.
Azenor him.DAT them.ACC makes eat.INF
'Azenor makes him eat them.'

(Rezac 2011:124(55))

(76) ECM causatives (*French*)

- a. Azenor laisse Nelson manger les gâteaux.
Azenor lets Nelson eat.INF the cakes
'Azenor lets Nelson eat the cakes.'
- b. Azenor le (*les) laisse (les) manger.
Azenor him.ACC lets them.ACC eat.INF
'Azenor lets him eat them.'

(Rezac 2011:124(56))

As shown in (75), the causee argument is realized either as an *à*-phrase (*à Nelson*) or as a dative clitic (*lui*) in front of the causative verb (*faire*) in restructuring causatives. In ECM causatives, on the other hand, the causee argument appears between the causative verb and the embedded verb (*manger*) if it is a full DP or in front of the causative verb as an accusative clitic (*le*). The theme argument of the embedded predicate, if it is a clitic, occurs before the causative verb in a cluster with the causee clitic in restructuring causatives while it cannot appear in the same environment in ECM causatives and must be below the causative verb. Another distinguishing property of these causatives is that auxiliaries are possible with the embedded infinitive in ECM causatives (e.g., the passive auxiliary in (77a)) but not in restructuring causatives.⁴⁵ The fact that inflectional

may permit both the F-feature and the G-feature to be valued while others may only allow one of the features (the G-feature for the derivation to be successful) to be valued. In the latter case, there would be no feature interaction between XP and YP since the F-feature value of XP would not reach γ' .

⁴⁴The clitic order *lui les* (3.DAT-3.ACC) in (75b) is the only possible order for at least one speaker. Another speaker accepted both orders. Two other speakers found the reverse order *les lui* marginally acceptable while rejecting the other order in (75b).

⁴⁵It is difficult to show the incompatibility of restructuring causatives with the embedded passive auxiliary because the verb *faire* can be in either type of causative. In order to express the same meaning as (77), we can simply dispense with the auxiliary in the restructuring causative as in (i).

The difference between the two types of causatives reported by Rezac (2011) that is most relevant for our purposes is that PCC effects are observed in restructuring causatives but not in ECM causatives as shown in (80).

(80) a. Restructuring causative

Marcel {la/*vous} lui a fait choisir. (3 > 3, *3 > 2)
 Marcel her/you.ACC him.DAT has made choose.INF

‘Marcel made her choose her/*you.’

b. ECM causative

Marcel l’ a fait vous choisir. (3 > 2)
 Marcel her.ACC has made you.ACC choose.INF

‘Marcel made her choose you.’ (Rezac 2011:128(63))

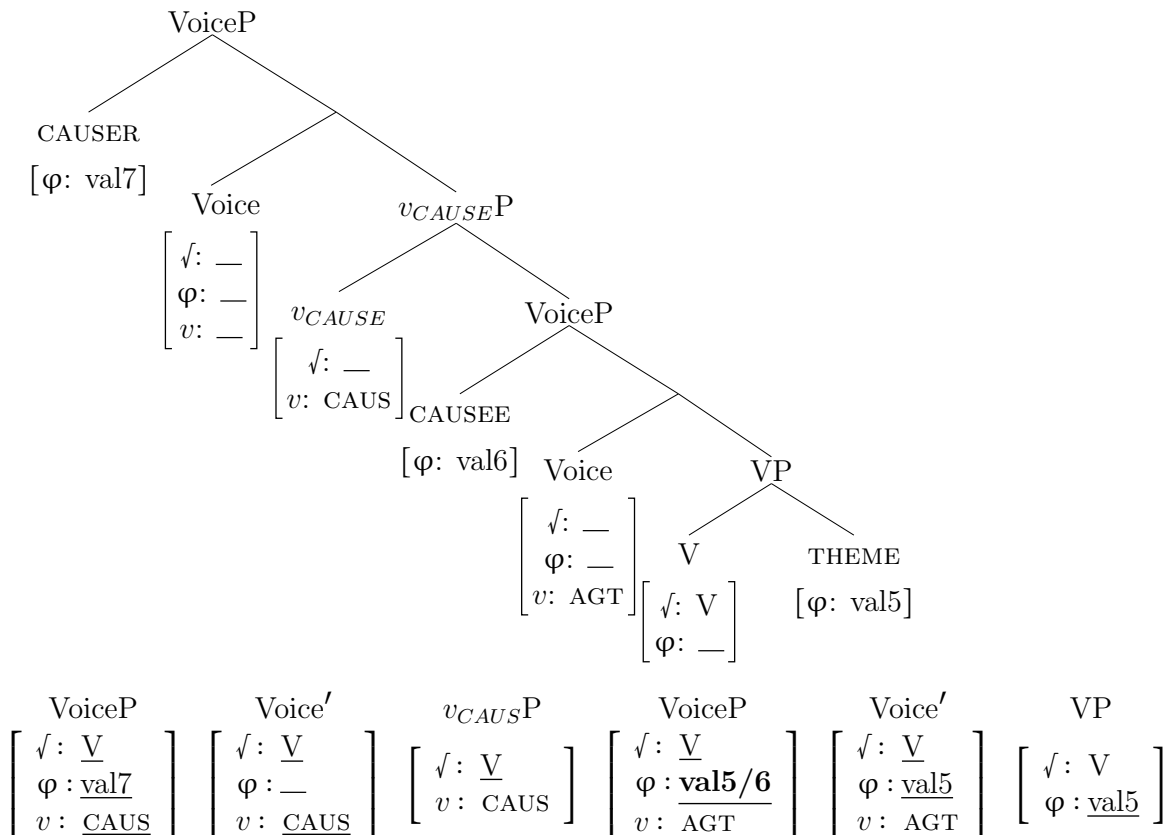
The theme argument in the presence of a causee argument can be 2P in the ECM causative in (80b) but not in the restructuring causative in (80a).

Any of the standard Agree analyses (Béjar and Rezac 2003; Anagnostopoulou 2003; Nevins 2007; Rezac 2011 among others) can easily account for this difference if the two arguments (i.e., CAUSEE and THEME) are not in the same agreement domain in ECM causatives. The distinguishing properties between the two causative types discussed above suggest that there is a domain boundary between the causative verb and the infinitive in ECM causatives, while restructuring causatives consist of a single clausal domain. PCC effects are observed in restructuring causatives because the two arguments are in the same domain and the higher argument (CAUSEE) may act as an intervener. No such effects are found in ECM causatives because the two arguments are generated in two separate domains where they can be licensed independently. Although these analyses of the PCC straightforwardly explain the difference between the two types of causatives in French, the PCC analyses by Béjar and Rezac (2003); Anagnostopoulou (2003) and Rezac (2011) have difficulty explaining PCC types other than the STRONG PCC, and the typological analyses of PCC given by Nevins (2007); Pancheva and Zubizarreta (2017), and McGinnis (2017) face empirical and theoretical problems discussed in Section 5.2.

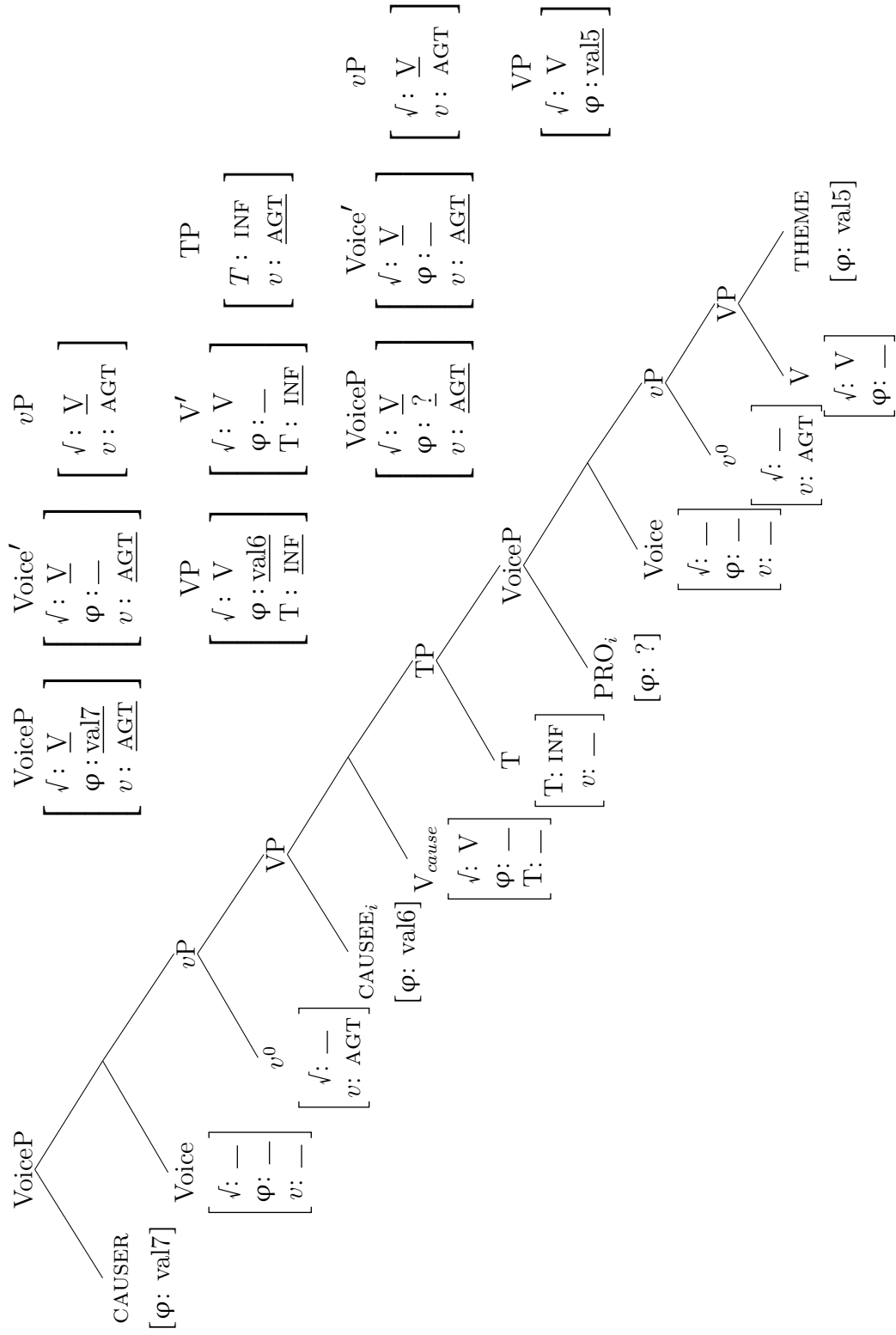
Although the details will not be fully worked out here, I illustrate how the feature system proposed in this thesis could explain the different behavior of the two types of causatives with respect to the PCC. As mentioned above, if percolation of φ -feature values of an argument is interrupted before another argument enters the derivation, then there can be no featural interaction between the two arguments. I suggest that this is what happens with ECM causatives. The suggested structures of the two types of

causatives are in (81) and (82). In the restructuring causative structure in (81), the causative verb is a functional element (v_{CAUSE}), which takes an eventive complement (VoiceP). Since it does not take a clausal complement (TP or CP), the result is a mono-clausal structure. Because both the verb and the (lower) Voice head bear an unvalued φ -feature, the φ -feature values of the theme argument will be carried up to Voice' uninterrupted. Therefore, if the causee argument is no more specified than the theme argument, we obtain ungrammaticality (e.g., *3P CAUSEE > 2P THEME). Thus, we obtain PCC effects in this structure. In the ECM causative structure in (82), on the other hand, the causative verb is a lexical verb, which takes a clausal complement (TP). There being an embedded clause, it is possible to insert inflectional elements such as negation as well as aspectual and passive auxiliaries. Within the TP, the percolation of φ -feature values of the theme argument is interrupted by v^0 , so the theme argument does not featurally interact with PRO in Spec, VoiceP. The tree in (82) is a control structure, but the causee may well originate in the specifier position of the lower VoiceP and move to Spec, VP. Even if that is the case, the causee will not interact with the theme as bleeding of the φ -feature values of the theme is not possible in this structure. This explains why PCC effects are not found in ECM causatives.

(81) Restructuring causative (PCC)



(82) ECM causative (no PCC)



There are admittedly a number of problems with the two structures above. For one, the distinction between the two types of causatives in relation to the PCC crucially depends on the presence/absence of v^0 . In other words, Voice and v_0 are bundled into a single head (*Voice-bundling* Pylkkänen 2002, 2008; Harley 2017) in the restructuring causative structure in (81) while Voice and v^0 are split in the ECM causative structure in (82). Further research is required to determine whether this is the correct analysis and explain why that is the case.

5.6.4 Connection between Infl and the PCC

In the previous section, we discussed a case where PCC effects are observed in one type of construction but not in another within a single language. This section examines cases where the presence of PCC effects is dependent on the finiteness of the clause. In some of the languages where PCC effects are found in finite clauses, PCC effects seem to disappear in non-finite clauses. The dependence of PCC on the finiteness of the clause is difficult to explain with any of the existing analyses of PCC because the PCC is associated with the thematic domain (vP) and finiteness is determined in the inflectional domain (TP). It is challenging to devise a syntactic mechanism where certain ungrammaticality whose source is lower in a structure can be alleviated by some element higher in the structure (cf. Zwicky 1974). I present below two languages in which finiteness seems to affect the PCC; however, the question of whether finiteness actually affects the PCC and if so, how this interaction between finiteness and the PCC can be explained will be left somewhat open.

Bonet (1991), citing Harris (1981), reports that Georgian verbs in an infinitive form are immune to the PCC. As discussed in Section 4.4.2, 1P and 2P DOs are barred in the presence of an IO (83a), but if the verb takes an infinitive form called ‘masdar,’ the restriction disappears as shown in (83b,c).⁴⁷

(83) *Georgian*

- a. *deda (šen) g- a- abar -eb -s mašçavlebel-s. (*3 > 2)
 mother.NOM you.DAT 2SG.O- VS- render -TS -3SG.SU teacher-DAT
 (Intended) ‘Mother is turning you over to the teacher.’
- b. šeni ča- bar -eba mašçavlebl-is-tvis... (3 > 2)
 you.GEN PV- render -NM teacher-GEN-for
 ‘turning you over to the teacher...’

⁴⁷As far as I am aware, French does not escape the PCC either in infinitival clauses (**C’est difficile de te lui présenter*) or in imperatives (*Présente-moi *(à) lui!*). Stegovec (2017:32) reports that Greek also does not obviate the PCC in imperatives.

- c. *gela movid-a šen-s časabareblad maṣavlebl-is-tvis.* (3 > 2)
 Gela.NOM came-3SG.SU you.GEN to.render teacher-GEN-for
 ‘Gela came to turn you over to the teacher.’
 (Harris 1981:123(14a),165(41a)/(42a); cited in Bonet 1991:190(18)/(19))

Bonet (1991) attributes this to the fact that the non-finite verb cannot bear agreement. Since there is no agreement, the PCC is irrelevant. However, if we pay close attention to the examples in (83b,c), the IO is in a postpositional phrase. The absence of PCC effects in (83b,c) might be explained by the fact that there is an alternative construction similar to *à*-phrase repairs in French (Sections 2.3 and 4.2.3). For this particular verb *abar* ‘render’, the postpositional IO seems to be possible even when the verb is finite, as shown in (84).

- (84) *turme dedas čau- bar -ebixar maṣavlebli-tvi*
 apparently mother.DAT PV- render -TS teacher-for
 ‘Apparently Mother turned you over to the teacher.’ (Harris (1981):124(15a))

Therefore, I question whether the absence of PCC effects in non-finite clauses in Georgian is solely due to the fact that there is no agreement. It could instead be that there is something like a postpositional dative construction with which person combinations that are otherwise banned by the PCC can be expressed, just as with *à*-phrase repairs in French.

A more challenging phenomenon is found in Basque. Laka (1993, 1996) reports that Basque also escapes the PCC in non-finite clauses. Unlike Georgian, the only difference in Basque between finite clauses that exhibit PCC effects and non-finite clauses that obviate the PCC is the finiteness or the presence/absence of agreement. Examples showing this are in (85).⁴⁸

- (85) *Basque*
 a. Finite clause (PCC; *3 > 1)
 *Zuk harakin-ari ni saldu
 you.erg butcher-ART_{sg}.DAT me(ABS) sold
 n-(a)i-Ø-o-zu.
 1.ABS-have-SG.ABS-3SG.DAT-2SG.ERG
 ‘You have sold me to the butcher.’

⁴⁸Here, I assume that the nominalizing morpheme in Basque, like the infinitive morpheme in Georgian, creates a non-finite clause, although there may well be a structural difference between the two.

- b. Non-finite clause (no PCC; $3 > 1$)

Gaizki irudi-tzen Ø-zai-Ø-t [zuk ni
 wrong look-IMPERF 3.ABS-do-SG.ABS-1SG.DAT you.ERG me(ABS)
 harakin-ari sal-tze-a].⁴⁹
 butcher-ART_{sg}.DAT sold-NM-ART_{sg}(ABS)

‘It seems wrong to me for you to sell me to the butcher.’

(Laka 1993:(7b),(8)/ Laka 1996:Chp2(48b),(49); cited in Preminger 2019:(3b),(16))

As presented in Section 2.1 (6), Basque exhibits PCC effects with ditransitive finite sentences, which is exemplified by (85a). However, as shown in (6), the restriction disappears in an infinitival clause. Based on this Basque behavior and the fact that languages that lack overt agreement with internal arguments such as Hebrew do not show PCC effects, Preminger (2019) claims that the PCC is directly linked to overt agreement morphology. Assuming that clitics are overt ‘agreement,’ then this generalization seems correct, except that this is not a direct correlation. As I have shown in Section 5.6.1, Kinyarwanda does not show PCC effects with ditransitive sentences, and if we consider object markers to be overt agreement morphology, then Kinyarwanda has overt agreement with internal arguments but does not exhibit PCC effects. Accordingly, overt agreement seems to be a necessary but not sufficient condition for the PCC. Why non-finite clauses do not exhibit PCC effects in Basque is not clear; however, I suggest that this does not immediately threaten the Incremental Valuation analysis as non-finite clauses may have a completely different construction as is the case in English (e.g., *the selling **of** me to the butcher*; the nominalized verb cannot directly take the object, and *of*-insertion is required). I leave the details to be worked out in future research.

5.7 Chapter summary

In this chapter, I have presented five attested patterns of PCC with examples from different languages, and discussed three previous accounts of at least a subset of them. These analyses provide strategies to account for different PCC patterns; however, I have identified a common problem that they all have, which is that they make it unclear why we have such variation. They posit an idiosyncratic set of syntactic conditions in each variety of PCC, and this obscures the source of variation. In addition to this global

⁴⁹Basque is generally a free word order language; however, the ‘neutral’ word order is Ergative-Dative-Absolutive-V+Inflection (Laka 1996). The infinitival clause example in (85b) has a different word order: Ergative-Absolutive(1P)-Dative(3P)-V. The ordering difference does not seem to be significant as the ‘neutral’ word order is also acceptable in (85b) (Itziar Laka p.c.).

issue, each of these previous accounts leaves one type of PCC unexplained or unpredicted. I then showed how the Incremental Valuation analysis proposed in this thesis explains four types of PCC (STRONG, WEAK, ULTRA-STRONG, and SUPER-STRONG). This analysis keeps the syntactic operation (i.e., Val-Merge) constant for all four varieties of PCC, and the variation is attributed to different ways arguments and functional/lexical categories are featurally specified in each variety. I have also argued that the *me*-FIRST PCC should not be construed as the result of person feature ‘interaction’ between two arguments, although there are person effects. I have argued that the *me*-FIRST PCC pattern can be explained by two ordering restrictions on clitics, which are in turn explained by underlying syntactic conditions. Finally, I have shown, in a somewhat speculative fashion, how the proposed syntactic mechanism could be extended to account for other languages that lack PCC effects in ditransitive sentences as well as other types of constructions that do show PCC effects. I have suggested that PCC effects between two arguments at a distance can be induced by allowing φ -feature values to bleed and also that the PCC can be obviated either by having two unvalued features for the two arguments to value or by interrupting the climbing of a feature value. In the following chapter, some of the issues raised for the features used in the Incremental Valuation system are discussed.

6

Featural representations of person

The previous chapters centred on the empirical focus of this thesis, the Person Case Constraint. This chapter departs from the person restriction itself and aims to defend and promote the feature system (i.e., geometric/articulated person features) used in the syntactic mechanism proposed to account for the PCC phenomena (i.e., Incremental Valuation). The essential part of this proposed analysis is the [Addressee] specification of second person in the weak PCC languages (see Section 4.3). However, this feature specification in languages with a tripartite person system has been criticized as lacking morphological evidence. As all the languages introduced in Section 2.5.4 that exhibit the weak PCC pattern have a three-person system, the ultimate goal of this chapter is to provide evidence for the presence of the [Addressee] feature in three-person languages. However, the whole geometric feature system has also been critiqued from a typological perspective. This chapter first presents and responds to the criticisms against features exclusively associated with second person (i.e., [Addressee]/[±Hearer]). Subsequently, I discuss a typological argument against feature geometry, which also seemingly invalidates the presence of [Addressee] as well as the geometric representation of person as a whole. In order to demonstrate that feature geometry is as tenable as the traditional binary features, I suggest that typological facts regarding person contrasts can be explained using feature geometry with the addition of an economy principle, and this proposal not only addresses the previously raised concerns but also leads to an explanation of patterns involving person syncretism. Finally, I argue for the necessity of the [Addressee] feature in languages with a tripartite person system, using previous analyses of discourse-related phenomena as well as a specific type of syncretic pattern.

As discussed in Section 3.2, Noyer (1992) and Harbour (2016) argue for the [Participant] feature based on participant syncretisms, where we find a single form for both first person (1P) and second person (2P), in a number of languages. This feature distinguishes

discourse participants (1P/2P) from non-participants or third person (3P)—an idea that goes back to Benvéniste (1966/1971); Hockett (1996). There are at least two possible types of features: binary features and privative features. If we employ the binary system, [+Participant] represents 1P and 2P while [−Participant] represents 3P. In a binary feature system, the feature standardly used to distinguish 1P from 2P in familiar languages like English and French with a tripartite person system (1P[inclusive/exclusive]—2P—3P) is [\pm Author] (Halle 1997).¹ The positive variant [+Author] represents 1P, and the negative variant [−Author] represents 2P as shown in (1a). Articulated person features proposed by Harley and Ritter (2002a,b); Béjar (2003); Béjar and Rezac (2009) for three-person languages—the idea originating in morphosyntactic feature geometry proposed by Harley and Ritter (2002a,b)—is comprised of privative features.² 1P and 2P are specified as [Participant] whereas 3P is underspecified for this feature, and 1P is specified as [Speaker] (equivalent to [Author]) while 2P is specified as bare [Participant] as shown in (1b). The Incremental Valuation system proposed in this thesis (Chapter 3) inherits these articulated person features; however, the feature specification of 2P is different in that it is additionally specified as [Addressee] (alternatively [Hearer]) as shown in (1c).

(1) Feature representations of three-person pronominal systems

a. Binary person features

| 1ST PERSON | 2ND PERSON | 3RD PERSON |
|----------------|----------------|----------------|
| [+Participant] | [+Participant] | [−Participant] |
| [+Author] | [−Author] | [−Author] |

(Halle 1997; Nevins 2007; Harbour 2016; cf. Pancheva and Zubizarreta 2017)

b. Articulated person features without [Addressee]

| 1ST PERSON | 2ND PERSON | 3RD PERSON |
|---------------|---------------|------------|
| [π] | [π] | [π] |
| [Participant] | [Participant] | |
| [Speaker] | | |

(Béjar 2003; McGinnis 2005; Béjar and Rezac 2009; cf. McGinnis 2017)

¹In addition to the familiar tripartition person system, there are four other types of person partitions identified by Harbour (2016): monopartition, author bipartition (1P[inclusive/exclusive]|2P,3P), participant bipartition (1P[inclusive/exclusive],2P|3P), and quadripartition (1P[inclusive]|1P[exclusive]|2P|3P). These are discussed in Section 6.2 along with his argument against feature geometry.

²Note that there is an additional layer of syntactic mechanism—i.e., interpretability and valuedness, which are, in themselves, binary or n -ary.

- c. Proposed representation with [Addressee] (no interpretive blocking)

| 1ST PERSON | 2ND PERSON | 3RD PERSON |
|---------------|---------------|------------|
| $[\pi]$ | $[\pi]$ | $[\pi]$ |
| | | |
| [Participant] | [Participant] | |
| | | |
| [Speaker] | [Addressee] | |

This additional feature specification of 2P in tripartition languages has previously been argued to lack morphological evidence and to predict an unattested pattern Nevins 2007 calls the *you*-FIRST PCC ($*1/3 > 2$). I present and respond to these arguments in Section 6.1. In Section 6.2, I present Harbour (2016) and Cowper and Hall’s (2019) typological argument against feature geometry, which seems to cast doubt not only on the presence of the [Addressee] feature but also on the feature theory as a whole. In the same section, I discuss previous approaches to the typology of person contrasts that use binary features. In Section 6.3, I propose that feature geometry can also explain the typological facts without making faulty predictions unlike previous claims, if we apply an independently proposed markedness principle to the [Addressee] specification. I subsequently show that feature geometry explains syncretic patterns fairly well but that binary features alone face some challenges. In Section 6.4, in order to show that the [Addressee] feature is in fact available in tripartition languages, I suggest an area of grammar that requires an exclusive representation of the addressee, for which the [Addressee] feature is vital in the geometric feature system. I further show that the same feature is also indispensable in explaining 1P-3P syncretism in three-person languages. The next section begins by laying out a couple of problems raised for features associated exclusively with second person.

6.1 Previous arguments against [Addressee]/[Hearer] in tripartition languages

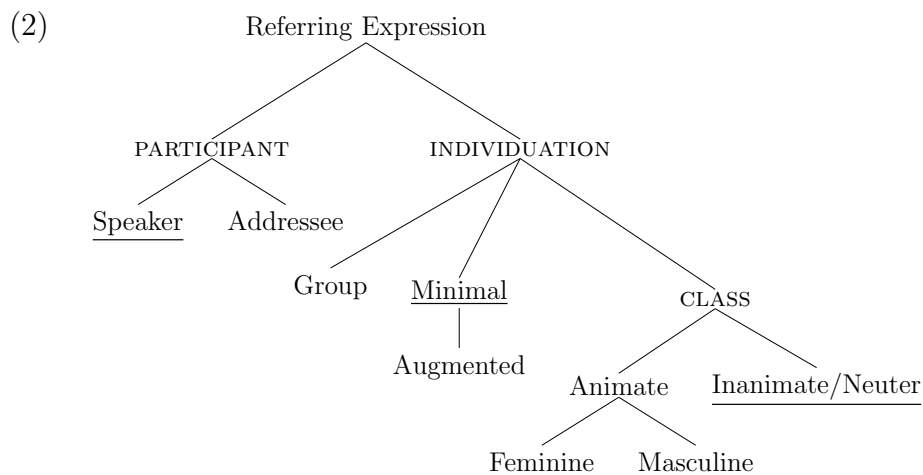
McGinnis (2005) and Nevins (2007) argue that the [Addressee]/[Hearer] specification in languages with a three-way person contrast predicts unattested morphosyntactic patterns. The subsequent sections present their arguments and show that the previously raised concerns for [Addressee] do not compromise the feature system proposed here.

6.1.1 Underspecification of [Addressee] (McGinnis 2005)

McGinnis (2005) makes an argument against the [Addressee] specification in the geometric representation of languages that lack a morphological clusivity distinction (i.e., 1P inclusive [*me+you*] vs. 1P exclusive [*me+others*]). Before presenting her argument, some background to feature geometry is in order.

6.1.1.1 Feature geometry

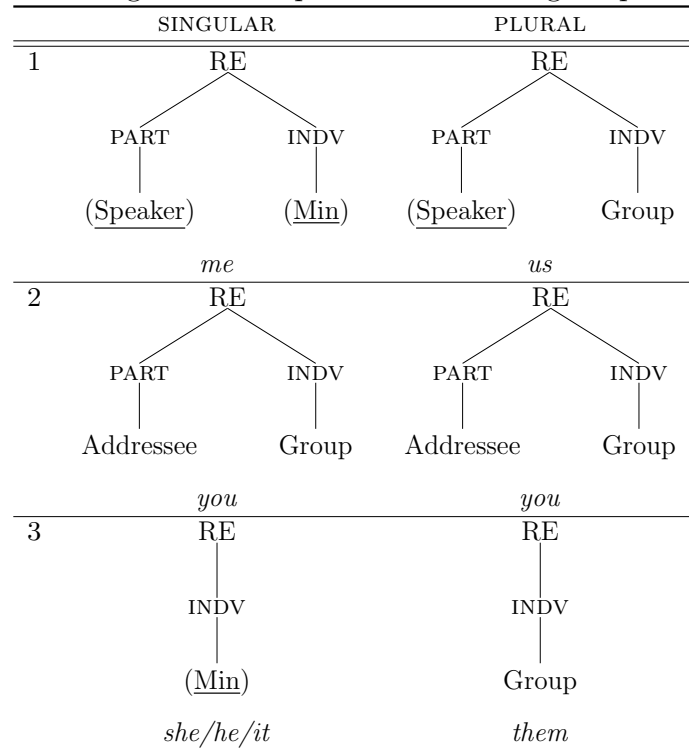
Harley and Ritter (2002a) take the geometric representation of features developed in phonology (Clements 1985; Sagey 1986; Avery and Rice 1989; Dresher et al. 1994; Dresher 2003 among many others) and propose a universal geometry of morphological features including person, number and gender features in (2) in order to capture cross-linguistic variation in the pronominal and agreement systems. According to their proposal, languages use a subset of these features while respecting the dependency relations between the features in order to represent their pronominal/agreement contrasts.



(Harley and Ritter 2002a:(6))

For example, morphological contrasts between persons in a three-person (tripartition) language like English and many other Indo-European languages would be represented as shown in (3).

(3) Feature-geometric representation of English pronouns (CLASS features omitted)

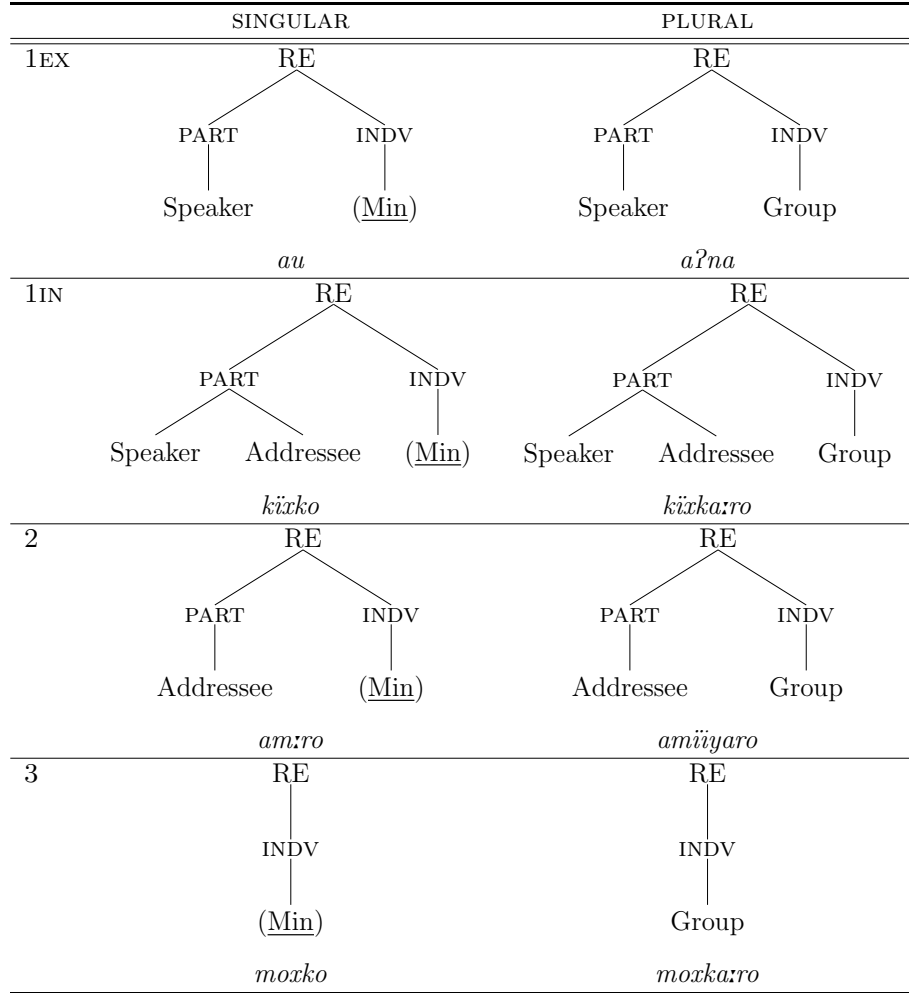


As with feature geometry in phonology (Archangeli 1988, Avery and Rice 1989), underlined features are the default dependents of their respective superordinate features (or organizing nodes). The number distinction is made by the INDIVIDUATION (INDV) features, ‘Minimal’ and ‘Group’. 2P is specified as PART and ‘Addressee’. There is no morphological number distinction in the second person in present English, and semantically singular and plural 2P pronouns would be morphosyntactically specified as ‘Group’ as they both trigger plural agreement and have the same morphological form. 3P is only specified for number.

For quadripartition languages (i.e., languages with a four-way person contrast), both ‘Speaker’ and ‘Addressee’ are used to represent the four-way split as shown in (4). 1P inclusive (*me+you*) is represented as having both of the participant features whereas 1P exclusive (*me+others*) is specified only for the ‘Speaker’ feature.³

³Kalihna makes a distinction between 1P inclusive ‘singular’/atomic (*me+you*) and 1P inclusive plural/non-atomic (*me+you+others*).

(4) Feature-geometric representation of Kalihna pronouns (CLASS features omitted)



(Harley and Ritter 2002a:(13))

The other two persons are represented in the same way as tripartition languages. The ‘Speaker’ specification is no longer implicit as it is required to make the clusivity distinction in the first person.

As already discussed in Section 3.2, Béjar (2003) and Béjar and Rezac (2009) take these morphological features to be visible for Agree, a syntactic operation. They propose the person specifications in (5). This type of person specification has been called articulated person features, as it is composed of features in dependency relations rather than a bundle of simple features with no dependency relations between them.⁴

⁴An entailment relation may hold between features even when it is not explicitly represented as such. For example, [+human] entails [+animate]. I suggest that the entailment relations among features involved in deictic expressions including personal pronouns are crucial for the syntax and that not all entailment relations among features are relevant for structure-building.

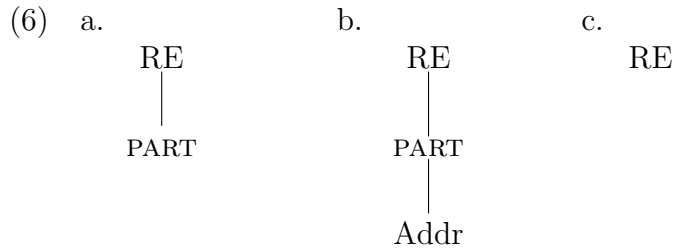
(5) Person specifications (Béjar and Rezac 2009; cf. Béjar 2003)

| 3 rd Person | 2 nd Person | 1 st Person | Person probe |
|------------------------|--|--|--|
| DP [π] | DP [π] [Participant] | DP [π] [Participant] [Speaker] | v [$u\pi$] [u Participant] ([u Speaker]) |

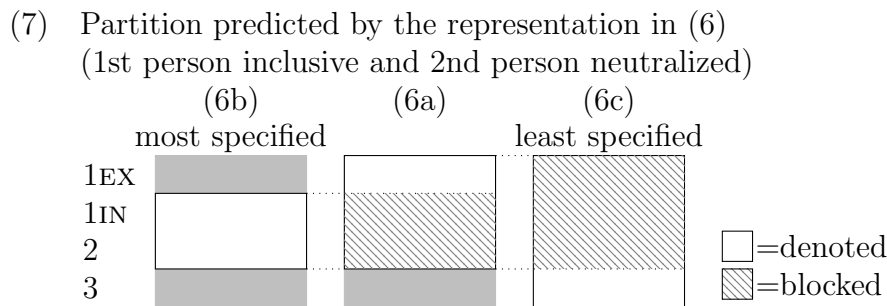
Béjar (2003) and Béjar and Rezac (2009) show that these person feature specifications in conjunction with Cyclic Agree explain the person effects in agreement in languages like Nishnaabemwin, Georgian, Mohawk, and Kashmiri. They extend what was originally proposed as morphological features to account for syntactic phenomena, and this thesis takes on this tradition. Cyclic Agree in conjunction with the articulated person features provides a systematic explanation for the direct/inverse patterns in the above-mentioned languages. As I have mentioned above, the feature specifications employed in this thesis are different in that 2P is additionally specified as [Addressee] even in tripartition languages without a clusivity distinction. This is especially crucial for my analysis of the WEAK PCC as 1P and 2P must be equally specified and an unvalued ϕ -feature must be able to receive both [Speaker] and [Addressee] values (see Section 4.3). However, application of this feature to tripartition languages has been criticized by McGinnis (2005).

6.1.1.2 A wrong partition predicted

As I have shown in (4), in some languages, there are two separate morphological forms for first person: one for a reference set that includes both the speaker and the addressee (1P inclusive) and the other for a reference set in which only the speaker is a member (1P exclusive). Having both [Speaker] and [Addressee] features is instrumental in representing a morphological clusivity distinction. In order to represent a three-way distinction in a three-person language, on the other hand, it is possible to use a subset of the features as in (6).



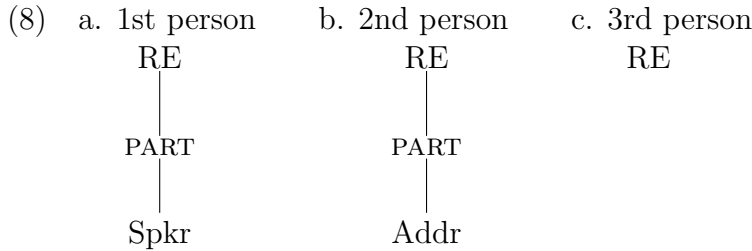
McGinnis (2005) argues that this representation predicts wrong contrasts. She explains that these feature specifications pick out a reference set that includes the relevant role in the discourse context signified by their component features ([Speaker]=the speaker in the context $Sp(c)$, [Addressee]=the addressee in the context $Ad(c)$) and that the feature representations are interpreted contrastively depending on what other representations are available in a particular language. Referents that are denoted by a more highly specified element are excluded/blocked from the reference set picked out by a less specified element.⁵ If a language's only person specifications are those in (6), the person specified as [Addressee] in (6b) is the most highly specified. This specification is interpreted first as any set that includes the addressee $Ad(c)$: $\{Ad(c), Ad(c) \oplus Sp(c)\}$ or $\{2P, 1P[IN]\}$. The second most specified representation in (6a) is then interpreted as any set that includes discourse participants excluding referent sets that are already denoted by (6b): $\{Sp(c)\}$ or $\{1P[EX]\}$. The specification in (6c) is interpreted as a set that includes anyone or anything but the speaker or the addressee: $\{3P\}$.



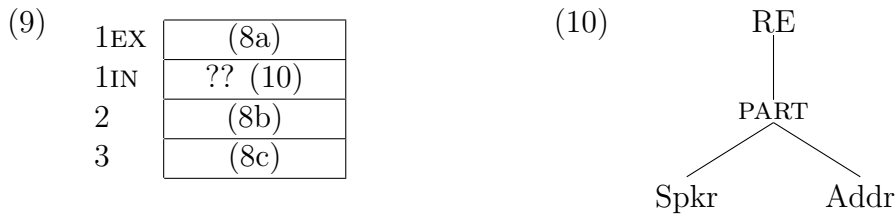
However, not only is this a wrong partition for tripartition languages but also this type of language with a pronominal system partitioned as in (7) is unattested (Zwicky 1977, Noyer 1992, McGinnis 2005; Harbour 2016).

⁵This contrastive interpretation or interpretive blocking is similar to Harbour's (2016) *Lexical Complementarity* discussed below; however, the subset relations between persons are represented by feature geometry while the subset relations between reference sets denoted by different combinations of binary features proposed by Harbour (2016) have to be determined independently.

Another possibility is to use both [Speaker] and [Addressee] as shown in (8). This gives the feature specifications used in the Incremental Valuation system proposed here.

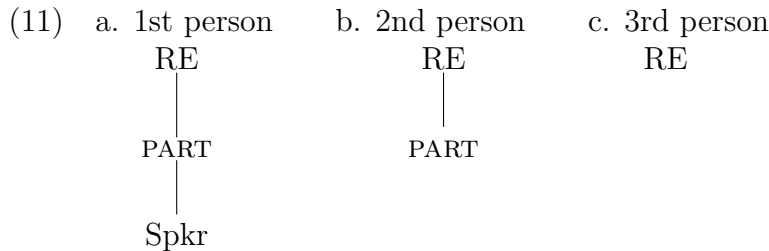


The problem with the representation in (8) is that we would expect there to be a clusivity distinction since both [Speaker] and [Addressee] features are available. In other words, we expect a four-way morphological contrast or the quadripartition as shown in (9).



But as is implied in Section 6.2, all three-person languages lack a clusivity distinction (Harbour 2016). In McGinnis’s (2005) terms, 1P exclusive and 1P inclusive are conflated or always neutralized in tripartition languages.

The only remaining logical possibility for the representation of a three-person system is as in (11). The representation in (11a) is interpreted as a reference set that includes the speaker: $\{Sp(c), Sp(c) \oplus Ad(c)\}$ or $\{1P[EX], 1P[IN]\}$. The bare PARTICIPANT in (11b) is interpreted as discourse participants without what is denoted by (11a): $\{Ad(c)\}$ or $\{2P\}$.



This is the only representation that would give us the right tripartition in (12).

(12)

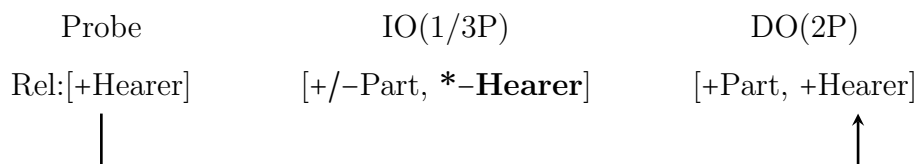
| | |
|-----|------|
| 1EX | (6b) |
| 1IN | |
| 2 | (6a) |
| 3 | (6c) |

This is a valid argument against the [Addressee] specification in three-person languages with an assumption that the availability of both [Speaker] and [Addressee] necessarily entails the availability of the double specification in (10). I suggest a solution to this problem in Section 6.3.1, which applies an independently proposed markedness principle. I claim there that [Addressee] is marked and that an element is specified as [Addressee] only when the relevant reference set does not include the speaker. Accordingly, the representation in (10) is not a possible feature specification in tripartition languages. But first I present another argument made by Nevins (2007) against the [Addressee] feature in the next section.

6.1.2 Unattested *you*-FIRST PCC (Nevins 2007)

Like McGinnis (2005), Nevins (2007) argues against a feature representing the addressee. He employs binary features instead, but one of his arguments against the [\pm Hearer] feature (equivalent to [Addressee]) still requires our attention. He argues that the availability of [\pm Hearer] predicts a pattern that can be named ‘*you*-FIRST’ PCC. In his analysis, which is discussed in detail in Section 5.2.1, if the [\pm Hearer] feature is available in the language, the probe on *v* can be relativized to the marked version of [Hearer] (i.e., [+Hearer]). A condition called *Contiguous Agree* ensures that there is no intervening argument with the unmarked version of the feature of relativization. This condition is violated when the direct object (DO) is 2P, which is specified as [+Hearer], because the intervening indirect object (IO), whether 1P or 3P, is specified as the unmarked version of the feature (i.e., [−Hearer]) as shown in (13). The predicted pattern is in (14).

(13) *1/3 > 2 (due to CA violation; Nevins 2007)



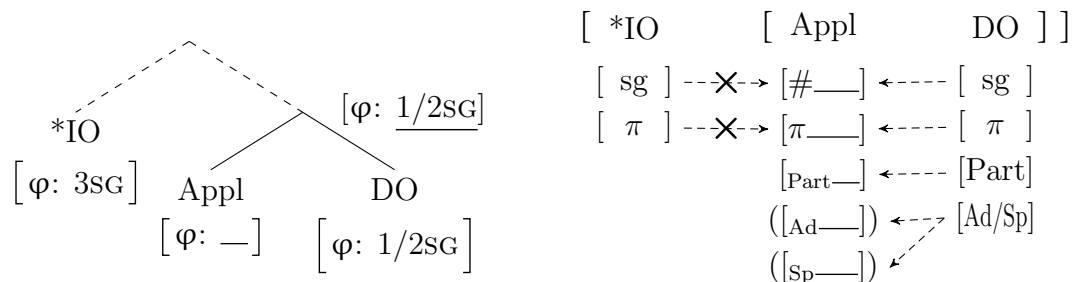
(14) Predicted *you*-FIRST PCC (IO > DO)

| 1 > 3 | 1 > 2 | 2 > 1 | 2 > 3 | 3 > 1 | 3 > 2 | 3 > 3 |
|-------|-------|-------|-------|-------|-------|-------|
| ✓ | * | ✓ | ✓ | ✓ | * | ✓ |

However, according to Nevins (2007) and to my knowledge, this type of PCC is not attested. The additional [\pm Hearer] or [Addressee] specification predicts the *you*-FIRST PCC in Pancheva and Zubizarreta's (2017) *P-Constraint* analysis (Section 5.2.2) as well as in McGinnis's (2017) underspecification analysis (Section 5.2.3).

An important point to be made here is that the availability of [Addressee] feature does not predict the unattested *you*-FIRST PCC in the Incremental Valuation analysis put forth in this thesis. As I have argued in Section 5.4.1, the *me*-FIRST PCC is not a result of person feature interaction between the two internal arguments, and the pattern can be explained with restrictions on clitic movement. It is, in fact, impossible to permit 3 > 1/2 combinations in the Incremental Valuation system as 3P is less specified than either 1P or 2P with or without the [Addressee] specification (see Chapter 4). Once 1P or 2P merge with Appl, 3P being underspecified for [Participant], there is no additional value that 3P can contribute to the unvalued φ -feature on Appl. The 3P IO does not satisfy preconditions for Val-Merge; therefore, it is not feasible to derive the 3 > 1/2 argument combinations.

(15) Incremental Valuation *3 > 1/2



The only way to permit the 3 > 1/2 combinations is to let the derivation obviate the PCC altogether as I have suggested for languages without PCC effects (Section 5.6.1). However, this will allow all the person combinations. Thus, the Incremental Valuation system does not predict an unattested pattern even with the [Addressee] specification. We could end here simply with the discussion of criticisms against the [Addressee], but for the sake of argument, let us explore in the next section yet another class of objections to the geometric feature system developed in this thesis.

6.2 Typological evidence against feature geometry (Harbour 2016; Cowper and Hall 2017, 2019)

Harbour (2016) and Cowper and Hall (2017, 2019) make a typological argument against the geometric representation of person in favor of binary features. Before presenting their arguments, I explain Harbour’s (2016) method of classifying languages. Harbour (2016) looks at a vast range of languages in terms of conflation (complete neutralization of a potential contrast in a particular language). He classifies languages using a method called superposition, which I explain first as it is crucial to understand his taxonomic criteria in order to fully appreciate his argument. Harbour (2016) observes that there are only five person systems attested in the world languages. His typological argument against feature geometry based on this fact is then presented in Section 6.2.2, and Harbour’s (2016) and Cowper and Hall’s (2017; 2019) accounts of the limited number of available person systems are discussed in Section 6.2.3.

6.2.1 Superposition of paradigms

Harbour’s (2016) classification of languages involves superposition of different paradigms in personal/spatial deixis (pronouns, person agreement, demonstratives, etc) in a particular language to determine what type of conflation pattern the language has. Take for example the pronominal system and the agreement patterns in Itonama (a Bolivian language). Itonama shows syncretism between 1P inclusive and 2P in its pronominal system as well as in its subject agreement as shown in (16).

(16) Itonama pronouns and verbal person prefixes

| | PRONOUNS | | PERSON AGREEMENT | |
|-----------|-----------|-----------------|------------------|--------|
| | SINGULAR | PLURAL | SINGULAR | PLURAL |
| 1st masc | os-ni | sih-ni-ʔ-ke | si- | seʔ- |
| 1st fem | os-ni-ʔka | | | |
| Inclusive | — | dih-ni-ʔ-ke | — | deʔ- |
| 2nd masc | oʔ-ni | | | |
| 2nd fem | koʔ-ni | | | |
| 3rd masc | oh-ni | oh-ni-tʰ-e-ʔ-ke | ah- | |
| 3rd fem | pi-ni | | pi- | pih- |

(Camp and Liccardi 1965:254,331-2; McGinnis 2005: cf. Crevels 2011)

As is clear in the plural paradigm, there is only one form for 1P inclusive and 2P whereas 1P exclusive and 3P have separate forms. However, if we look at the object agreement

on transitive verbs in the language, the division is a familiar one where 1P exclusive and 1P inclusive are expressed by a single form and 2P and 3P have separate forms as shown in (17).

(17) Itonama object agreement suffixes

| OBJECT AGREEMENT | |
|------------------|-------------|
| 1st EX/IN SG/PL | -mo |
| 2nd SG/PL | - <i>be</i> |
| 3rd SG/PL | -∅ |

(Camp and Liccardi 1965:265; cited in McGinnis 2005:708; cf. Crevels 2011:583)

The object suffix *-mo* is for 1P singular and plural, without a clusivity distinction, and the suffix *-be* is for 2P singular and plural. Thus, the language syncretizes 1P inclusive with 2P in the pronouns and subject agreement and syncretizes 1P inclusive with 1P exclusive in the object agreement, which can be schematically shown as in (18).

(18) *Itonama*

a. Pronouns/Subject agreement

| | |
|-----|--|
| 1EX | |
| 1IN | |
| 2 | |
| 3 | |

b. Object agreement

| | |
|-----|--|
| 1EX | |
| 1IN | |
| 2 | |
| 3 | |

If we superpose the two syncretic patterns or overlay the two patterns on top of each other, we obtain a quadri-partition (a four-way distinction) as illustrated in (19). Harbour (2016) additionally took spatial deixis (e.g., *here* [1P] vs. *there* [2P/3P] in English) into consideration. However, in the case of Itonama, it is unnecessary to look beyond the two paradigms we have considered as they give us the maximal partition (that is, all the potential contrasts are found in the language).

(19) Superposition of two paradigms

| | | | | QUADRI-PARTITION | | | |
|-----|--|---|-----|------------------|---|-----|--|
| 1EX | | + | 1EX | | = | 1EX | |
| 1IN | | | 1IN | | | 1IN | |
| 2 | | | 2 | | | 2 | |
| 3 | | | 3 | | | 3 | |

In essence, the superposition of different paradigms from a particular language tells us which of the potential contrasts (1EX vs. 1IN; 1EX vs. 2; 1EX vs. 3; 1IN vs. 2; 1IN vs. 3; 2 vs. 3) are found in the language and which ones are conflated or completely neutralized.

Note that all the logically possible partitions are found if we look at individual paradigms (Harbour 2016:14; see also Cysouw 2009). For example, Buma (Oceanic) has two morphemes for the plural subject in a relative clause: one for 1P exclusive and 2P and the other for 1P inclusive and 3P. In other words, 1P exclusive and 2P are syncretic and 1P inclusive and 3P are syncretic in this paradigm as shown in (22).

(22) Buma (quadripartition) relative clause plural subject prefix

| | |
|-----|------------|
| 1EX | |
| 1IN | <i>li-</i> |
| 2 | <i>pi-</i> |
| 3 | |

(Tryon 2011:579; see also Harbour 2016:14)

Although Buma has this type of bipartite syncretic pattern for this particular paradigm, this surface pattern alone does not reveal what contrasts are available in this language because certain underlying contrasts may happen to be neutralized as a quirk of this paradigm. In fact, if we look at the plural pronominal paradigm in (23), it is clear that Buma is a quadripartition language as a whole. Therefore, Harbour's (2016) superposition of different paradigms is important in differentiating the contrasts that are always neutralized in a particular language (=conflation) from the ones that are only sometimes neutralize (=syncretism).

(23) Buma plural independent pronouns

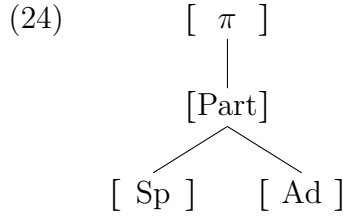
| | |
|-----|--------------|
| 1EX | <i>kiapa</i> |
| 1IN | <i>kupa</i> |
| 2 | <i>kaipa</i> |
| 3 | <i>dapa</i> |

(Tryon 2011:575)

The next section presents an argument made against the geometric representation of person given the set of attested conflation patterns.

6.2.2 Faulty predictions made by feature geometry

Harbour (2016) and Cowper and Hall (2017, 2019) argue against the geometric person feature in (24) on the ground that it predicts a wrong set of conflation patterns. Depending on which component features are available in the language, we obtain different types of partitions.



If a language only has the $[\pi]$ feature available, then it is impossible to divide the person space, so it will have the monopartition (25a). If a language has $[\pi]$ as well as [Participant], then the division will be participant-nonparticipant (25b). If the [Speaker] feature is additionally available, we obtain the standard tripartition (25c). If all the features including the [Addressee] feature are available, the maximal partition (i.e., quadripartition) will be expected (25d). These four types of partitions are attested.

(25) Partitions predicted by feature geometry

a. Monopartition

| 1EX/1IN/2/3 |
|-------------|
| $[\pi]$ |

b. Participant bipartition

| 1EX/1IN/2 | 3 |
|-----------|---------|
| $[\pi]$ | $[\pi]$ |
| [Part] | |

c. Standard tripartition

| 1EX/1IN | 2 | 3 |
|---------|---------|---------|
| $[\pi]$ | $[\pi]$ | $[\pi]$ |
| [Part] | [Part] | |
| [Sp] | | |

d. Quadripartition

| 1EX | 1IN | 2 | 3 |
|---------|---------|---------|---------|
| $[\pi]$ | $[\pi]$ | $[\pi]$ | $[\pi]$ |
| [Part] | [Part] | [Part] | |
| [Sp] | [Sp] | [Ad] | |
| | [Ad] | | |

e. Addressee tripartition (unattested)

| 1EX | 1IN/2 | 3 |
|---------|---------|---------|
| $[\pi]$ | $[\pi]$ | $[\pi]$ |
| [Part] | [Part] | |
| | [Ad] | |

However, there is an additional partition predicted by the articulated person features. If a language has the other possible set of features (i.e., $[\pi]$, [Participant], and [Addressee]) available, the addressee tripartition (25e) is predicted. However, this partition as a conflation pattern is unattested.

A further problem with feature geometry is that it cannot explain the author bipartition in (20d) while still respecting the dependency relations between the available features (i.e., [Speaker]/[Addressee]→[Participant]→ $[\pi]$). Specifically, the author bipartition can be achieved if a language only has $[\pi]$ and [Speaker] (1EX/1IN: $[\pi]$ + [Speaker];

2/3: $[\pi]$). However, if we are to assume feature geometry to be universally applicable, it seems impossible for a language to have a dependent feature without its superordinate feature ([Speaker] without [Participant] in this case).⁶ Harbour (2016) discusses possible feature configurations other than the one proposed by Harley and Ritter (2002a) to show that none of them can exhaustively and exclusively explain the attested set of conflation patterns without using binary (or bivalent in his terms) features (p.190-5). Before presenting my proposal that addresses these problems with feature geometry, Harbour's (2016) and Cowper and Hall's (2017; 2019) accounts of the typology of person contrasts are briefly discussed in the next section.

6.2.3 Previous approaches to person typology

Harbour (2016) and Cowper and Hall (2017, 2019) each propose a strategy to account for the limited set of conflation patterns attested cross-linguistically using two binary features, $[\pm\text{author}]$ and $[\pm\text{participant}]$. Although the two proposals differ significantly, ordering of features is crucial for both in order to capture all and only the attested conflation patterns. Their proposals are explained below.

6.2.3.1 Semilattice proposal (Harbour 2016)

The central idea of Harbour's (2016) proposal is that the binary features are functions that operate on possible sets of referents (π lattice in his terminology). Sets of referents that minimally include the speaker is represented as i_0 ; those that minimally include the addressee as u_0 ; those that minimally include both the speaker and the addressee as iu_0 ; those that include neither as o_0 . The set of all the possible sets of referents can be represented as $\{i_0, iu_0, u_0, o_0\}$. Each of the two features, $[\text{author}]$ and $[\text{participant}]$, has two values, $+$ and $-$, and so each operation has two outcomes. The plus variant of $[\text{author}]$ adds the speaker to the sets of referents, and the minus variant removes the speaker from the sets. The plus variant of $[\text{participant}]$ adds either or both of the participants to the input reference sets, and the minus variant removes both participants from the sets. The number of available features (that is, zero, one, or two) depends on the language, and if both of the features are present, the order varies depending on the language as well. If a language has neither feature available, no operation applies to the π lattice, resulting in no person contrast or the monopartition. If a language has only the $[\text{author}]$ feature available, $[+\text{author}]$ adds the speaker to each of the input reference sets, generating sets that minimally include either only the speaker (i_0) or both participants

⁶I in fact argue that this is a possible situation in Section 6.3.1.3.

(iu_0) while $[-\text{author}]$ subtracts the speaker from the input sets and produces sets that minimally include the addressee (u_0), sets with no participants (o_0), or an empty set. As an empty set is not a set that can be directly referenced, we apply the restriction to D_e and obtain the author bipartition as shown in (26a). If only the $[\text{participant}]$ feature is available in a language instead, the π lattice is divided into two in the same fashion, only this time we have reference sets that minimally include one or both of the participants on the one hand and those without participants on the other (i.e., the participant bipartition), as shown in (26b).

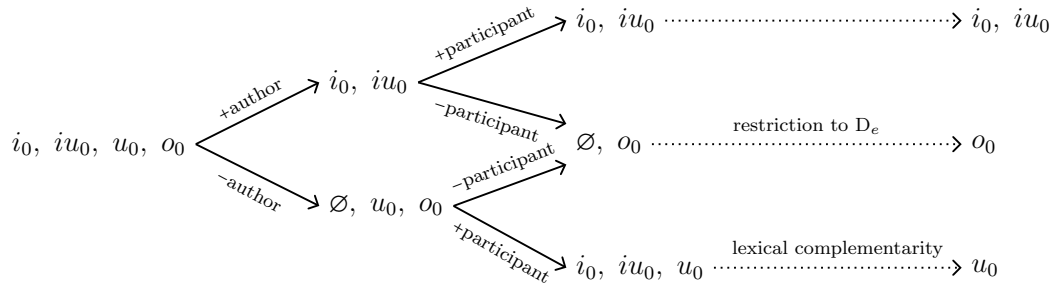
(26) a. Author bipartition



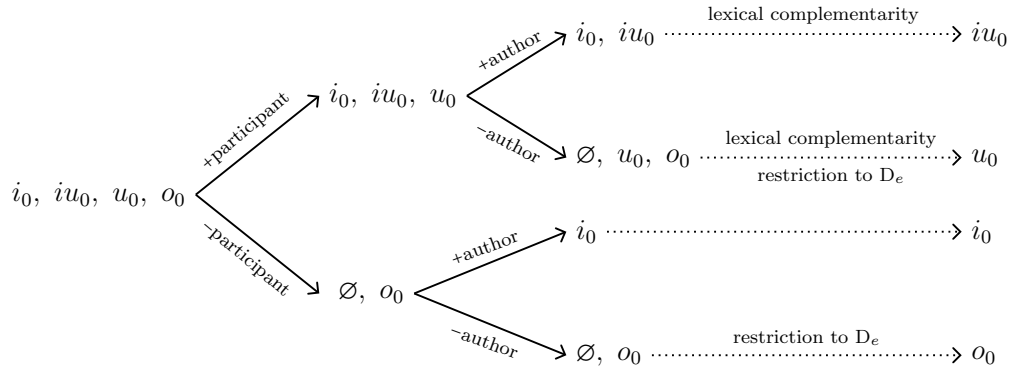
b. Participant bipartition



c. Standard tripartition



d. Quadripartition



(Harbour 2016:Fig.4.8)

If both features are present in a language and the [author] feature operates on the π lattice first, the result of the first operation is the same as the author bipartition in (26a). The [participant] feature then operates on the two outputs; removal of the participants from these two outputs results in the same reference sets $\{\emptyset, o_0\}$ while addition of participants yields two different but overlapping outputs. When the reference set of a feature combination is a superset of that of another feature combination, the principle of Lexical Complementarity, as defined in (27), restricts the reference set of the former feature combination to the difference between the two reference sets. Accordingly, the feature combination $+part(-auth(\pi))$ in (26), which denotes a superset of the denotation of $+part(+auth(\pi))$, is used only for the difference between the two, u_0 . The resulting contrast $i_0\ iu_0|u_0|o_0$ is the standard tripartition.

(27) *Lexical Complementarity*

Let F, G be feature specifications where $\llbracket F(\pi) \rrbracket \subset \llbracket G(\pi) \rrbracket$. Then use of $\llbracket G(\pi) \rrbracket$ is confined to $\llbracket G(\pi) \rrbracket \setminus \llbracket F(\pi) \rrbracket$.

Lastly, if a language arranges the features in the other order, we arrive at four different reference outputs, and after applying the principle of Lexical Complementarity and restricting possible denotations to D_e , we obtain the quadripartition. Because there are only two features, we predict only these four partitions in addition to the monopartition. While it is questionable where in the mental grammar this highly intricate taxonomic system of grammatical person contrasts lies, Harbour's (2016) proposed analysis exhaustively and exclusively derives the five attested conflation patterns.

6.2.3.2 Contrastive hierarchy proposal (Cowper and Hall 2017, 2019)

Because Harbour's (2016) system is very complex and requires a lot of machinery, Cowper and Hall (2017, 2019) proposes a simpler system. Unlike Harbour's (2016) features, Cowper and Hall's (2017; 2019) features are first-order predicates that denote inclusion or non-inclusion of a discourse participant, as shown in (28).

- (28) a. [+author] = 'includes the speaker'
 b. [-author] = 'does not include the speaker'
 c. [+participant] = 'includes at least one discourse participant'
 d. [-participant] = 'does not include a discourse participant'

(Cowper and Hall 2017:Sec4)

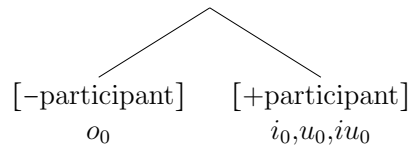
In order to account for grammatical person contrasts, Cowper and Hall (2017, 2019) adopt Contrastive Hierarchy Theory (Dresher 2009) developed in phonology and take advantage of the Successive Division Algorithm in (29), which provides a means to divide and subdivide a phonological inventory so as to assign a unique representation to each segment.

(29) *Successive Division Algorithm* (Dresher 2009:16)

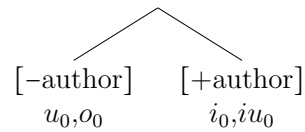
- a. Begin with no feature specifications: assume all sounds are allophones of a single undifferentiated phoneme.
- b. If the set is found to consist of more than one contrasting member, select a feature and divide the set into as many subsets as the feature allows for.
- c. Repeat step (b) in each subset: keep dividing up the inventory into sets, applying successive features in turn, until every set has only one member.

Following (29a), we begin with a power set of all possible referents represented as $\{i_0, u_0, iu_0, o_0\}$. If a language has no person features, the original set is not divided, resulting in the monopartition. If a language has only the [participant] feature, the possible sets of referents are divided into two according to (28c) and (28d): those that include at least one participant $\{i_0, u_0, iu_0\}$ and those that do not include a participant $\{o_0\}$, as shown in (30a). This yields the participant bipartition as no other features are available to subdivide the terminal sets.

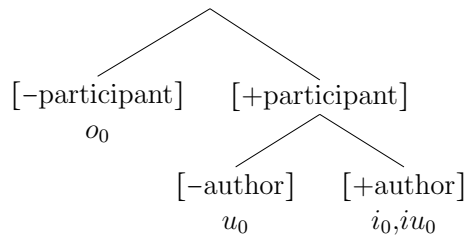
(30) a. Participant bipartition



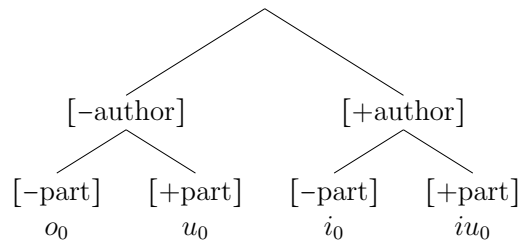
b. Author bipartition



c. Standard tripartition



d. Quadripartition



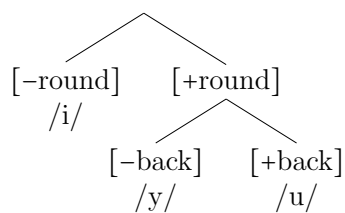
(Cowper and Hall 2017:(7),(8))

If, on the other hand, only the [author] feature is available in a language, the original set is divided according to (28a) and (28b) into sets that include the speaker $\{i_0, iu_0\}$ and those that do not include the speaker $\{u_0, o_0\}$, as shown in (30b). Since there

is no additional feature, the terminal sets cannot be further divided, and the resulting division is the author bipartition. If both features are available, there are two possible contrastive hierarchies. If the [participant] feature takes scope over the [author] feature, the starting set $\{i_0, u_0, iu_0, o_0\}$ is first divided as in (30a) according to $[\pm\text{participant}]$. At this point, the speaker is not part of the non-participant set $\{o_0\}$ and the set is already non-contrastive, so further division by $[\pm\text{author}]$ is neither possible nor required. The participant set $\{i_0, u_0, iu_0\}$ is further divided according to $[\pm\text{author}]$ into sets that include the speaker $\{i_0, iu_0\}$ and those that do not $\{u_0\}$, as shown in (30c). This contrastive hierarchy represents the standard tripartition. If the [author] feature takes scope over the [participant] feature instead, the possible reference sets are initially divided into the author set and the non-author set as in (30b). These two sets are further divided using $[\pm\text{participant}]$, resulting in the maximal quadripartition, as shown in (30d).⁷ As there are two features and two possible scope relations, these four contrastive hierarchies are the only partitions predicted by this system. As such, Cowper and Hall's (2017; 2019) proposal explains all and only the attested conflation patterns without the need to apply additional operations to the terminal sets.

It should be pointed out, however, that there is one additional contrastive hierarchy that should be predicted by this analysis. At least for phonological inventories, the presence of a lower-ranked feature does not force a particular language to divide every subinventories. Let us take a contrastive hierarchy for high vowels proposed for Finnish by Hall (2017). There are three high vowels /i, y, u/ in Finnish, and the contrastive hierarchy in (31) captures the fact that the round vowels participate in place harmony while the unround vowel does not.

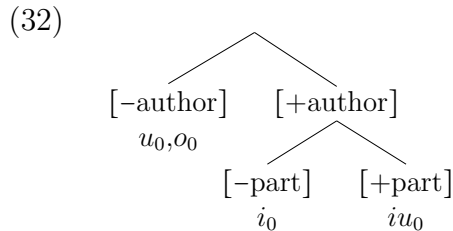
(31) [round] >> [back]



As is evident in (31), there is only one high vowel on the $[-\text{round}]$ branch. While it is possible to divide the articulatory space in four ways using the $[\pm\text{back}]$ feature like in Turkish (Dresher 2009:184)—that is, $[-\text{round}]$ /i, u/ and $[\text{+round}]$ /y, u/, Finnish happens to have only one unround high vowel. This suggests that the presence of a

⁷As stated by Cowper and Hall (2017), the $[\pm\text{participant}]$ feature under the scope of the $[\pm\text{author}]$ feature is essentially $[\pm\text{hearer}]$.

feature (i.e., $[\pm\text{back}]$) under the scope of another feature (i.e., $[\pm\text{round}]$) does not require the language to subdivide every branch of the latter superordinate feature. If this is the case, it should be possible to divide the deictic space in a similar manner as well. Specifically, the contrastive hierarchy in (32) should be possible.



This contrastive hierarchy represents a partition that is not attested as a conflation pattern (i.e., a non-standard tripartition: $i_0 \mid iu_0 \mid u_0 \ o_0$). This will be problematic for Cowper and Hall’s (2017; 2019) analysis. One may argue that the set $\{u_0, o_0\}$ contains contrasting members so it has to be further broken down according to the Successive Division Algorithm in (29); however, this requires the contrastiveness of the two members to be predetermined just as a phonological inventory is given (from prior observations of the language). If the proposed person features are indeed operating on a given inventory that is already partitioned to an extent, it becomes questionable whether the contrastive hierarchy approach to person contrasts provides an explanation of the range of possible conflation patterns.

Finally, even with the problems I pointed out, both Harbour’s (2016) semilattice approach and Cowper and Hall’s (2017; 2019) contrastive hierarchy approach explain the five attested conflation patterns fairly well. However, it is not clear what implications these taxonomic proposals have on the syntax or the externalization process. Specifically, it is not readily obvious whether the proposed feature orderings have an impact on agreement systems or syncretic patterns. These questions are not explored here, and I simply examine how well the resulting feature combinations explain syncretic patterns in Section 6.3.2.1. A crucial task now is to show that feature geometry, too, can exhaustively and exclusively explain the five conflation patterns unlike previous claims. In the next section, I provide an explanation of the attested set of conflation patterns using feature geometry and explore not only conflation but also person syncretism in order to show that feature geometry has as much explanatory power as the traditional binary features (i.e., $[\pm\text{author}]$ and $[\pm\text{participant}]$).

6.3 Geometric approach to person typology

This section addresses the two concerns raised for feature geometry: (i) the quadripartition predicted for tripartition languages with the addition of [Addressee] and (ii) a faulty prediction of the unattested addressee tripartition. These problems are amended by applying an independently proposed markedness principle on the [Addressee] specification and by reinterpreting the universality of the geometric feature system. This section first discusses details of the proposal and how feature geometry can explain the five attested conflation patterns. Subsequently, I examine how well feature geometry captures person syncretism compared to binary features.

6.3.1 Feature geometry and the conflation patterns

In order to circumvent the first problem raised for the presence of the [Addressee] feature, namely a wrong prediction of the quadripartition for tripartition languages, I adopt Rett's (2015) proposal to account for differences in evaluativity between antonymous degree expressions. She proposes that a markedness principle plays a role in determining which expressions carry an atypical meaning. I argue that this principle is also operative in the interpretation of different person specifications, and this results in the unavailability of the double specification of [Speaker] and [Addressee] in tripartition languages. I first introduce Rett's (2015) proposal in some detail.

6.3.1.1 The Marked Meaning Principle (Rett 2015)

Antonymous degree expressions often have different pragmatic effects in terms of evaluativity. Evaluativity is defined as a property of certain constructions which give rise to a meaning relative to some contextually determined standard (see also Bartsch and Vennemann 1972; Cresswell 1976 among others). For example, a positive (copular) construction with an unmodified gradable adjective like the one in (33a) is evaluative in that it not only relates *Adam* to some degree of tallness but also signifies that this degree is above a relevant contextual standard of tallness. This latter meaning is absent from the measure-phrase construction in (33b). The sentence simply relates *Adam* to a degree signified by the measure phrase *6ft* and therefore is not evaluative.

- | | | | |
|------|----|---------------------------------|------------------------------|
| (33) | a. | Adam is tall. | [POSITIVE CONSTRUCTION] |
| | b. | Adam is 6ft tall. | [MEASURE-PHASE CONSTRUCTION] |
| | | \rightsquigarrow Adam is tall | (Rett 2015:1(1)) |

As observed by Rett (2007, 2008, 2015), a similar asymmetry is found between degree constructions with antonymous adjectives (similar observations in Lyons 1977; Cruse 1986; Bierwisch 1989 among others).

- (34) a. Doug is as **tall** as Adam. \rightsquigarrow Doug/Adam is tall [POSITIVE ANTONYM]
 b. Doug is as **short** as Adam. \rightsquigarrow Doug/Adam is short [NEGATIVE ANTONYM]
 (Rett 2015:40(5))

While the positive-antonym equative in (34a) is purely comparative and simply expresses the meaning that Doug’s height and Adam’s height are of the same degree, the negative-antonym equative in (34b) is evaluative and additionally signifies that their height is below a contextually relevant height standard (i.e., they are short).

In order to account for this asymmetry, Rett (2015) analyzes evaluativity as a Manner implicature. The two sentences in (34) are truth-conditionally equivalent, meaning that Doug and Adam are of the same height; however, assuming that the negative antonym *short* is underlyingly *not+tall*,⁸ the sentence with the negative antonym in (34b) is a more structurally complex alternative. Rett (2015) reformulates Horn’s (1984) pragmatic principle that induces manner implicatures and puts forth the principle in (35), which states that marked forms are associated with a marked meaning.

- (35) *The Marked Meaning Principle* (Rett 2015:101-2)

Marked forms are associated with marked meaning.

For sentences (or parse trees) ϕ, ϕ' such that $\phi' \in A_{Mstr}(\phi)$ and $\phi' < \phi$, ϕ carries the Manner implicature: “ $\wedge \text{atypical}(\llbracket \phi \rrbracket)$ ”

where: $A_{Mstr}(\phi)$ is a set of structural alternatives of ϕ whose denotations are entailed by ϕ
 $\alpha < \beta$ indicates that α is structurally simpler than β

Markedness is defined here in terms of structural complexity. According to the principle, the more structurally complex (and thus marked) alternative has an atypical (or marked) meaning. The two sentences in (34) are truth-conditionally equivalent, and they structurally differ by one morpheme (i.e., *not* in (34b)), so the sentence in (34b) constitutes a Manner alternative to (34a). Since the negative antonym alternative in (34b) is more structurally complex, it is expected to have an atypical meaning according to the

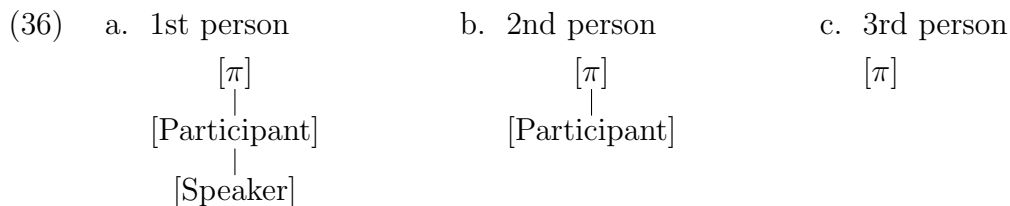
⁸The morpheme represented as *not* here simply reverses the scale of height (i.e., the greater the degree, the shorter the height). It does not negate the evaluativity of the adjective (i.e., not above some relevant contextual standard of tallness).

principle in (35). The atypical meaning in this case is the evaluativity of the sentence. Therefore, the asymmetry in (34) is explained by the Marked Meaning Principle.⁹

Rett (2015) explains that the atypical meaning associated with negative-antonym constructions is evaluativity and not some other meaning because being of average degree, something that cannot be referenced either by the positive antonym or by the negative one, is not atypical or informative. In the height example, the degree has to be above or below the range of average height in order for sentences like (34b) to be informative. Since being taller than the contextual standard for ‘shortness’ necessarily includes the range of average height and there is no upper bound to the referenced range (i.e., $[s_{short}, \infty)$), it is neither atypical nor informative. The only way for the sentence to be informative while still being relevant is to reference the range of height below the shortness standard (i.e., shorter than the average). In the next section, I explain how this principle can be incorporated in feature geometry in order to show that the standard tripartition can be achieved even with the addition of the [Addressee] feature.

6.3.1.2 Markedness of [Addressee]

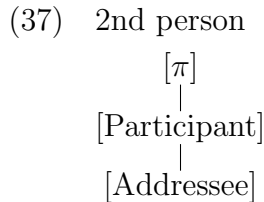
In this section, I claim that the markedness principle discussed in the previous section, which is proposed to account for pragmatic phenomena, can be applied to the selection of geometric feature specifications of person. As discussed in Section 6.1.1, McGinnis (2005) argues that the geometric representation of person in (36) correctly captures the three-way contrast in tripartition languages. This representation is also used by Béjar (2003) and Béjar and Rezac (2009) as person specifications of arguments.



The bare [Participant] specification in (36b) represents second person with the assumption that there is an interpretive blocking effect where reference sets that are denoted by a more highly specified element are excluded from the reference sets of a less specified

⁹As Rett (2015) explains, the asymmetry in (33) is of a different nature. The evaluativity in (33) is generated as a Quantity implicature because the sentence’s truth-conditional meaning (i.e., Adam has a height) is vacuous. Evaluativity is absent from (33b) because there is no markedness competition as its potential alternative *Adam is 6ft short* is ungrammatical for independent reasons.

element. Let us take the feature specifications in (36) to be the basic representation of the three persons and assume for the moment that the [Addressee] feature is additionally available in tripartition languages.^{10,11} There is then another feature specification that could represent second person, shown in (37).



Because this representation uses an additional feature, it constitutes a more structurally complex alternative to (36b).¹² If we apply the Marked Meaning Principle to these alternative person specifications, we expect that there is an atypical meaning with the more complex alternative in (37). I suggest that the ‘atypical’ meaning associated with this representation is exclusion of the speaker. Since we are already restricted to reference sets that include a participant with the [Participant] specification, the only way for the additional [Addressee] specification to be effective is to further restrict the reference sets without creating a contradiction or generating an empty set. In terms of maximizing the contrast between representations, exclusion of the speaker is the best candidate for the associated meaning. This is, in a sense, similar to the binary feature specification of second person (i.e., [+participant, −author]), but the presence of the [Addressee] feature, by default, means inclusion of the addressee. With the additional exclusive meaning, the feature representation in (37) is also a stronger alternative. As such, whenever a relevant reference set includes the addressee but not the speaker, the feature specification in (37) represents the set without the extra interpretive blocking effect and so is the better representation.¹³

¹⁰I take the [Addressee] feature to be secondary to the [Speaker] feature as the presence of an addressee in a discourse context is dependent on the presence of a speaker (that is, unless there is someone speaking, there is no hearer).

¹¹Motivation for the [Addressee] feature in tripartition languages is provided in Section 6.4.

¹²Because the representation in (37) is as highly specified as the one in (36a), it is immune to the interpretive blocking effect. Even though this is unintuitive, the bare [Participant] in (36b) ($=\{u_0\}$) does entail the representation in (37) with the additional [Addressee] feature ($=\{iu_0, u_0\}$).

¹³One concern with this analysis might be that the alternative without the marked meaning (i.e., $[\pi]$ -[Part]) is completely eliminated. In the case of equative sentences discussed in the previous section, the alternative without a marked meaning (*Doug is as tall as Adam*) is still used in a context where Doug and Adam are not short. While it is true that I claim that the bare [Part] representation is not used to specify arguments as the person deictic space is exhausted by other representations, it is still essential in explaining participant syncretism. As such, the representation is not totally without a function.

If, on the other hand, the reference set includes both the speaker and the addressee, there are three potential candidates as shown in (38).

- (38) a. $\begin{array}{c} [\pi] \\ | \\ [\text{Participant}] \\ | \\ [\text{Speaker}] \end{array}$ *includes the speaker*
- b. $\begin{array}{c} [\pi] \\ | \\ [\text{Participant}] \\ \swarrow \quad \searrow \\ [\text{Speaker}] \quad [\text{Addressee}] \end{array}$ *includes the speaker*
includes the addressee
** \leadsto excludes the speaker*
- c. $\begin{array}{c} [\pi] \\ | \\ [\text{Participant}] \\ | \\ [\text{Addressee}] \end{array}$ *includes the addressee*
 \leadsto excludes the speaker

With the associated meaning of the [Addressee] specification (i.e., exclusion of the speaker), the feature specification in (38c) is eliminated as the reference set under consideration includes the speaker. The same atypical meaning associated with [Addressee] creates an internal contradiction in (38b),¹⁴ and it is not a possible representation if the [Addressee] feature is more marked than the [Speaker] feature in the language.¹⁵ As such, the feature specification in (38a) is the only representation, and it is indeed sufficient as the reference set includes the speaker. Hence, the same representation is used for any reference set that includes the speaker regardless of whether the set includes the addressee. Therefore, the presence of the [Addressee] feature does not necessarily predict the quadripartition, and with the markedness of [Addressee], we in fact expect the standard tripartition, as desired. Note here that even though the unvalued ϕ -feature used in the WEAK PCC is composed of both [Sp—] and [Ad—] (see Section 4.3), this does not create the contradiction mentioned above because unvalued features do not have an impact on the referential patterns of syntactic elements (i.e., they are uninterpretable in a sense). Unvalued features in the Val-Merge mechanism proposed here fuel the combinatorial system of structure building and explain certain syntactic patterns; however, because they lack values, they are not inherently referential. As such, an unvalued feature with a capacity for receiving both [Speaker] and [Addressee] values is not a problem even in tripartition languages.

¹⁴One might be concerned about this transference of the additional meaning associated with the [Addressee] specification. The associated meaning is derived from a competition between two representational alternatives of second person. However, carrying over the same meaning to the double specification in (38b) may be unmotivated. I will not provide a justification for this move here, but it should be addressed in future research.

¹⁵The representation in (38b) ($=\{iu_0\}$) entails the one in (38a) ($=\{i_0, iu_0\}$); therefore, the latter is a potential alternative to the former and not vice versa. However, since the latter (i.e., (38a)) is structurally simpler, it is not a structural alternative to (38b). Accordingly, the principle in (35) does not apply to these two representations.

In quadripartition languages, on the other hand, the [Speaker] and [Addressee] features are independently available, so there is no markedness competition between the bare [Participant] in (36b) and the additional [Addressee] specification in (37) as they do not constitute alternatives. As a consequence, there is no additional associated meaning to the [Addressee] feature. Therefore, the double specification in (38b) is a possible representation, and a four-way contrast can be obtained. In the next section, I lay out geometric representations of the five types of conflation patterns and explain how feature geometry does not predict an additional pattern.

6.3.1.3 Feature geometry and the five conflation patterns

In this section, I present the ways feature geometry, in conjunction with the marked meaning principle, explains the five attested conflation patterns while also addressing the two issues raised for feature geometry by Harbour (2016) and Cowper and Hall (2017), namely the predicted but unattested addressee tripartition and the unexplained author bipartition. The five patterns and their available features are in (39).

(39)

a.

Monopartition

1EX/1IN/2/3

[π]

c.

Author bipartition

1EX/1IN 2/3

[π] [π]

[Sp]

e.

Quadripartition

1EX 1IN 2 3

[π] [π] [π] [π]

[Part] [Part] [Part]

[Sp] [Sp] [Ad] [Ad]

b.

Participant bipartition

1EX/1IN/2 3

[π] [π]

[Part]

d.

Standard tripartition

1EX/1IN 2 3

[π] [π] [π]

[Part] [Part]

[Sp] ([Ad])

The monopartition in (39a), the participant bipartition in (39b), and the quadripartition in (39e) are already explained in Section 6.2.2 where we discussed predictions made by feature geometry. What is new here is the additional [Addressee] specification in tripartition languages and the author bipartition. As discussed in the previous section, the

standard tripartition can be achieved even with the addition of [Addressee]. As for author bipartition languages, I claim that the [Speaker] feature is available in the absence of the [Participant] feature. The lack of a participant/non-participant distinction in these languages suggests that the [Participant] feature is not available. However, it is possible for speakers to acquire the [Speaker] feature if there is an author/non-author distinction in the input language. Therefore, while the [Participant] feature structurally intervenes between $[\pi]$ and [Speaker], the structure represents the entailment relations between the features, and since [Speaker] does entail $[\pi]$, the unavailability of an intervening feature is a possible state of affairs. Note that even if we remove the [Participant] feature from tripartition and quadripartition languages, we obtain the same partitions. Nevertheless, the [Participant] feature is independently necessary as participant syncretism (e.g., singular present indicative in English: *I/you run* vs. *he/she/it runs*) is observed in tripartition and quadripartition languages (see Sections 6.3.2 and 6.4.2).

Turning to the wrongly predicted addressee tripartition, there is a solution hinted at by Harbour (2016). One aspect of the feature structures that Harbour (2016) considers is worth special attention. In the feature structures he considers, [Addressee] (or hearer') is dependent on [Speaker] (or author'). This is presumably motivated by the fact that the addressee tripartition in (25e) is unattested. By making [Addressee] dependent on [Speaker], we are able to prevent a feature set that contains $[\pi]$, [Participant], and [Addressee] but not [Speaker], which explains why the addressee tripartition is unattested. However, this feature structure is potentially problematic because there is no entailment/inclusion relation between [Addressee] and [Speaker] (they refer to intersective reference sets). I claim that the [Addressee] feature's dependency on the [Speaker] feature is, in fact, the reason that the addressee tripartition is not found. However, I also claim that this dependency relation is not structural. As discussed briefly in Section 3.2, the component features in feature geometry proposed by Harley and Ritter (2002a), which are later used to account for syntactic phenomena by Béjar (2003) and Béjar and Rezac (2009), are organized in such a way as to represent the entailment relations between the features. The reference set for each feature is shown in (40), and the entailment/inclusion relations between the features are shown in (41).

- (40) a. $[\pi(\text{person})] = \{1\text{EX}, 1\text{IN}, 2, 3\}$
 b. $[\text{Participant}] = \{1\text{EX}, 1\text{IN}, 2\}$
 c. $[\text{Speaker}] = \{1\text{EX}, 1\text{IN}\}$
 d. $[\text{Addressee}] = \{1\text{IN}, 2\}$

(41) Entailment/inclusion relations between features

$$[\text{Speaker}]/[\text{Addressee}] \subseteq [\text{Participant}] \subseteq [\pi(\text{person})]$$

(Béjar 2003:Sec2.6, Béjar and Rezac (2009):42-3)

As is evident from (40c,d) and (41), there is no entailment relation between [Addressee] and [Speaker]. This lack of entailment is reflected in feature geometry as both [Addressee] and [Speaker] being immediately dependent on [Participant]. Although there is no entailment relation between [Addressee] and [Speaker], there is indeed a dependency relation between the two features. Within a discourse context, there can be a speaker without an addressee if the speaker is talking to themselves. However, it is impossible for someone to take on an addressee role without there being a speaker. In other words, the addressee role is ontologically dependent on the existence of a speaker. I suggest that this ontological dependency is present between the features [Addressee] and [Speaker] even though it is not represented in feature geometry, and that this dependency is the reason why we do not find a language that has [Addressee] but not [Speaker] in its set of available features (i.e., an addressee tripartition language).¹⁶ This ontological dependency relation is different from the ones represented by feature geometry. The structurally represented dependency is based on the inclusion relations among the reference sets of the features whereas the ontological dependency is a universal fact about discourse. Therefore, the range of possible conflation patterns can be explained using feature geometry if every subset of dependent features is a possible set of available features in certain languages and [Addressee] is ontologically dependent on [Speaker]. Note that ontological dependency is sometimes essential in calculating the truth of a proposition. For example, in order to determine the falsity of the sentence *My child gave birth to me* (in the actual world), we need to know that the existence of a child is dependent on the existence of their parents. This world knowledge is acquired together with relational terms like *child*. If this is the case, it would not be unreasonable to think that the abstract representations of discourse participants are developed also with the knowledge of the ontological dependency between [Speaker] and [Addressee] in mind. This section has so far dealt with conflation patterns. In the next section, I turn to person syncretism and examine how well binary feature combinations and feature geometry can explain syncretic patterns.

¹⁶The ontological dependency between [Speaker] and [Addressee] I suggest here affects what features are available within a language and thus determines how certain things are morphologically expressed, but crucially, it does not dictate whether they can be. In other words, the ontological dependency partially governs how the deictic space is partitioned, but the deictic space itself does not wane or become smaller because of this ontological restriction. The morphological component is not constrained by the ontological dependency and simply operates on the set of features that are available.

6.3.2 Person syncretism in quadripartition languages

As I mentioned in Section 6.2.1, while conflation (=complete neutralization) is limited to the five partitions, all the logically possible partitions are attested as syncretism (=paradigm-specific neutralization) in some quadripartition language or other. Syncretic patterns have been used to motivate the hierarchical structure in feature geometry (Bonet 1991; Noyer 1992; Harley and Ritter 2002a,b a.o.), and this is true of the bivalence of binary person features. For example, participant syncretism (e.g., 1P/2P: *I/you run* vs. 3P: *he/she/it runs*) motivates the [Participant] node in feature geometry and [+Participant] as there needs to be a feature to exhaustively represent the discourse participants. Now that we have a good sense of which syncretic patterns are possible cross-linguistically, this section in turn considers how well feature geometry can capture the range of possible syncretic patterns and also compares it to simple binary feature combinations. The binary feature combinations that Harbour’s (2016) and Cowper and Hall’s (2017; 2019) proposals offer for quadripartition languages are first considered. It will be clear that a number of syncretic patterns cannot be systematically explained and must be left for chance with these features alone. Subsequently, I look at how well feature geometry can explain person syncretism. It is shown there that feature geometry leaves unexplained a smaller subset of syncretic patterns that are likely candidates for accidental homophony. The section ends with an exploration of a hybrid analysis, which captures most of the syncretic patterns but, as I will point out, has some independent challenges.

6.3.2.1 A limit to simple combinations of binary features

As discussed in Section 6.2.3, Harbour (2016) and Cowper and Hall (2017, 2019) use binary features [±Participant] and [±Author] to account for the limited number of partitions attested cross-linguistically. Although their analyses differ in how to derive the five attested partitions, they converge on the same pair of features for each person in (42) for quadripartition languages.

(42) Binary feature combinations of four-person languages

| 1EX | 1IN | 2 | 3 |
|-------|-------|-------|-------|
| +auth | +auth | −auth | −auth |
| −part | +part | +part | −part |

(Harbour 2016; Cowper and Hall 2017, 2019)

In this section, I examine how well the binary feature combinations in (42) explain person syncretis. Note that while the feature orderings proposed by Harbour (2016) and Cowper and Hall (2017, 2019) may have implications for the externalization process and hence how syncretic patterns are derived, I only consider the feature combinations in (42) as person specifications of arguments here.

As already mentioned, Harbour (2016) shows all the logically possible partitions are attested if we look at individual paradigms (including syncretic patterns) in different languages. It is also evident from Harbour's (2016) list of partitions that all the logically possible partitions are found in some quadripartition language or other (p.14). What this means is that the feature specifications of four persons in quadripartition languages should be able to account for all the possible syncretic patterns. The binary features in (42) can in fact account for certain syncretisms. Let us take the Itonama agreement facts discussed in Section 6.2.1 as an example. The addressee syncretism we saw in the subject agreement in Itonama (16) can be explained if we posit the lexical insertion rules in (43). Because the common feature between 1P inclusive and 2P is [+Participant], the vocabulary item *de?*- must be sensitive to this feature (43a).

- (43) Vocabulary insertion rules for Itonama plural subject agreement
- a. [+part] \Leftrightarrow *de?*- (1IN/2)
 - b. [-part, +auth] \Leftrightarrow *se?*- (1EX)
 - c. [-part, -auth] \Leftrightarrow *ah-/pih-* (3)

Since 1P exclusive and 3P are realized as two distinct forms, they must be featurally distinct as well (43b,c). The author syncretism in Itonama object agreement can also be explained using binary features. The vocabulary insertion rules for this paradigm is shown in (44).

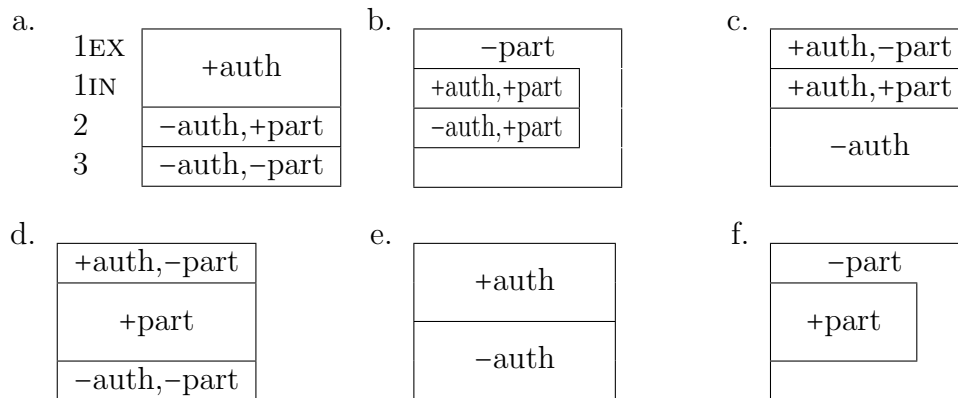
- (44) Vocabulary insertion rules for Itonama plural object agreement
- a. [+auth] \Leftrightarrow *-mo* (1EX/IN)
 - b. [-auth, +part] \Leftrightarrow *-be* (2)
 - c. [-auth, -part] \Leftrightarrow \emptyset (3)

The form *-mo* for 1P exclusive and 1P inclusive must be sensitive to the common feature between the two (i.e., [+auth]). The other two forms must be featurally distinguished, so both [\pm author] and [\pm participant] features are necessary (44b,c). Thus, both

the addressee syncretism (=the addressee tripartition) and the author syncretism (=the standard tripartition) can be explained using the binary features in (42).

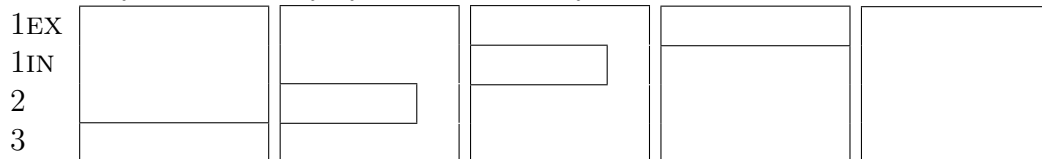
There are in fact six types of syncretic patterns the binary features can account for. In addition to the author syncretism in (45a) and the addressee syncretism in (45d) discussed above, the binary features can account for four other two-way syncretisms: the exclusive-3P syncretism in (45b), the non-author syncretism in (45c), the author/non-author syncretism in (45e), and the addressee/non-addressee syncretism in (45f).

(45) Syncretisms binary features can account for



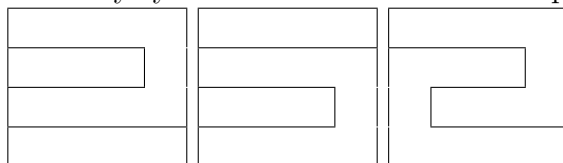
However, because binary features divide the four persons in equal halves with its two values, + and -, they cannot account for three-way or four-way syncretisms in (46) as more than two persons will not share a feature.

(46) Three-way and four-way syncretisms binary features cannot account for



The binary features in (42) cannot explain syncretisms that involve the pairs 1EX-2 and 1IN-3 (47) because these pairs are featurally completely incongruent.

(47) Two-way syncretisms that cannot be explained by binary features



Therefore, the binary features in (42) can account for six out of fourteen possible syncretic patterns. There is a possibility of accidental homophony (two distinct elements receiving vocabulary items that happen to be homophonous; Sauerland and Bobaljik 2013; Harbour 2016); however, eight types of syncretisms will have to be left for chance with binary features. One can also posit additional features; however, we need six additional features to account for all the syncretic patterns. The values (+ or -) are assigned randomly in the schemata in (48).¹⁷

(48)

| | | | | | |
|-----|----|----|----|----|----|
| 1EX | | | | | |
| 1IN | +F | +G | -H | +I | |
| 2 | | -G | | -I | +J |
| 3 | -F | | +H | | |

| | | |
|----------------|----------------|----|
| +H | +auth,-part,+G | |
| -H | +G | -K |
| | -G | +K |
| -auth,-part,+H | | |

Not only would this lack parsimony but also it is unclear what the semantic properties of these features are. For example, it is not immediately obvious what semantic property binds 1P exclusive with 2P and 3P (i.e., [+H] in (48)).

6.3.2.2 Feature geometry and person syncretism

Feature geometry (or articulated person features), on the other hand, can account for a larger subset of possible syncretisms. The person specifications of quadripartition languages are repeated in (49). As I have mentioned above, all the possible partitions are attested as syncretisms in quadripartition languages; therefore, the features in (49) should be able to account for the syncretic patterns as well.

(49) Geometric representation of quadripartition

| 1EX | 1IN | 2 | 3 |
|-----------|-----------|-----------|-----------|
| [π] | [π] | [π] | [π] |
| [Part] | [Part] | [Part] | |
| [Sp] | [Sp] | [Ad] | |

¹⁷We can alternatively use [$\pm K$] to account for the exclusive participant syncretism (1EX=2) and the inclusive non-participant syncretism (1IN=3). However, we still need [$\pm G$] and [$\pm H$] to account for the three-way syncretisms.

In order to account for the two syncretic patterns in Itonama, we can devise the vocabulary insertion rules in (50). For the subject agreement where 1P inclusive and 2P are syncretized (50a), the syncretic form must be sensitive to the common features between the two (i.e., $[\pi]$, [Participant], and [Addressee]). The form for 1P exclusive is inserted where the minimal specifications are $[\pi]$ and [Participant]. If we assume the Subset Principle (Halle 1997; cf. Lumsden 1987), a vocabulary item that maximally represents the feature set of an element will be inserted. Therefore, whenever an element is specified up to [Addressee] (1P inclusive or 2P), it will be realized as *deʔ-*, the remaining participant element (1P exclusive) will be realized as *seʔ-*, and 3P is realized as *ah-/pih-* according to the third rule. As for the object agreement where 1P exclusive and 1P inclusive are syncretized (50b), any person specified as [Speaker] (1P exclusive and inclusive) will be realized as *-mo*, and the remaining participant that lacks the [Speaker] specification (2P) will be realized as *-be*.

(50) Vocabulary insertion rules in Itonama with articulated features

a. Subject agreement (Addressee syncretism)

$$\begin{array}{c} [\pi] \\ | \\ [\text{Part}] \\ | \\ [\text{Ad}] \end{array} \Leftrightarrow \text{deʔ- (1IN/2)} \quad \begin{array}{c} [\pi] \\ | \\ [\text{Part}] \end{array} \Leftrightarrow \text{seʔ- (1EX)} \quad [\pi] \Leftrightarrow \text{ah-/pih- (3)}$$

b. Object agreement (Author syncretism)

$$\begin{array}{c} [\pi] \\ | \\ [\text{Part}] \\ | \\ [\text{Sp}] \end{array} \Leftrightarrow \text{-mo (1EX/IN)} \quad \begin{array}{c} [\pi] \\ | \\ [\text{Part}] \end{array} \Leftrightarrow \text{-be (2)} \quad [\pi] \Leftrightarrow \text{-}\emptyset \text{ (3)}$$

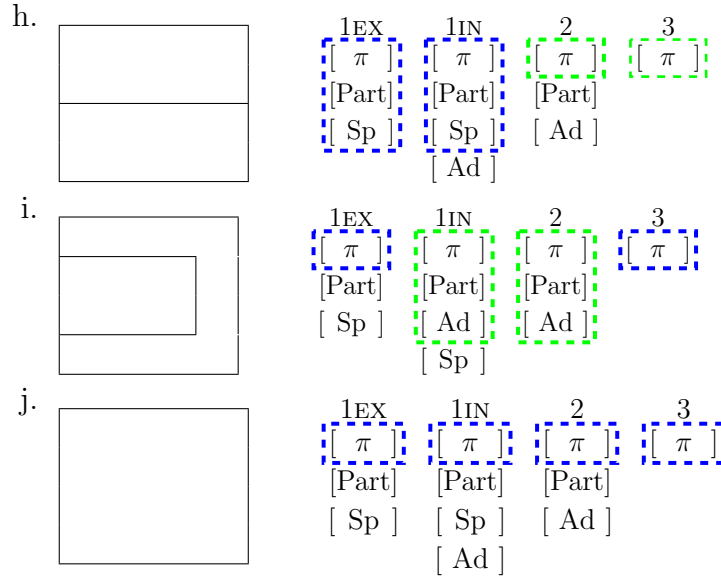
In the same manner, eight additional syncretisms can be explained using articulated person features as shown in (51).¹⁸ The author syncretism and the addressee syncretism,

¹⁸Cowper and Hall (2019) raise an empirical problem with the geometric representation of a four-person language, arguing that it wrongly predicts a fifth personal pronoun (represented as bare [Participant]). However, with the interpretive blocking effect that I have been assuming, referents that are denoted by a more highly specified feature are excluded from the reference set picked out by a less specified feature. Therefore, the participant referents will be exhausted by the three feature representations for 1P exclusive, 1P inclusive, and 2P, and the reference set of $[\pi]$ -[Participant] will be empty. Languages would not specify an element with features whose reference set is empty. Furthermore, in order to account for the participant syncretism in (51f) observed in four-person languages, the [Participant] node is indispensable.

which we saw above, are in (51a) and (51e), respectively. The dashed boxes indicate features participating in the vocabulary insertion process, and [Speaker] and [Addressee] are collapsed into one column in varying orders for convenience. All of the realizational patterns in (51) respect the Subset Principle (Halle 1997).

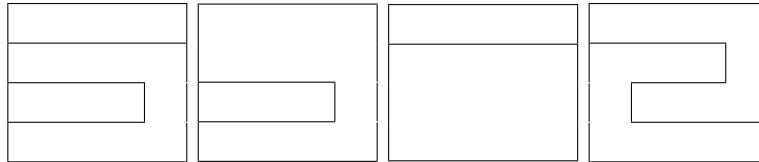
(51) Syncretisms feature geometry can account for





As with the binary features, the articulated person features cannot account for all the syncretisms. The ones that are inexplicable by the articulated features are shown in (52). Syncretism between 1P inclusive and 3P must be sensitive to $[\pi]$ as it is the only common feature between the two. However, in order to make 1P exclusive and/or 2P distinct, we must use [Participant] in addition to $[\pi]$. However, since 1P inclusive is specified for [Participant], it will necessarily be realized as syncretic with 1P exclusive and/or 2P and not with 3P. Therefore, the features in (49) cannot account for paradigms that involve inclusive-3P syncretism.

(52) Syncretisms articulated features cannot account for



It should be noted that these syncretic patterns are the subset of those that binary features cannot explain and that the syncretism between 1P inclusive and 3P is the most likely candidate for accidental homophony as the two persons form neither a logical set nor a residual set (the complement) of a logical set.¹⁹ For example, 1P inclusive and 1P exclusive form a logical set given the speaker is in the reference set of the two. 2P and 3P do not share a common property, but by virtue of being non-author, they form a set. However, 1P inclusive and 3P do not themselves form a logical set, and although

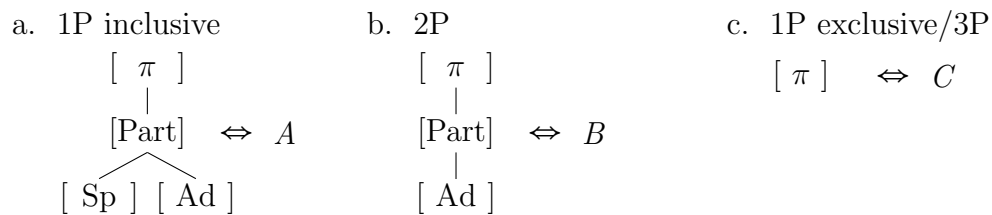
¹⁹Exclusive syncretism of 1P inclusive with 3P seems rare; however, it is found in Murle subjunctive paradigm (Lyth 1971; cited in Baerman 2002).

the remainder of persons (1P exclusive and 2P) do share a property (i.e., [Participant]), they do not form a natural class (or an exhaustive set) to the exclusion of 1P inclusive.

The fact that the articulated person features can account for more syncretic patterns may seem quite obvious given the fact that a larger number of (dependent) features are available in the articulated feature system;²⁰ in fact, addition of two extra features to the binary feature specification (i.e., [\pm author, \pm participant]) will allow us to account for the same number of syncretisms (see [\pm G] and [\pm H] in (48)). However, there does not seem to be any logical/semantic ground to these additional features (except for [\pm F] in (48), which aligns with the true participant/non-participant distinction). Therefore, the articulated person features seem to have an advantage over the binary feature combinations in accounting for different types of syncretic patterns.

Finally, most of the paradigm-specific syncretic patterns in (51) predicted by the articulated features are not expected to be conflation patterns of individual languages. Taking the exclusive-3P syncretism in (51b) as an example, the vocabulary insertion rules for this syncretism will look as in (53).

(53) Vocabulary insertion rules for exclusive-3P syncretism (51b)



As shown in (53a), all the dependent features are used in the vocabulary insertion process within this particular paradigm. Therefore, we expect the language as a whole to have the maximal partition (i.e., the quadripartition) as its (non-)conflation pattern. This is why we do not find a language which conflates or completely neutralizes the 1P exclusive-3P contrast. The same is true for the syncretic patterns in (51c), (51d), and (51g). Languages that exhibit these syncretic patterns will necessarily have the quadripartition.

There is, however, a possibility of accidental merger of syncretism with conflation that we need to consider. It is conceivable for a language to consistently disregard a certain feature in the realization process. The syncretic pattern in (51a) is an example of this. If a language consistently disregards the [Addressee] feature in the vocabulary insertion

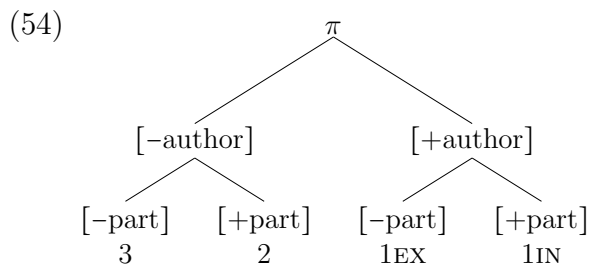
²⁰This is only if we disregard the valency of binary features. If we count [\pm author] as two separate features, then the number of available features in feature geometry and in the binary system are the same.

process, then we obtain the standard tripartition as its conflation pattern. Therefore, a quadripartition language may exhibit the partition in (51a) in a specific paradigm, or a language may conflate the clusivity contrast on the surface as in (51a), which is still an attested conflation pattern. If a language does not make use of [Speaker] or [Addressee] as in (51f), then we expect the language to have the participant bipartition (again attested as a conflation pattern). If [Addressee] and [Participant] are consistently inactive in the vocabulary insertion process as in (51h), then the author bipartition is expected as the conflation pattern. If a language only uses $[\pi]$ as in (51j), then the language will have the monopartition. As suggested above, it is impossible for a language to utilize the [Addressee] feature without the [Speaker] feature because of the ontological dependency of [Addressee] on [Speaker]. Accordingly, the syncretisms in (51e) and (51i) are not possible conflation patterns. This shows that even if some feature is consistently disregarded in the realization process, we still obtain only the attested conflation patterns. Therefore, feature geometry does not predict any unattested conflation patterns.

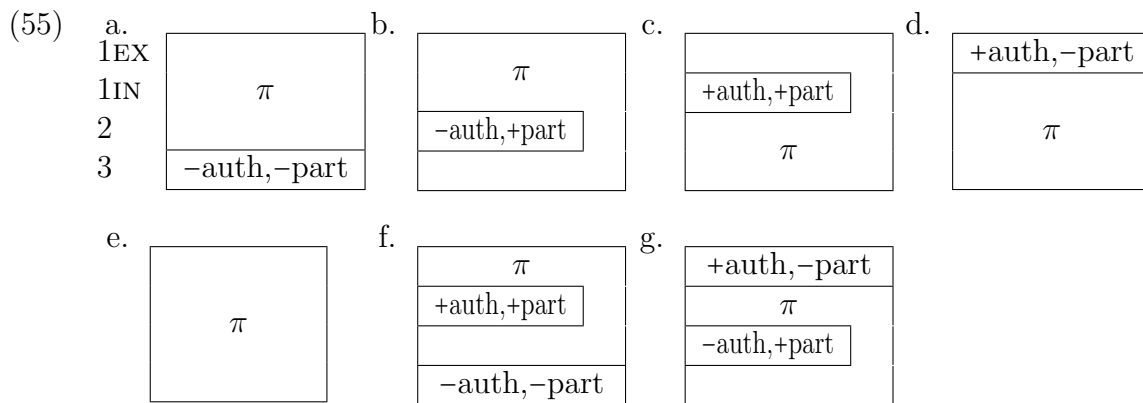
In sum, the articulated person features seem to have an advantage over the binary feature combinations in explaining syncretic patterns. The syncretisms that cannot be captured by the articulated person features are likely candidates for accidental homophony whereas the ones that the binary features cannot explain include syncretisms that do not seem accidental (e.g., the participant syncretism and the total syncretism). The next section explores a hybrid analysis that incorporates privativity into the binary feature system.

6.3.2.3 A hybrid analysis: binarity meets privativity

As shown in Section 6.3.2.1, binary feature combinations alone can explain only six syncretic patterns. However, it has been suggested that if we introduce privativity into the system, the number increases significantly. Let us assume that there is a root person node π to binary feature specifications. Using Cowper and Hall's (2017; 2019) contrastive hierarchy for quadripartition languages, this can be represented as in (54).



If the root node can be spelled out independently of the binary specifications (that is, the absence of these features is interpretable, meaning that the system is privative to some extent), most of the syncretic patterns that were unexplained by simple binary feature combinations can now be explained as shown in (55).²¹ As is clear, all the syncretic forms are spelling out the root node while the non-syncretic forms are realizing their corresponding unique specification. In essence, the syncretic forms are elsewhere forms in this system (see Konnelly and Cowper 2018 for a similar but geometric-feature analysis of *they* in English where the pronoun spells out the root node while other pronouns spell out their unique specifications).



This allows us to explain all but one syncretic pattern using binary features.

Although this system explains the syncretic patterns most successfully, there is a potential concern with the system. It is conceivable for a language with the set of features $\{\pm\text{author}, \pm\text{participant}\}$ to consistently syncretize two persons through its realizational process, accidentally surfacing as a language with a conflation pattern that is different from its underlying partition.²² We should then expect (55f) or (55g) to be a possible conflation pattern. The set of available features is exhausted in these syncretic patterns,

²¹Elizabeth Copwer (p.c.) further suggests that the other syncretism (i.e., 1IN 3 | 1EX 2) can be explained if one syncretic form is spelling out $[\alpha\text{auth}, \alpha\text{part}]$, where α represents one of the two values + and -, and the other is spelling out the root node π . However, while it does systematically explain the particular syncretic pattern, matching of polarity between the two features is the uniting property of the former syncretic form, and it seems rather arbitrary. The polarity of binary features is also an important aspect of Nevins's (2007) proposal as discussed in Section 5.2.1; however, his analysis requires mismatching of the same feature between two arguments, which is essentially an anti-identity condition. Because spelling out the α value for the 1IN-3 syncretism requires polarity matching between two different features, the polarity itself needs to have an independent status detached from the features.

²²This accidental conflation is found in the number syncretism in 2P in contemporary English; the number contrast is found in the other persons and is also visible in the reflexives (i.e., *yourself* vs. *yourselves*). English happens to consistently syncretize 2P singular with 2P plural.

so there is no concern of the externalization process under-utilizing the available features. These partitions are not attested as conflation patterns, and this will be problematic for the suggested system. The same can be said of the syncretic patterns without an elsewhere form in (45b), (45c), and (45d), none of which is attested as a conflation pattern.

In sum, the suggested analysis with the binary features does explain the syncretic patterns well but requires some level of privativity in the feature system. As pointed out above, the system also predicts unattested conflation patterns, and this needs to be overcome. Feature geometry, on the other hand, only explains a subset of syncretic patterns, but it does not suffer from false predictions regarding conflation patterns. The jury seems to be still out on which feature system has more explanatory power, but this section has probably adequately shown that feature geometry as a representation of grammatical person is as tenable as the traditional binary features in explaining morphological neutralization phenomena. The following section departs from quadripartition languages and addresses the question of whether the [Addressee] specification is necessary in tripartition languages.

6.4 Indispensability of [Addressee] in tripartition languages

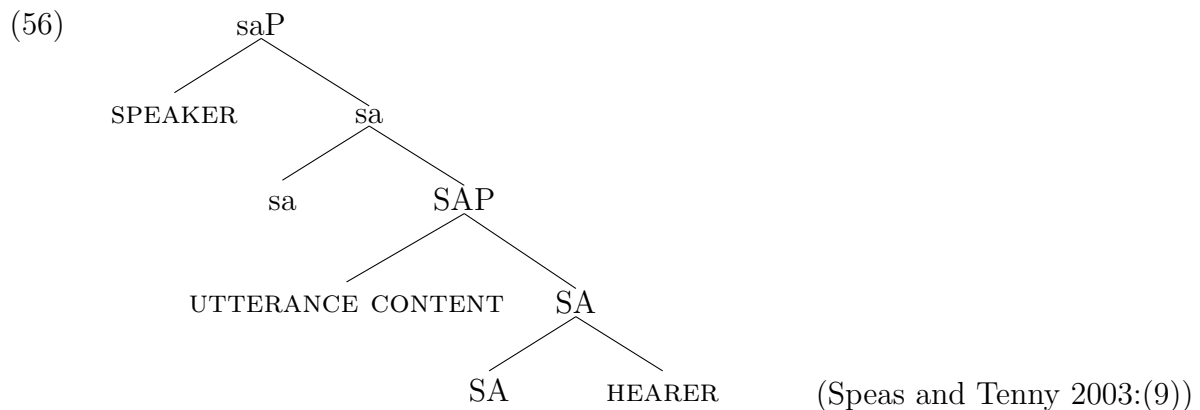
In the previous sections, I have argued that the [Addressee] specification does not cause a problem in tripartition languages. With the independently proposed markedness principle, the surface three-way contrast in tripartition languages can be explained even with the additional [Addressee] specification. In Section 6.1, I have also shown that the Incremental Valuation system does not predict an unattested syntactic pattern that is predicted by previous analyses with the addition of [Hearer] or [Addressee] specification. However, the additional [Addressee] specification in tripartition languages still needs to be motivated. I provide below two pieces of evidence for the [Addressee] feature in three-person languages. Note that the main purpose of this section is to motivate the [Addressee] feature in tripartition languages within feature geometry and not to argue against binary features. In fact, binary features can be used to account for the phenomena discussed below.

6.4.1 Suprasentential constituents

One area of grammar that requires the [Addressee] specification is suprasentential constituents. As will be clear, these constituents consist of components of the discourse

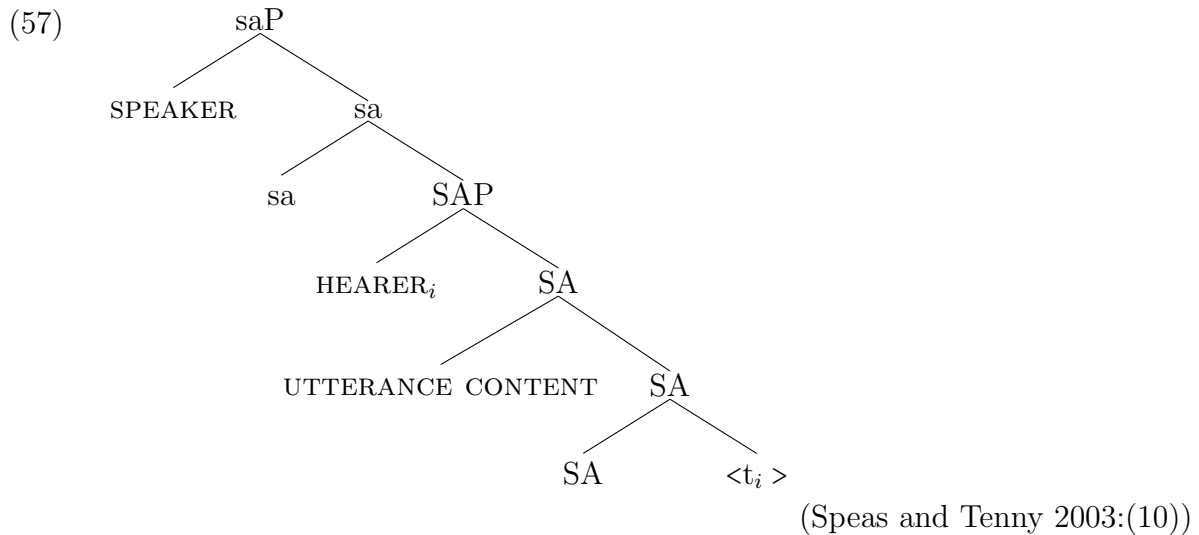
context including the speaker and the addressee. If we restrict ourselves to the geometric representation of person, the [Addressee] feature is essential in order to have an exclusive representation of the addressee in these constituents. I discuss below one such proposed constituent and its evidence from Slavey and Basque, both of which are tripartition languages with no morphological clusivity distinction.²³

In order to account for discourse-related phenomena, there have been a number of proposals for (often implicit) syntactic constituents above the propositional level or CP (Speas and Tenny 2003; Tenny 2006; Miyagawa 2012, 2017; Haegeman and Hill 2013; Heim et al. 2014; Thoma 2016; Wiltschko and Heim 2016; Wiltschko 2017 among others). One such constituent is Speech Act Phrase (SAP) proposed by Speas and Tenny (2003) (see Rizzi 1997; Cinque 1999; Ambar 2003 for similar work). As with Larson’s (1988) VP shells, the SAP also has a shell structure as in (56).



The UTTERANCE CONTENT represents the sentence uttered (CP), the SPEAKER is the agent of the speech act and the HEARER is the recipient of the speech act. The Speech Act head is often null but can be realized as a discourse particle (Tenny 2006). In the same way as Dative Shift proposed by Larson (1988), the recipient (=HEARER) can be promoted to a position where it c-commands the theme (=UTTERANCE CONTENT) as shown in (57). Speas and Tenny (2003) claim this is the structure for interrogative sentences as “it is the HEARER who possesses the knowledge relevant to evaluating the UTTERANCE CONTENT.”

²³As discussed in the previous sections, the [Addressee] specification is required in quadripartition languages in the geometric representation of person; however, the three-way contrast in tripartition languages does not require the [Addressee] feature. Therefore, it is crucial to examine tripartition languages without a morphological clusivity distinction in order to show the underlying specification of [Addressee].



Even though the structure in (57) was originally proposed for the interrogative clause type, structure where the HEARER *c*-commands the UTTERANCE CONTENT by default is adopted by Miyagawa (2012, 2017) in order to account for Basque allocutive agreement (discussed below) and Japanese politeness marking.

6.4.1.1 Referential patterns of Slavey pronominals

The Speech Act Phrase and renditions thereof are used to account for a variety of discourse-related phenomena. Let us consider some cases where the HEARER is especially crucial as it is relevant for our current purposes. In Slavey (a tripartition language; Northern Athapaskan), as reported by Rice (1986), personal pronominals are interpreted relative to the linguistic contexts in which they appear.

(58) *Slavey*²⁴

- a. w'ilada sets'é ?anet'i yífle hédesj
 again 1SG.to 2SG.come NEG 1SGSU.tell.3SGO
 'I told him not to visit me again.': (Lit.) I told him 'you' don't visit me again
- b. Simon rásereyineht'u hadi
 S 2SGSU.hit.1SGO 3SGSU.say
 'Simon_i said that you hit him_i.': (Lit.) Simon said that you hit 'me'.
 (Rice 1986:(19),(29); cited in Speas and Tenny 2003:(18),(19))

²⁴The specific name of the variety is Sahtugot'ine Yati (K'ashogot'ine [Fort Good Hope variety]; Keren Rice p.c.).

The embedded 2P subject in (58a) is interpreted not as the addressee but as coreferential with the matrix object. In other words, it is interpreted in direct speech (i.e., I told him, ‘Don’t visit me again.’). The embedded 2P subject in (58b), on the other hand, is interpreted as the addressee of the speech context. However, the entire embedded clause cannot be interpreted in indirect speech since the embedded 1P object is interpreted as referring to the matrix subject (i.e., *Simon*) and not to the speaker.

Speas and Tenny (2003) propose an account for the Slavey pattern in (58) using the Speech Act Phrase. Their idea is that Slavey 1P pronominal is bound by some representation of SPEAKER that is the closest and Slavey 2P pronominal is bound by some representation of HEARER that is most local. The binding pattern for (58) is shown in (59) in the respective order.

- (59) a. $[\text{saP SPEAKER}_i \text{ HEARER}_j [\text{CP } I_i \text{ told him}_k [\text{CP you}_k \text{ not visit me}_i]]]$
- speaker*
hearer
-
- b. $[\text{saP SPEAKER}_i \text{ HEARER}_j [\text{CP Simon}_k \text{ said } [\text{CP you}_j \text{ hit me}_k]]]$
- speaker*
-
- (modified²⁵—Speas and Tenny 2003:(21))

Assuming that direct discourse verbs (or verbs of reporting) such as *tell* and *say* assign their own discourse roles within the reported context to their arguments, the matrix subject in (58) is the speaker of the reported context, and the matrix object in (58a) is the hearer of the same context. The 2P pronominal in Slavey is coreferential with the closest HEARER—the matrix object in (58a) and the addressee of the speech context in (58b). 1P pronominal is coreferential with the closest SPEAKER—the matrix subject in both (58a) and (58b), which in turn refers to the SPEAKER of the speech context in (58a). Therefore, having a representation of the addressee (i.e., HEARER) in the syntactic structure is instrumental in explaining the referential patterns of Slavey pronominals.

6.4.1.2 Basque allocutive agreement

Another place where a syntactic representation of the addressee is crucial is agreement controlled by the addressee. Miyagawa (2012) provides an account of what is called allocutive agreement in Souletin, an eastern dialect of Basque (a tripartition STRONG PCC

²⁵There is an error in the representation of (59b) in the original paper, which is rectified here.

language). In addition to regular agreement with arguments within the sentence, there is agreement with the features of the addressee—namely, their gender and social status. Four example sentences which are truth-conditionally equivalent but differ contextually are provided in (60).

(60) *Basque (Souletin)*

a. *To a male friend*

Pettek lan egin dik.
Peter.ERG work.ABS do.PERF AUX-3SG.ABS-**2SG.M-ALLOC**-3SG.ERG

b. *To a female friend*

Pettek lan egin din.
Peter.ERG work.ABS do.PERF AUX-3SG.ABS-**2SG.F-ALLOC**-3SG.ERG

c. *To someone higher in status*

Pettek lan egin dizü.
Peter.ERG work.ABS do.PERF AUX-3SG.ABS-**2SG.FML-ALLOC**-3SG.ERG

d. *To more than one person*

Pettek lan egin du.
Peter.ERG work.ABS do.PERF AUX-3SG.ABS-3SG.ERG

‘Peter worked.’

(Oyharçabal 1993:(6); cited in Miyagawa 2012:(5))

The sentences in (60a,b) are used in casual speech to a male addressee or a female addressee, respectively. The sentence in (60c) is used to address someone in a socially higher status in a formal setting. When multiple people are addressed, no allocutive agreement occurs as shown in (60d). Miyagawa (2012, 2017) analyzes this agreement pattern as involving the Speech Act projection. In his analysis, an allocutive probe is borne by the C head, and when this probe is not satisfied by a 2P argument within the CP,²⁶ it undergoes successive cyclic head-movement to the highest *sa* head where it c-commands the HEARER and establishes an Agree relation with it as shown in (61).

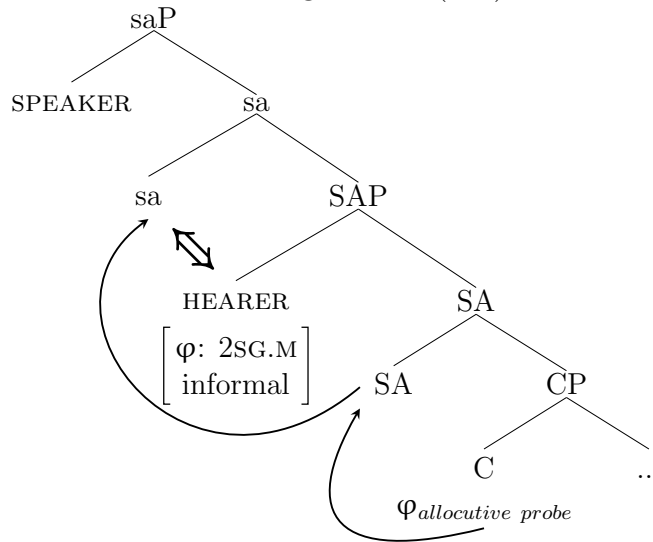
²⁶2P agreement and allocutive agreement are in complementary distribution (Oyharçabal 1993; Miyagawa 2012).

(i) a. (Nik hi) ikusi haut.
1SG.ERG 2SG.ABS see.PERF AUX-2SG.ABS-1SG.ERG
‘I saw you.’

b. (Zuek ni) ikusi naizue.
2PL.ERG 1SG.ABS see.PERF AUX-1SG.ABS-2PL.ERG
‘You saw me.’

(Miyagawa 2012:(6))

(61) Masculine allocutive agreement (60a)



(Miyagawa 2012:(13))

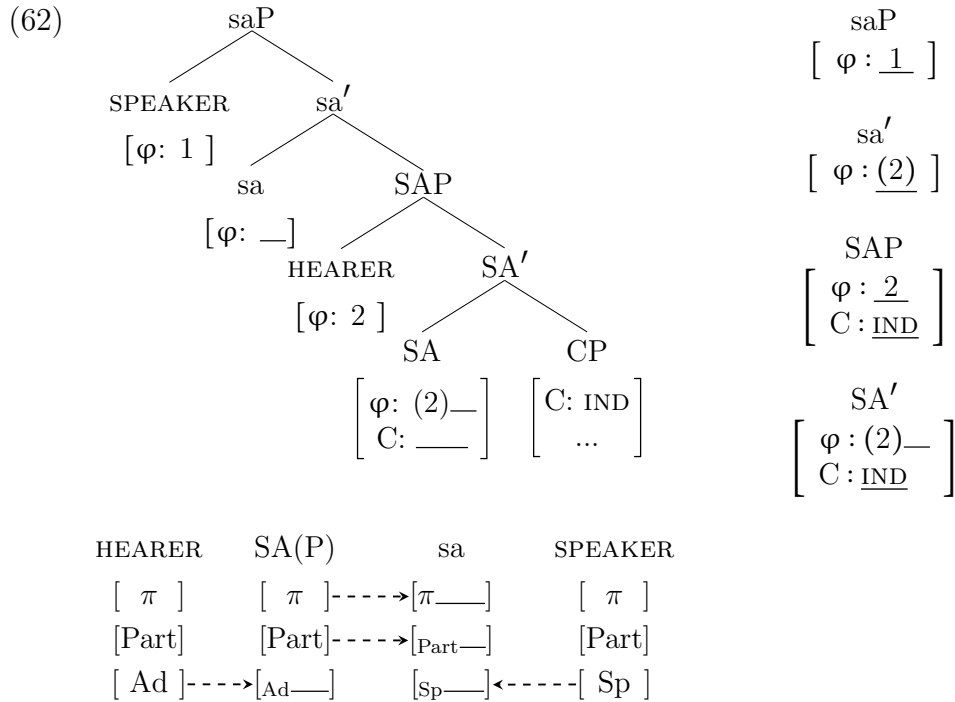
Miyagawa (2012) extends this analysis to Japanese politeness marking, which is dependent on the social distance between the speaker and the addressee. Therefore, positing an implicit 2P argument is necessary for agreement that involves properties of the addressee that cannot be extracted from within the propositional domain of the syntactic structure.

6.4.1.3 Speech Act Phrase and articulated person features

Having established that the Speech Act projection with an implicit representation of the addressee is necessary to account for certain discourse-related syntactic phenomena, let us consider the features involved in this suprasentential constituent. Assuming that SAP has selectional properties like any other syntactic projection, the SA head must select features of the HEARER and must be able to differentiate the HEARER from the SPEAKER. Setting aside the binary features, in order to select the addressee to the exclusion of the speaker in the articulated person feature system, the [Addressee] feature is necessary. If the [Addressee] specification is missing, selecting [Participant] will allow either the speaker (1P) or the addressee (2P) to be the selectee. Thus, it is impossible to single out the addressee. However, if the [Addressee] feature is available, we can simply select

The sentences in (i) already contain a 2P argument, which is evident from the agreement on the auxiliary, and allocutive agreement cannot be added to them.

this feature. If we extend the structure-building system (i.e. Valuation-based Merge) proposed in Chapter 3 to SAP, it will look as in (62).²⁷



As shown in (62), if the SA head carries a partially valued φ -feature with the [Addressee] value missing, the only element that can merge with the intermediate projection of SA is 2P given Val-Merge, which requires transmission of some feature value between two syntactic objects merged (Section 3.1.4). The top layer of speech act phrase (saP) is built using the unvalued φ -feature complex with a slot for [Speaker]. The sa head merge with SAP to give $[\pi]$ and [Participant] values, and the SPEAKER is merged to provide the [Speaker] value. In the case of Basque allocutive agreement, additional transmission of gender values (i.e., [Masculine], [Feminine], and [Neuter]) explains the four variants, the auxiliary head-moves to SA and realizes the values received from the HEARER. If the auxiliary already has feature values received from a 2P argument within the thematic domain, the feature values of the HEARER will simply be ignored as they will be identical. The four-way contrast in (60) is achieved by the three gender values in addition to their absence; [Masculine] is realized as 2P masculine, [Feminine] is realized as 2P feminine, [Neuter] (borne by individuals in a higher social status) is realized as 2P formal/neutral, and the lack of gender value (2P plural) is realized as null. As 2P plural in Basque lacks a gender contrast, it is reasonable to assume that a group of individuals is not specified for gender. I dispense with the number feature in the Speech Act projection as

²⁷‘2’ indicates that the element is specified for [Addressee]; ‘(2)’ represents [Participant] specification without the [Addressee] value.

is implicit in (62), and this is motivated in part by the fact that 2P plural agreement in the thematic domain is not null in Basque; the number feature actively participates in the valuation process within the propositional level, which is why we see agreement with a 2P plural argument. The lack of number value in the Speech Act Phrase allows us to make a distinction between overt agreement with a 2P plural argument and null allocutive agreement with a group of addressees. In fact, the valuation system shown in (62) cannot successfully ensure the representations of discourse participants (i.e., SPEAKER and HEARER) be placed in appropriate positions if the number feature is involved. If the unvalued φ -feature on SA has a number slot, it is impossible to restrict its specifier to 2P as any person can potentially provide a number value.

To bring us back to the main point of this section, if we consider the Speech Act Phrase to be part of the syntactic derivation, the [Addressee] specification is required to exclusively select a representation of the addressee within the articulated person feature system. It should be noted that this argument stands regardless of the relative positions of the SPEAKER and the HEARER so long as a representation of the addressee is needed somewhere within the extended projection. As I have shown above, some representation of the addressee is required to account the referential patterns of Slavey pronominals as well as for Basque allocutive agreement. Both of these languages have a tripartite person system, and as has previously been argued by McGinnis (2005), they are expected to lack the [Addressee] specification. However, once we carefully consider discourse-related phenomena, it becomes apparent that we need a way to single out a representation of the addressee, for which the [Addressee] specification is essential. Note, however, that this does not preclude the option of using binary features as each person is uniquely specified (e.g., 2P [-author, +participant]). In the following section, I show that a particular type of syncretism found in tripartition languages cannot be explained either by simple binary features or articulated person features without [Addressee]. The only person representation that explains this syncretism is articulated person features with the [Addressee] specification, and this provides another piece of evidence for the availability of [Addressee] in tripartition languages.

6.4.2 1-3 syncretism in tripartition languages

Section 6.3.2 discusses syncretic patterns in quadripartition languages and shows feature geometry is a tenable featural representation of person for explaining different types of morphological neutralization involving grammatical person. This section turns to tripartition languages and argues that 1P-3P syncretism in these languages can only

be explained by the articulated person features with the [Addressee] specification—the features used in the Incremental Valuation analysis of the PCC proposed in this thesis. This serves as additional evidence for the necessity of [Addressee] in certain tripartition languages.

In languages with a three-way morphological contrast of person, there are only four possible syncretisms: 1P-2P (participant syncretism), 2P-3P (non-author syncretism), 1P-3P (non-addressee syncretism), and 1P-2P-3P (total syncretism).^{28,29} Both binary features and articulated features rather easily explain the participant syncretism ([+Participant] vs. [−Participant] or $[\pi]$ -[Part] vs. $[\pi]$) and the non-author syncretism ([+Author] vs. [−Author] or $[\pi]$ -[Part]-[Sp] vs. $[\pi]$); however, as will be clear below, the non-addressee syncretism (1P-3P) strongly favors the geometric representation of person with [Addressee]. Although the non-addressee syncretism is rare, it is attested in familiar tripartition languages such as Spanish and German as shown in (63). Note that the PCC is observed in Spanish as well as in a variety of German (specifically, Swiss German: Bonet 1991; Anagnostopoulou 2008). As is clear in (63), in the singular paradigm, there is a single form for 1P and 3P with a separate form for 2P in Spanish present subjunctive, imperfect indicative, and imperfect subjunctive, and in German preterite.

(63) Examples of 1SG-3SG syncretism in tripartition languages

a. *Spanish* tomar ‘to take’

| | <u>Present subjunctive</u> | <u>Imperfect indicative</u> | <u>Imperfect subjunctive</u> |
|-----|----------------------------|-----------------------------|------------------------------|
| 1SG | tome | tomaba | tomase |
| 2SG | tomes | tomabas | tomases |
| 3SG | | | |

(Green 1988; cited in Baerman 2002)

b. *German* nehmen ‘to take’

Preterite

| | |
|-----|--------|
| 1SG | nahm |
| 2SG | nahmst |
| 3SG | |

(Baerman 2002)

²⁸I disregard gender and number features here as they will complicate the discussion; however, syncretism across gender and number is observed in world languages. I will leave this empirical fact to be examined in future research.

²⁹All of these syncretisms are attested in tripartition languages (see Cysouw 2009:39-54 for a list of languages in which these syncretic/homophonous paradigms are found). The participant syncretism is found in English present indicative (e.g., *(I/you) take* vs. *(he/she) takes*). The non-author syncretism is found in Irish present indicative (e.g., *molaim* ‘I praise’ vs. *molann* ‘you/he/she praise(s)’; Bammesberger 1982; Baerman 2002). The total syncretism is observed in English past indicative (e.g., *(I/you/he/she) took*).

As is the case with syncretisms involving 1P inclusive and 3P in quadripartition languages, simple binary person feature combinations cannot explain 1P-3P syncretisms as these two persons share no common features. The binary feature specifications of a tripartite person system are repeated in (64).³⁰

(64) Binary feature representation of tripartite person systems

| 1ST PERSON | 2ND PERSON | 3RD PERSON |
|----------------|----------------|----------------|
| [+Participant] | [+Participant] | [−Participant] |
| [+Author] | [−Author] | [−Author] |

(Halle 1997; Nevins 2007; Harbour 2016; cf. Pancheva and Zubizarreta 2017)

Therefore, the binary features cannot explain the 1P-3P syncretism as there is no feature that binds them together. For the same reason, the total syncretism cannot be explained with the simple binary feature combinations. Note that if we assume a root person node π that can be spelled out independently as discussed in Section 6.3.2.3, we can in fact explain the 1P-3P syncretism (i.e., $[-\text{auth}, +\text{part}] \Leftrightarrow 2; \pi \Leftrightarrow 1/3$). However, as pointed out in the section, this feature system is partially privative and also makes false predictions regarding conflation patterns.

Let us now turn to feature geometry without [Addressee], the featural representation of person that McGinnis (2005) proposes for tripartition languages, repeated in (65).

(65) Articulated person features without [Addressee]

| 1ST PERSON | 2ND PERSON | 3RD PERSON |
|---|---------------------------------|------------|
| [π] [Participant] [Speaker] | [π] [Participant] | [π] |

(Béjar 2003; McGinnis 2005; Béjar and Rezac 2009; cf. McGinnis 2017)

With these feature specifications, the only common feature between 1P and 3P is the [π] feature. Therefore, the syncretic form must be sensitive to this feature. In order to make 2P distinct from the other persons, the [Participant] feature must be involved in its vocabulary insertion process. However, since 1P is also specified as [Participant], it will necessarily be realized as syncretic with 2P and not with 3P. Therefore, the representation in (65) cannot explain the non-addressee syncretism in tripartition languages.

³⁰3P seems to be ambiguously specified for [author] in Harbour’s (2016) system and is underspecified for the same feature in Cowper and Hall’s (2017) system. However, the following point that the 1P-3P syncretism cannot be derived with the binary features still stands.

Among the feature representations of person that we are considering, only the geometric representation with [Addressee] (repeated in (66)) can explain all the possible syncretisms in tripartition languages.

(66) Articulated person features with [Addressee]

| 1ST PERSON | 2ND PERSON | 3RD PERSON |
|--|--|------------|
| $\begin{array}{c} [\pi] \\ \\ [\text{Participant}] \\ \\ [\text{Speaker}] \end{array}$ | $\begin{array}{c} [\pi] \\ \\ [\text{Participant}] \\ \\ [\text{Addressee}] \end{array}$ | $[\pi]$ |

With the representation in (66), we can devise the vocabulary insertion rules in (67) to account for the non-addressee syncretism. The transition from the underlying tripartition to the surface non-addressee syncretism is schematized in (68).

(67) Vocabulary insertion rules for 1-3 syncretism

$$\begin{array}{c} [\pi] \\ | \\ [\text{Part}] \\ | \\ [\text{Ad}] \end{array} \Leftrightarrow A \quad (2) \qquad [\pi] \Leftrightarrow B \quad (1/3)$$

(68) Underlying tripartition \rightarrow surface 1-3 syncretism

| | 2 | 1 | 3 |
|--------|--|--|---------|
| INPUT | $\begin{array}{c} [\pi] \\ \\ [\text{Part}] \\ \\ [\text{Ad}] \end{array}$ | $\begin{array}{c} [\pi] \\ \\ [\text{Part}] \\ \\ [\text{Sp}] \end{array}$ | $[\pi]$ |
| OUTPUT | A | B | |

As is clear in (68), because of the [Addressee] specification, 2P can be uniquely referenced, which makes it possible to have the syncretic form (B) sensitive minimally to $[\pi]$. Therefore, the geometric representation of person with [Addressee] successfully accounts for the non-addressee syncretism.³¹ The other syncretic patterns can similarly be accounted for with the representation of tripartition in (66), as shown in (69).

³¹Ackema and Neeleman (2013) achieves the same syncretism using impoverishment rules. Their feature specifications of three persons are similar to the ones proposed here in that 2P is distinguished from 1P with an extra feature [Distal].

(69) a. Participant (1-2) syncretism

| | | | | |
|-----|---|--|--|---|
| 1SG | <div style="border: 1px solid black; width: 100px; height: 100px; display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="border-bottom: 1px solid black; width: 80%; height: 30px;"></div> <div style="width: 80%; height: 30px;"></div> </div> | 1 | 2 | 3 |
| 2SG | | <div style="border: 1px dashed blue; padding: 2px;">[π]</div> | <div style="border: 1px dashed blue; padding: 2px;">[π]</div> | <div style="border: 1px dashed green; padding: 2px;">[π]</div> |
| 3SG | | [Part] | [Part] | |
| | | [Sp] | [Ad] | |

b. Non-author (2-3) syncretism

| | | | |
|---|--|---|---|
| <div style="border: 1px solid black; width: 100px; height: 100px; display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="border-bottom: 1px solid black; width: 80%; height: 30px;"></div> <div style="width: 80%; height: 30px;"></div> </div> | 1 | 2 | 3 |
| | <div style="border: 1px dashed blue; padding: 2px;">[π]</div> | <div style="border: 1px dashed green; padding: 2px;">[π]</div> | <div style="border: 1px dashed green; padding: 2px;">[π]</div> |
| | [Part] | [Part] | |
| | [Sp] | [Ad] | |

c. Total (1-2-3) syncretism

| | | | |
|---|--|--|--|
| <div style="border: 1px solid black; width: 100px; height: 100px; display: flex; flex-direction: column; align-items: center; justify-content: center;"> <div style="border-bottom: 1px solid black; width: 80%; height: 30px;"></div> <div style="width: 80%; height: 30px;"></div> </div> | 1 | 2 | 3 |
| | <div style="border: 1px dashed blue; padding: 2px;">[π]</div> | <div style="border: 1px dashed blue; padding: 2px;">[π]</div> | <div style="border: 1px dashed blue; padding: 2px;">[π]</div> |
| | [Part] | [Part] | |
| | [Sp] | [Ad] | |

The participant syncretism can be explained if we have the syncretic form sensitive to $[\pi]$ and [Participant] as in (69a). The 1P form in the non-author syncretism can be featurally distinguished from the other persons by being sensitive to [Speaker] as in (69b). We can attribute the total syncretism to the only form being sensitive to the common feature among the three (i.e., $[\pi]$) as shown in (69c). As such, the articulated person features with the [Addressee] specification account for all the possible and attested syncretisms in tripartition languages while other representations (i.e, the binary feature combinations and the articulated features without [Addressee]) fail to explain the non-addressee syncretism.

Finally, the discussion of syncretisms in tripartition languages in this section has focused on the singular paradigm. The non-addressee (1-3) syncretism is in fact observed in the plural paradigm as well (e.g., German preterite *nehmen* ‘(we/they) took’; Baerman 2002). As argued in Section 6.3.1.2, the double specification of [Speaker] and [Addressee], as used for 1P inclusive in quadripartition languages, is not possible in tripartition languages because of the atypical meaning associated with the [Addressee] specification (i.e., exclusion of the speaker). Reference sets that include the speaker, regardless of whether they include the addressee, will simply be specified as [Speaker]. As such, the vocabulary insertion rules in (67) explain the 1P-3P syncretism in the plural as well (although number features, [SG] and [PL], are additionally required to make the number distinction).

6.5 Chapter summary

This chapter has argued that feature geometry is as tenable a featural representation of grammatical person as the traditional binary features and that the [Addressee] feature is not only unproblematic with the proposed syntactic system but even necessary in tripartition languages. I have shown that the additional [Addressee] specification for second person in tripartition languages does not predict a wrong conflation pattern given an associated meaning with the feature (i.e., exclusion of the speaker) generated by the markedness competition between the bare [Participant] feature and the additional specification of [Addressee]. Even with the addition of the same feature, we do not predict the so-called *you*-FIRST PCC with the Incremental Valuation analysis of the PCC. This chapter also proposed solutions to the problems with feature geometry raised by Harbour (2016) and Cowper and Hall (2017, 2019). I have suggested that the author bipartition, which is attested but not predicted by feature geometry, can be explained if we reinterpret the universal application of feature geometry and allow the [Speaker] feature to be available without its superordinate feature, [Participant]. I have also argued that the absence of addressee tripartition languages can be attributed to an ontological dependency between the [Speaker] and [Addressee] features that is not structurally represented. Accordingly, unlike previous claims, all the attested conflation patterns are explained using feature geometry without predicting an unattested one. I have also examined how well feature geometry and binary feature combinations explain person syncretism in quadripartition languages. It was shown that feature geometry leaves unexplained a set of syncretic patterns that are likely candidates of accidental homophony whereas logical groupings (i.e., participant vs. non-participant) must be left for chance with simple binary feature combinations offered by Harbour's (2016) and Cowper and Hall's (2017; 2019) accounts of possible conflation patterns. I have explored a possibility of incorporating privativity into the binary feature system. As I have shown, this approach explains most syncretic patterns; however, I pointed out that this analysis in turn predicts unattested conflation patterns. Having established that feature geometry is as plausible a representation of grammatical person as the traditional binary features for explaining morphological neutralization phenomena, I showed that in order to account for certain discourse-related phenomena, it is essential to have an exclusive representation of the addressee in the syntactic structure. With the articulated/geometric feature system, the [Addressee] feature is indispensable to isolate 2P. The 1SG-3SG syncretism observed in tripartition languages was also provided as evidence for the [Addressee] specification as the syncretism can only be explained if 2P is featurally distinguished from 1P. In addi-

tion, this particular syncretic pattern constituted counter-evidence for the simple binary feature combinations because 1P and 3P cannot be featurally tied together with the representation of person. As such, there is ample evidence to support the features utilized in the Incremental Valuation analysis of the PCC proposed in this thesis. The following chapter discusses some residual problems as well as implications of the proposed syntactic mechanism and feature system and concludes the thesis.

7

Discussions and conclusions

7.1 Summary of the proposed syntactic system

This thesis proposes a novel syntactic mechanism, which I have called Incremental Valuation, that incorporates two previous proposals: a constrained version of Merge and articulated person features. Although the proposed mechanism is inspired by previously proposed syntactic machinery, there are a number of original revisions to the existing theories. The proposed version of Merge (Val-Merge) is not only constrained by feature valuation but is also deterministic of the direction of projection. This allows a particular head to project until all of its unvalued features are exhausted and makes it clear how phrases are formed in the syntax. As Val-Merge is always between two syntactic objects that are featurally asymmetric, it does not run into a projection problem of [XP XP] in Labelling Theory (Chomsky 2013, 2015). Articulated person features are the central part of Cyclic Agree (Béjar 2003; Béjar and Rezac 2009). An advantage of Cyclic Agree is that one probe can enter into an Agree relation with two arguments. However, Cyclic Agree was originally proposed for direct/inverse patterns, where we obtain a special marker in certain contexts instead of ungrammaticality, so it is not designed to account for ungrammaticality. Incremental Valuation retains the advantage of Cyclic Agree but, as I have shown, still explains ungrammaticality induced by the PCC. Unlike previous accounts of the PCC, which rely on the interface to rule out illicit structures, the Incremental Valuation analysis explains ungrammaticality in terms of non-generability, and this eliminates the need for interface conditions such as the Person Licensing Condition and uninterpretable features. In defending articulated person features, I have also shown that these features can capture not only syntactic restrictions like the PCC but also morphological neutralization phenomena such as person conflation and person syncretism. I discuss below some of the remaining questions.

7.2 Discussions

There are a number of questions to be answered and interesting research avenues to pursue in the future. I discuss here some linguistic patterns that I have not discussed and what the present proposal means for some other existing theories.

7.2.1 Empirical puzzles

Composition of an unvalued φ -feature: more predicted patterns?

As presented in Chapter 5, the Incremental Valuation analysis of different types of PCC uses unvalued φ -features of different degrees of articulation: $[\pi______] - [\text{Part}______]$ for the strong PCC and the super-strong PCC, $[\pi______] - [\text{Part}______] - [\text{Sp}______]$ for the ultrastrong PCC, and $[\pi______] - [\text{Part}______] - [\text{Sp}______], [\text{Ad}______]$ for the weak PCC. Logically speaking, there are other possibilities, and these predict more PCC patterns than is already discussed. One possibility is $[\pi______] - [\text{Part}______] - [\text{Ad}______]$, this predicts a pattern that has not been attested to my knowledge. The pattern is similar to the ULTRA-STRONG PCC, the only difference being that $2>1$ is acceptable while $1>2$ is not ($1>3$, $*1>2$, $2>1$, $2>3$, $*3>1$, $*3>2$, $3>3$). The $1>2$ combination is ruled out as the 2P DO will saturate the unvalued φ -feature, making it impossible for the 1P IO to enter the derivation. The $2>1$ combination is grammatical as the [Addressee] value can be given to the unvalued φ -feature after a 1P DO has valued it up to [Participant]. Although the absence of a certain pattern is impossible to prove, an explanation for its scarcity may be required. I tentatively suggest that this is also due to the ontological dependency of [Addressee] on [Speaker] (see Section 6.3.1.3).

Another possibility is $[\pi______] - [\text{Sp}______]$. This composition of an unvalued φ -feature predicts an unattested pattern similar to the *me*-FIRST PCC. 1P IO is possible because of $[\text{Sp}______]$ ($1>2$, $1>3$). 1P DO is impossible as it exhausts the unvalued φ -feature ($*2>1$, $*3>1$). The $2>3\text{IA}$ and $3\text{ANIM}>3\text{IA}$ combinations are permitted as the IO can contribute a $[\pi]$ value to the unvalued feature. What deviates from the *me*-FIRST PCC is that the $3>2$ is impossible. This pattern is unattested, but I suggest that this is not a possible composition of an unvalued φ -feature as it bypasses the feature that the [Speaker] feature is dependent on, namely the [Participant] feature. At least, it seems reasonable to assume that the dependency relations among the person features cannot be defied. Note, however, that this is the form of an unvalued φ -feature expected in author-bipartition languages as these languages lack the [Participant] feature to begin with (see Section 6.3.1.3). An articulated unvalued φ -feature would potentially be useful in explaining the direct/inverse pattern in Sanapaná (direct: $1>[2/3]$, inverse: $[2/3]>1$; Gomes 2013:304-5).

Direct/inverse systems

This thesis has focused on the PCC effects between two concurrent internal arguments and accounted for the patterns in terms of featural interaction between the two arguments. Similarities have been drawn between the PCC and direct/inverse patterns by a number of researchers (Anagnostopoulou 2005; Bianchi 2006; Lochbihler 2007, 2012; Stegovec 2019 among others). I have not discussed person effects between an external argument and an internal argument; however, there have been a number of person effects observed including the direct/inverse systems in some languages such as Algonquian languages. The challenge in extending the proposed syntactic machinery to the direct/inverse patterns is in the fact that unlike the PCC, no ungrammaticality is obtained and instead there is special marking for certain person combinations. I tentatively suggest that the head movement of V to v creates a context where there are two unvalued φ -features on v and that this explains the absence of ungrammaticality in direct/inverse systems. The proposed Merge operation does not directly value the heads but instead projects a valued counterpart of the feature that triggered the Merge operation.¹ This means that the φ -feature on V stays unvalued even after a direct object Merged with the verbal head. Assuming that v also has an unvalued φ -feature, the head-movement of V creates a complex head ($V+v$) with two unvalued φ -features. At this point, the system is essentially the same as Cyclic Agree (Béjar and Rezac 2009). In a direct context (e.g., 1E-A>3I-A), only one of the unvalued φ -feature is used just as in the case of PCC-compliant sentences ([#] valued by 3I-A; [π], [Participant], and [Speaker] valued by 1E-A; see Section 4.2.1). In an inverse context (e.g., 3E-A>1I-A), the internal argument exhausts one unvalued φ -feature, forcing the external argument to value the other unvalued φ -feature, and these two φ -features valued to different degrees result in the verb with an inverse marker. One potential advantage of this application of Incremental Valuation to direct/inverse systems is the fact that an independent mechanism of adding an extra probe for the second cycle (Béjar and Rezac 2009:Sec.4) is not necessary. Although this analysis seems promising, I leave the details to be worked out.

Another type of PCC “repair”: bare strong pronouns

There is one more type of PCC “repair” identified in the literature. As shown in (1a,b), the PCC is observed in a ditransitive sentence with two clitics. In order to repair the PCC in Greek, (bare) strong pronouns are used to replace one of the clitics, as shown

¹There needs to be an independent system for supplying the unvalued features on terminal nodes with values in a trickling-down fashion before the structure is linearized.

in (1c). However, this repair's distribution is restricted as in the case of \grave{a} -phrase repair in French.

(1) *Greek*

- a. Tha mu to stilune. (1 > 3)
 FUT 1SG.GEN 3SG.ACC.N send.3PL
 'They will send it to me.'
- b. *Tha tu me stilune. (*3 > 1)
 FUT 3SG.GEN.N 1SG.ACC send.3PL
 (Intended) 'They will send me to him.'
- c. Tu sistisan emena. (3 > 1[strong])
 3SG.GEN introduced.3PL me.ACC
 'They introduced me to him.'
- d. *Me sistisan ekinu/aftu. (*3[strong] > 1)
 1SG.ACC introduced.3PL him/him.GEN
 (Intended) 'They introduced me to him.'
- (Anagnostopoulou 2003:252,312)

While replacing the 1P THEME clitic with a strong pronoun as in (1c) is possible, replacing the 3P *goal* with a strong pronoun is not. The Incremental Valuation analysis of the PCC can explain this pattern if the phi-features of strong pronouns are concealed in the same way as \acute{a} -phrases in French. The only available ditransitive construction in Greek is the applicative construction, where the GOAL c-commands the THEME. The person feature of a strong pronoun is concealed by some null projection such as FocusP (or Cardinaletti and Starke's 1999 Σ P), and if the Focus head itself is specified as 3P inanimate as in the case of the preposition \acute{a} , the 1P strong pronoun in (1c) is essentially 3P inanimate as far as Appl is concerned. This turns the argument combination 3>1 into 3>3, which makes the repair in (1c) possible. However, concealing the person feature of the 3P GOAL argument as in (1d) does not change the illicit person combination. The 1P THEME argument will still exhaust the ϕ -feature of Appl, preventing the 3P GOAL from entering the derivation. Although this analysis is promising, the phi-specification of the null head must be sufficiently motivated, which I leave to future investigation.

7.2.2 Theoretical implications

C-selection and s-selection

The features proposed in Chapter 3 do not include any lexical-category features. Lexical categories are instead represented as feature values (e.g., [$\sqrt{}$: N]). This makes it impossible

in the proposed syntactic system to select for a certain lexical category. Although the proposed feature valuation mechanism allows a feature value to be transmitted between two features of the same type (e.g., from $[\sqrt{\text{ : N]}]$ to $[\sqrt{\text{ : —]}]$, the operation is indifferent to what feature value is transmitted. Thus, c(ategorial)-selection is not possible for lexical categories. However, I have employed functional-category features such as $[C: \text{val}]$, $[D: \text{val}]$, $[v: \text{val}]$, and $[P: \text{val}]$. Therefore, c-selection for functional categories is available in the system. I do not provide specific motivation for this move, and in fact, the need for c-selection has been called into question (Pesetsky (1982, 1991)). He claims that c-selection can be reduced to s-selection with the addition of Case assigning properties of predicates. For example, *ask* and *inquire* both semantically select (or s-select) for a question. While *ask* can take both a CP complement and an NP complement that is a concealed question, *inquire* can only take a CP complement, as shown in (2) and (3).

(2) a. I asked John $[_{CP}$ what the time was].

b. I asked John $[_{NP}$ the time].

(3) a. Bill inquired $[_{CP}$ how old I was].

b. *Bill inquired $[_{NP}$ my age].

(Pesetsky 1982:189(282,3),183(268); cf. Grimshaw 1979)

While the difference can be attributed to the c-selectional properties of the two predicates—that is, *ask* $[+\left\{ \begin{smallmatrix} CP \\ NP \end{smallmatrix} \right\}]$ and *inquire* $[+_{-}CP]$ (cf. Grimshaw 1979), there is a complication with this type of analysis. As Grimshaw (1979, 1981) observes, there are no question-selecting verbs in English that take an NP but not a CP. This is a puzzling state of affairs if c-selection is a property of predicates independent of s-selection. Pesetsky (1982) instead accounts for differences like the one between *ask* and *inquire* using the Case-assigning ability of the predicates. In essence, verbs like *ask* can assign accusative Case to their complement NP while verbs like *inquire* cannot. Therefore, an NP complement is only compatible with the former. CPs do not need to be Case-licensed, so they can appear with either types of verbs.

There are other predicates whose selectional properties seem to be explained by s-selection alone. Pesetsky (1991:9-10) and Cowper (1992:61-4) discuss one such predicate, *put*. The verb *put* semantically selects for a locational/directional expression,² but it seems to be indifferent to the category of the expression. The selected expression can be realized as a prepositional phrase as in (4a), an adjectival phrase as in (4b), an adverbial

²The expression selected by *put* can also be related to the orientation of the object that is placed (e.g., *Alex put the book [face down/upside down/sideways]*).

as in (4c), or a *wh*-clause as in (4d). However, the locational expression, regardless of its category, is obligatory as the sentence becomes unacceptable with an expression of a wrong type as in (4e), or in the absence of the expression, as shown in (4f).

- (4) a. Bill put the book [_{PP} on the table/under the table].
 b. You have to put it [_{AP} lower], or I won't be able to reach it.
 c. Bill put the book [_{AdvP} there/away].
 d. I put the car [_{CP} where the truck had been].
 e. *Alex put the phone [at 10a.m./gently/then/when it was ringing].
 f. *Bill put the book.

(Pesetsky 1991:9(39), Cowper 1992:63(17))

The verb *put* requires a locational expression, and this selectional requirement seems to be purely semantic. This casts further doubt on the need for c-selection although this example does not falsify it.

The above discussion of c-selection and s-selection raises two questions for the proposed combinatorial system in the syntactic component. One is whether the syntactic system should allow c-selection if c-selection is in fact not needed to account for selectional patterns. The answer to this is likely no. However, we have just seen in (4) a case where only a particular category is selected. The verb *put* s-selects a locational/directional phrase, but it also selects for a nominal. For internal arguments of ditransitive sentences, I have utilized ϕ -features as a trigger of Merge. This does not restrict the category of the element being introduced into the derivation as at least in my system, V, Appl, and P are ϕ -bearing elements and potentially so are T, Adj, and C. There must be something more than just a single feature, and I suspect the explanation lies in a constellation of different factors (e.g., the element must be semantically an entity or a set of entities), and one of these could be a category feature.

The other question is whether s-selection, as in the case of (4), can be explained with the syntactic system proposed in this thesis. The answer is, the syntactic component alone cannot explain s-selection. However, I believe s-selection can be explained in terms of non-generability. Instead of characterizing s-selection as a requirement on a particular element, we can treat s-selection as a necessary consequence of the structure generated in the syntax. In the case of *put*, for example, if the syntax generates a structure with $v_{cause} + v_{become} + [P: \text{LOC}]$ (cf. Jackendoff 1990:79; van Valin and LaPolla 1997:127), this verbal complex is necessarily realized as *put* (or *place/set*). If the locational element with the feature [P: LOC] is missing in the structure, the verbal element will not be realized as *put*. It will instead be realized, for instance, as *turn* if there is a resulting state instead

or as *postpone* if there is a temporal element. Therefore, the realization of *put* is possible only when there is a locational element in the structure, and this explains the necessity of such an element. In other words, sentences without a locational phrase like the ones in (4e) and (4f) are not generable. There still needs to be further consideration given to what type of feature is used to represent the semantics of selected phrases. Assuming that all locational phrases bear [P: LOC] is essentially turning s-selection into c-selection, and this may not be desirable.

Long-distance agreement

The traditional Agree system allows for two elements at a distance to enter into an Agree relation. However, the proposed mechanism is driven by valuation upon Merge and the feature-value transmission is always local. Can we explain phenomena that involve agreement between two elements at a distance? I suggest that the answer is yes. A feature value can be projected through a succession of Merge operations. As explained in Section 3.5, a feature value can be carried up beyond phrase/phase boundaries to the root of the structure as long as there is an appropriate feature to host the value in each phrase. I believe this, in conjunction with some other operations such as covert movement, can capture many cases of long-distance agreement. However, there are analyses of long-distance agreement that do not require agreement at a distance: for example, Kučerová's (2016) proposal that there is in fact a local relation between an agreement controller and its target being dissolved in the derivation and Bobaljik's (2008) proposal that agreement is postsyntactic.

Nominal concord

The proposed system does not account for some instances of nominal concord (Norris 2014, 2017 among many others) as the features expressed in a nominal sometimes originate outside the nominal. For example, the number and gender of the second DP *una(s) pregunta(s) complicada(s)* are controlled by the number and gender of the first DP in (5).

(5) *Spanish*

- a. L-a-s pregunt-a-s son un-a-s pregunt-a-s complicad-a-s.
DEF-F-PL question-F-PL be.PL INDEF-F-PL question-F-PL complicated-F-PL
'The questions are complicated questions.'
- b. L-a pregunt-a es un-a pregunt-a complicad-a.
DEF-F question-F be.SG INDEF-F question-F-PL complicated-F
'The question is a complicated question.'

(Béjar et al. 2019:(35))

This means that the phi-features of the second nominal must stay unvalued until the first nominal enters the derivation. There must be some other mechanism to allow feature values to be transmitted downward as suggested by Béjar et al. (2019).

Case

This thesis does not discuss Case in relation to the PCC. In the proposed account of the PCC, what is crucial instead is the structural position of arguments. In this sense, I concur with Stegovec (2019) in that we can dispense with Case in the analysis of the PCC, although our proposals are vastly different. It should be noted that proposed syntactic system does not directly establish a dependency relation between a functional head and a nominal and thus, Case assignment by functional heads, whether it is a reflex of phi-valuation (Chomsky 2001), is not possible. It may still be compatible with a configurational analysis of Case assignment (Levin 2015; Levin and Preminger 2015; Kornfilt and Preminger 2015) if the operation is entirely based on the hierarchical relation between two nominals, but if some relation has to be established between two Case features, it would be a challenge for the syntactic system proposed here.

Someone drew an analogy between the proposed combinatorial system and chemistry. Chemical elements come together to share electrons to achieve a stable form. Some of these compounds might be unstable, but none of them are unreal. There are chemical compounds that do not naturally occur, but there is none that is defective. In the proposed system, syntactic elements come together in a way that is possible given the features they bear. The resulting structures might be semantically odd, but none of them are ineffable. There might be structures that are impossible to generate, but there is none that is ill-formed. It is quite intuitive for me to think of the mental grammar or linguistic competence this way. There is much work still to be done, but I hope this thesis inspires others to pursue linguistic research in this rather new non-generation framework.

8

Appendix

Elicited judgments on Slovenian

I elicited judgments for the sentences provided by Stegovec (2016) from one Slovenian speaker, which are in (A1).

(A1) Elicited judgments on Slovenian double-clitic sentences

| | | CLITIC ORDER | | | |
|-----|-----|--------------|--------------------|---------|-------|
| DAT | ACC | DAT-ACC | | ACC-DAT | |
| 1 | 3 | ✓ | (63a) | ?? | (64b) |
| 2 | 3 | ✓ | (63a) | ??/* | (64b) |
| 3 | 3 | ? | (64a) ¹ | ✓ | (64a) |
| 1 | 2 | * | (63b) | ?/✓ | (64b) |
| 2 | 1 | ✓ | (63b) | ? | (64b) |
| 3 | 1 | ??/* | (63c) | ?? | (64a) |
| 3 | 2 | ?? | (63c) | ✓ | (64a) |

(Referenced sentences in Section 5.4.2)

These judgments are quite different from those reported by Stegovec (2016) and difficult to interpret, but it should be mentioned that neither Stegovec’s (2016) optional-movement analysis nor my clitic-ordering analysis explains these judgements. Specifically, the unacceptability of 3>1 with the clitic order ACC-DAT and the acceptability of 1/2>1/2 combinations cannot be explained by Stegovec’s (2016) analysis. There is no apparent person-based ordering restriction; therefore, the proposed analysis cannot explain the judgments in (A1) either.

¹The clitic order is reversed as *mu ga* (him.DAT him.ACC).

Bibliography

- Abels, Klaus. 2012. *Phases: An essay on cyclicity in syntax*. Berlin: Walter de Gruyter.
- Ackema, Peter, and Ad Neeleman. 2013. Person features and syncretism. *Natural Language & Linguistic Theory* 31:901–950.
- Adger, David. 2003. *Core syntax: A minimalist approach*. Oxford, UK: Oxford University Press.
- Adger, David. 2010. A minimalist theory of feature structure. In *Features: Perspectives on a key notion in linguistics*, ed. Anna Kibort and Greville Corbett, 185–218. Oxford: Oxford University Press.
- Adger, David, and Daniel Harbour. 2007. Syntax and Syncretisms of the Person Case Constraint. *Syntax* 10:2–37.
- Adger, David, and Gillian Ramchand. 2003. Predication and equation. *Linguistic Inquiry* 34:325–60.
- Adger, David, and Peter Svenonius. 2011. Features in minimalist syntax. In *The Oxford Handbook of Linguistic Minimalism*, ed. Cedric Boeckx, 27–51. Oxford: Oxford University Press.
- Aissen, Judith. 1997. On the syntax of obviation. *Language* 73:705–750.
- Albizu, Pablo. 1997. Generalized Person-Case Constraint: A case for a syntax-driven inflectional morphology. *Anuario del Seminario de Filología Vasca Julio de Urquijo (ASJU, International Journal of Basque Linguistics and Philology)* XL:1–33.
- Ambar, Manuela. 2003. Wh-asymmetries. In *Asymmetry in Grammar Volume I: Syntax and semantics*, ed. Anna Maria Di Sciullo, *Linguistics Today* 57, 209–249. Philadelphia: John Benjamins.

- Anagnostopoulou, Elena. 2003. *The syntax of ditransitives: Evidence from clitics*, volume 54 of *Studies in generative grammar*. New York: Mouton de Gruyter.
- Anagnostopoulou, Elena. 2004. On clitics, feature movement and double object alternation. In *Minimality effects in syntax*, ed. Arthur Stepanov, Gisbert Fanselow, and Ralf Vogel, 15–36. New York: Mouton de Gruyter.
- Anagnostopoulou, Elena. 2005. Strong and Weak Person Restrictions: A feature checking analysis. In *Clitic and Affix Combinations: Theoretical perspectives*, ed. Lorie Heggie and Francisco Ordóñez, volume 74 of *Linguistik Aktuell/Linguistics Today*, 199–235. Philadelphia: John Benjamins.
- Anagnostopoulou, Elena. 2008. Notes on the Person Case Constraint in Germanic (with special reference to German).
- Anderson, Mona. 2007. Affectedness. In *The Blackwell Companion to Syntax*, chapter 5, 121–141. Wiley-Blackwell.
- Anderson, Stephen R. 1971. On the role of deep structure in semantic interpretation. *Foundations of Language* 7:387–396.
- Anderson, Stephen R. 1984. On representations in morphology: Case, agreement and inversion in Georgian. *Natural Language & Linguistic Theory* 2:157–218.
- Archangeli, Diana. 1988. Underspecification in phonology. *Phonology* 5:183–208.
- Ashby, William J. 1977. *Clitic inflection in French*. Amsterdam: Rodopi.
- Avery, Peter, and Keren Rice. 1989. Segment structure and coronal underspecification. *Phonology* 6:179–200.
- Baerman, Matthew. 2002. Surrey person syncretism database. URL <http://dx.doi.org/10.15126/SMG.10/2>.
- Baker, Mark. 1989. Object sharing and projection in serial verb constructions. *Linguistic Inquiry* 20:513–553.
- Baker, Mark. 2008. *The syntax of agreement and concord*. Cambridge, MA: Cambridge University Press.
- Baker, Mark C., and Nadya Vinokurova. 2010. Two modalities of case assignment: case in Sakha. *Natural Language & Linguistic Theory* 28:593–642.

- Bammesberger, Alfred. 1982. *A handbook of Irish*. Heidelberg: Carl Winter Universitätsverlag.
- Barnes, Betsy K. 1985. A functional explanation of French non-lexical datives. *Studies in Language* 9:159–195.
- Barss, Andrew, and Howard Lasnik. 1986. A note on anaphora and double objects. *Linguistic Inquiry* 17:347–354.
- Bartsch, Renate, and Theo Vennemann. 1972. The grammar of relative adjectives and comparison. *Linguistische Berichte* 20:19–32.
- Beavers, John. 2011. On affectedness. *Natural Language & Linguistic Theory* 29:335–370.
- Beck, Sigrid, and Kyle Johnson. 2004. Double objects again. *Linguistic Inquiry* 35:97–124.
- Béjar, Susana. 2003. Phi-syntax: A theory of agreement. Doctoral Dissertation, University of Toronto, Toronto, ON.
- Béjar, Susana, Arsalan Kahneyipour, Jessica Denniss, and Tomohiro Yokoyama. 2019. Number matching in binominal small clauses. In *The grammar of copulas across languages*, Oxford Studies in Theoretical Linguistics. Oxford: Oxford University Press. Chapter 5.
- Béjar, Susana, and Milan Rezac. 2003. Person licensing and the derivation of PCC effects. In *Romance linguistics: theory and acquisition*, ed. Ana Teresa Perez-Leroux and Yves Roberge, 49–62. Amsterdam: John Benjamins.
- Béjar, Susana, and Milan Rezac. 2009. Cyclic Agree. *Linguistic Inquiry* 40(1):35–73.
- Benvéniste, Émile. 1966/1971. *Problems in general linguistics*. Miami: University of Miami Press. Originally published in French in *Problèmes de linguistique générale*. Paris: Editions Gallimard.
- Bianchi, Valentina. 2006. On the syntax of personal arguments. *Lingua* 116:2023–2067.
- Bierwisch, Manfred. 1989. The semantics of gradation. In *Dimensional adjectives: Grammatical structure and conceptual interpretation*, ed. Manfred Bierwisch and Ewald Lang, 71–237. Berlin: Springer-Verlag.

- Bjorkman, Bronwyn, and Elizabeth Cowper. 2015. Where *there* is, and why. In *Proceedings of the 2015 annual conference of the Canadian Linguistic Association*, ed. Santa Vinerte. URL http://cla-acl.ca/wp-content/uploads/Bjorkman_Cowper-2015.pdf.
- Bjorkman, Bronwyn, and Hedde Zeijlstra. 2014. Upward Agree is superior. URL <http://ling.auf.net/lingbuzz/002350>, ms. dated December 2014.
- Bjorkman, Bronwyn Alma Moore. 2011. BE-ing default: The morphosyntax of auxiliaries. Doctoral Dissertation, MIT, Cambridge, MA.
- Bloomfield, Leonard. 1933. *Language*. New York: Holt, Rinehart and Winston. [Reprinted 1984. Chicago: University of Chicago Press.].
- Bobaljik, Jonathan David. 2008. Where's phi? Agreement as a postsyntactic operation. In *Phi theory: Phi-features across modules and interfaces*, ed. Daniel Harbour, David Adger, and Susana Béjar, Oxford Studies in Theoretical Linguistics, 295–328. New York: Oxford University Press.
- Bobaljik, Jonathan David, and Susi Wurmbrand. 2005. The Domain of Agreement. *Natural Language & Linguistic Theory* 23:809–865.
- Boeckx, Cedric. 2010. A tale of two minimalisms: Reflections on the plausibility of crash-proof syntax, and its free-merge alternative. In *Exploring crash-proof grammars*, volume 3 of *Language Faculty and Beyond*, 105–124. Philadelphia: John Benjamins.
- Boeder, Winfried. 2002. Syntax and morphology of polysynthesis in the Georgian verb. In *Problems of polysynthesis*, ed. Nicholas Evans and Hans-Jürgen Sasse, 87–111. Berlin: Akademie-Verlag.
- Bonami, Olivier, and Gilles Boyé. 2007. French pronominal clitics and the design of paradigm function morphology. In *Online proceedings of the fifth mediterranean morphology meeting*, ed. G. Booij, L. Ducceschi, B. Fradin, E. Guevara, A. Ralli, and S. Scalise, 291–322. Università degli Studi di Bologna. URL <https://geertbooij.files.wordpress.com/2014/02/mmm5-proceedings.pdf>.
- Bonet, Eulàlia. 1991. Morphology after syntax: Pronominal clitics in Romance. Doctoral Dissertation, MIT.
- Bonet, Eulàlia. 1993. 3rd person pronominal clitics in dialects of Catalan. *Catalan Working Papers in Linguistics* 3:85–111.

- Bonet, Eulàlia. 1994. The Person-Case Constraint: A morphological approach. In *MIT Working Papers in Linguistics 22: The morphology-syntax connection*, ed. Heidi Harley and Colin Phillips, 33–52. Cambridge, MA: MITWPL.
- Bonet, Eulàlia. 2008. The Person-Case constraint and repair strategies. In *Agreement restrictions*, ed. Roberta D'Alessandro, Susann Fischer, and Gunnar Hrafn Hrafnbjargarson, volume 15 of *Interface Explorations*, 103–128. New York: Walter de Gruyter.
- Borer, Hagit, and Yosef Grodzinsky. 1986. Syntactic vs. lexical cliticization: The case of Hebrew dative clitics. In *The syntax of pronominal clitics*, ed. Hagit Borer, 175–217. San Diego, CA: Academic Press.
- Bošković, Željko. 2002a. A-movement and the EPP. *Syntax* 5:167–218.
- Bošković, Željko. 2002b. Clitics as nonbranching elements and the Linear Correspondence Axiom. *Linguistic Inquiry* 33:329–340.
- Bošković, Željko. 2004. Be careful where you float your quantifiers. *Natural Language & Linguistic Theory* 22:681–742.
- Bošković, Željko. 2013. Phases beyond clauses. In *Nominal constructions in Slavic and beyond*, ed. L. Schürcks, A. Giannakidou, U. Etxeberria, and P. Kosta, Studies in Generative Grammar, 75–128. Boston: Walter de Gruyter.
- Bošković, Željko. 2014. Now I'm a phase, now i'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry* 45:27–89.
- Byrne, Michel. 2002. *Gràmar na gàidhlig*. Isle of Lewis: Stòrlann-Acair.
- Camp, Elizabeth B., and Millicent O. Liccardi. 1965. Itomana. In *Grammaticas estructurales de lenguas bolivianas*, ed. Esther Matteson, 223–283. Riberalta: Instituto Lingüístico de Verano.
- Canac-Marquis, Réjean. 2005. Phases and binding of reflexives and pronouns in English. In *Proceedings of the 12th international conference on head-driven phrase structure grammar*, ed. Stefan Müller, 482–502. Stanford, CA: CLSI Publications.
- Cardinaletti, Anna, and Michal Starke. 1999. The typology of structural deficiency: On the three grammatical classes. In *Clitics in the languages of Europe*, ed. H. van Riemsdijk, 145–233. Berlin: Mouton de Gruyter.

- Carlson, Greg. 1998. Thematic roles and the individuation of events. In *Events and grammar*, ed. Susan Rothstein, 35–51. Dordrecht: Kluwer.
- Carstens, Vicki. 2010. Implications of grammatical gender for the theory of uninterpretable features. In *Exploring crash-proof grammars*, volume 3 of *Language Faculty and Beyond*, 31–57. Philadelphia: John Benjamins.
- Charnavel, Isabelle, and Victoria E. Mateu. 2015. The clitic binding restriction revisited: Evidence for antilogophoricity. *The Linguistic Review* 671–702.
- Chierchia, Gennaro. 1998. Reference to kinds across languages. *Natural Language Semantics* 6:339–405.
- Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1981. *Lectures on Government and Binding*. Berlin, Germany: Mouton de Gruyter.
- Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, Current Studies in Linguistics 24, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge, Massachusetts: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–156. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1–52. Cambridge, Massachusetts: MIT Press.
- Chomsky, Noam. 2005. Three Factors in Language Design. *Linguistic Inquiry* 36:1–22.
- Chomsky, Noam. 2008. On phases. In *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, ed. Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133–166. Cambridge, Massachusetts: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130:33–49.
- Chomsky, Noam. 2015. Problem of projection: Extensions. In *Structures, Strategies and Beyond: Studies in honor of Adriana Belletti*, ed. Elisa Di Domenico, Cornelia Hamann, and Simona Matteini, volume 223 of *Linguistics Today*, 3–16. Philadelphia: John Benjamins.

- Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. Oxford Studies in Comparative Syntax. Oxford University Press. URL https://books.google.ca/books?id=sFd79vhd_n0C.
- Cinque, Guglielmo. 2010. *The syntax of adjectives: A comparative study*, volume 57 of *Linguistic Inquiry Monograph*. Cambridge, MA: MIT Press.
- Clements, George N. 1985. The geometry of phonological features. *Phonology Yearbook* 2:225–252.
- Collins, Chris. 2002. Eliminating labels. In *Derivation and explanation in the Minimalist Program*, ed. Samuel David Epstein and Daniel Seely, 42–64. Malden, MA: Blackwell.
- Contini-Morava, Ellen. 1983. Ranking of participants in Kinyarwanda: The limitation of arbitrariness in language. *Anthropological Linguistics* 25(4):425–435.
- Coon, Jessica, and Stefan Keine. 2018. Feature Gluttony and the syntax of hierarchy effects. Presentation handout from *Current Issues in Comparative Syntax: Past, Present, and Future* at the National University of Singapore.
- Couquaux, Daniel. 1977. Même marque-t-il qu'un pronom est réfléchi? *Le français moderne* 45:126–143.
- Cowper, Elizabeth. 2003. Tense, mood, and aspect: A feature-geometric approach. Ms., University of Toronto.
- Cowper, Elizabeth. 2005. The geometry of interpretable features: Infl in English and Spanish. *Language* 81:10–46.
- Cowper, Elizabeth, and Daniel Currie Hall. 2017. Contrastive hierarchies and the formal representation of person. Handout for the poster presented at NELS48 at the University of Iceland.
- Cowper, Elizabeth, and Daniel Currie Hall. 2019. Scope variation in contrastive hierarchies of morphosyntactic features. In *Selected papers from the Georgetown University Round Table (GURT) 2017*. Georgetown University Press.
- Cowper, Elizabeth A. 1992. *A concise introduction to syntactic theory: The Government-Binding approach*. Chicago: University of Chicago Press.
- Cresswell, Max J. 1976. The semantics of degree. In *Montague grammar*, ed. Barbara Partee, 261–92. New York: Academic Press.

- Crevels, Mily. 2011. Who did what to whom in Magdalena (Itonama). *International Journal of American Linguistics* 77:577–594.
- Cruse, D. A. 1986. *Lexical semantics*. Cambridge: Cambridge University Press.
- Cuervo, María Cristina. 2003a. Datives at large. Doctoral Dissertation, MIT, Cambridge, MA.
- Cuervo, María Cristina. 2003b. Structural asymmetries but same word order: The dative alternation in Spanish. In *Asymmetry in Grammar*, ed. Anna Maria Di Sciullo, volume I: Syntax and semantics. Philadelphia: John Benjamins.
- Cysouw, Michael. 2009. *The paradigmatic structure of person marking*. Oxford Studies in Typology and Linguistic Theory. Oxford: Oxford University Press.
- Davies, William D., and Stanley Dubinsky. 2001. Functional architecture and the distribution of subject properties. In *Objects and other subjects: Grammatical functions, functional categories, and configurationality*, ed. William D. Davies and Stanley Dubinsky, volume 52 of *Studies in Natural Language and Linguistic Theory*, 247–279. Dordrecht, Netherlands: Kluwer Academic Publishers.
- Deal, Amy Rose. 2013. Possessor raising. *Linguistic Inquiry* 44:391–432.
- Deal, Amy Rose. 2017. External possession and possessor raising. In *The companion to syntax*, ed. Martin Everaert and Henk C. van Riemsdijk, 1–32. John Wiley & Sons, Inc.
- Déchaîne, Rose-Marie, and Martina Wiltschko. 2002. Decomposing pronouns. *Linguistic Inquiry* 33:409–442.
- Despić, Miloje. 2015. Phases, reflexives, and definiteness. *Syntax* 18:201–234.
- Di Sciullo, Anna Maria, and Daniela Isac. 2008. The asymmetry of Merge. *Biolinguistics* 2.4:260–290.
- den Dikken, Marcel. 1998. Predicate inversion in DP. In *Possessors, predicates and movement in the determiner phrase*, ed. Artemis Alexiadou and Chris Wilder, 177–214. Amsterdam, the Netherlands: John Benjamins.
- Donati, Caterina. 2006. On wh-head movement. In *Wh-movement: Moving on*, ed. Lisa Lai-Shen Cheng and Norbert Corver, 21–46. Cambridge, Massachusetts: MIT Press.

- Donati, Caterina, and Carlo Cecchetto. 2011. Relabeling heads: A unified account for relativization structures. *Linguistic Inquiry* 42:519–560.
- Dowty, David. 1979. *Word meaning and Montague Grammar*. Dordrecht: Reidel.
- Dresher, B. Elan. 2009. *The contrastive hierarchy in phonology*. Cambridge: Cambridge University Press.
- Dresher, Elan. 2003. The contrastive hierarchy in phonology. In *Toronto working papers in linguistics*, ed. Daniel Currie Hall, volume 20. Toronto, ON: University of Toronto.
- Dresher, Elan, Glyne Piggott, and Keren Rice. 1994. Contrast in phonology: an overview. In *Toronto working papers in linguistics*, ed. Carrie Dyck, volume 13. Toronto, ON: University of Toronto.
- Du Nay, André. 1996. *The origins of the Rumanians*. Buffalo, NY: Matthias Corvinus Publishing.
- Duranti, Alessandro. 1979. Object clitic pronouns in Bantu and the topicality hierarchy. *Studies in African Linguistics* 10:31–45.
- Embick, David, and Alec Marantz. 2008. Architecture and blocking. *Linguistic Inquiry* 39:1–53.
- Embick, David, and Rolf Noyer. 2001. Movement operations after syntax. *Linguistic Inquiry* 32:555–595.
- Embick, David, and Rolf Noyer. 2007. Distributed Morphology and the syntax morphology interface. In *The Oxford handbook of linguistic interfaces*, ed. Gillian Ramchand and Charles Reiss, 289–324. Oxford, UK: Oxford University Press.
- Epstein, Samuel D., Hisatsugu Kitahara, and T. Daniel Seely. 2010. Uninterpretable feature: What are they and what do they do? In *Exploring crash-proof grammars*, volume 3 of *Language Faculty and Beyond*, 125–142. Philadelphia: John Benjamins.
- Epstein, Samuel David, and T. Daniel Seely. 2006. *Derivations in Minimalism*. Cambridge, MA: Cambridge University Press.
- Ewen, Robert C. 1979. A grammar of Bulgarian clitics. Doctoral Dissertation, University of Washington, Seattle, WA.

- Fassi-Fehri, Abdelkader. 1988. Agreement in arabic, binding and coherence. In *Agreement in natural language: approaches, theories, descriptions*, ed. Michael Barlow and Charles A. Ferguson, 107–158. Stanford: CSLI.
- Fillmore, Charles J. 1968. The case for case. In *Universals in linguistic theory*, ed. Emmon Bach and Robert T. Harms, 1–89. New York: Holt, Rhinehart and Winston.
- Forchheimer, Paul. 1953. *The category of person in Language*. Berlin: Walter de Gruyter.
- Fowlie, Meaghan. 2017. Slaying the great green dragon: Learning and modelling iterable ordered optional adjuncts. Doctoral Dissertation, UCLA.
- Fox, Danny. 1999. Reconstruction, Binding Theory, and the Interpretation of Chains. *Linguistic Inquiry* 30:157–196.
- Frampton, John, and Sam Gutmann. 2002. Crash-proof Syntax. In *Derivation and explanation in the Minimalist Program*, ed. Samuel D. Epstein and T. Daniel Seely, 90–105. Cambridge, Massachusetts: Blackwell.
- Gomes, Antonio Almir Silva. 2013. Sanapaná, uma língua maskoy: Aspectos gramaticais. Doctoral Dissertation, Universidade Estadual de Campinas.
- Green, John N. 1988. Spanish. In *The romance languages*, ed. Martin Harris and Nigel Vincent, 79–130. London: Routledge.
- Grimshaw, Jane. 1979. Complement selection and the lexicon. *Linguistic Inquiry* 10:279–326.
- Grimshaw, Jane. 1981. Form, function and the Language Acquisition Device. In *The logical problem of language acquisition*, ed. C. L. Baker and John McCarthy. Cambridge, MA: MIT Press.
- Grimshaw, Jane. 2005. *Words and structure*. Stanford, CA: Center for the Study of Language and Information (CSLI).
- Gropen, Jess, Steven Pinker, Michelle Hollander, and Richard Goldberg. 1991. Affect- edness and direct objects: The role of lexical semantics in the acquisition of verb argument structure. *Cognition* 41:153–195.
- Guasti, Maria Teresa. 2006. Analytic causatives. In *The Blackwell companion to syntax*, ed. Martin Everaert and Henk van Riemsdijk, volume 1, 142–172. Oxford: Blackwell.

- Guéron, Jacqueline. 1985. Inalienable possession, pro-inclusion and lexical chains. In *Grammatical Representation*, ed. Jacqueline Guéron, Hans G. Obenauer, and Jean-Yves Pollock, 43–86. Dordrecht: Foris.
- Haegeman, Lilian, and Jacqueline Guéron. 1999. *English grammar: A generative perspective*. Oxford, UK: Wiley-Blackwell.
- Haegeman, Liliane, and Virginia Hill. 2013. The syntacticization of discourse. In *Syntax and its limits*, ed. Raffaella Folli, Christina Sevdali, and Robert Truswell, Oxford Studies in Theoretical Linguistics 48, 370–390. Oxford, UK: Oxford University Press.
- Hall, Daniel Currie. 2017. Contrastive specification in phonology. In *Oxford research encyclopedia of linguistics*, ed. Mark Aronoff. Oxford University Press. URL <http://oxfordre.com/linguistics/view/10.1093/acrefore/9780199384655.001.0001/acrefore{-}9780199384655{-}e{-}26>.
- Halle, Morris. 1997. Distributed Morphology: Impoverishment and fission. In *Pf: Papers at the interface*, ed. Benjamin Bruening, Yoonjung Kang, and Martha McGinnis, volume 30, 125–150. Cambridge, MA: MITWPL.
- Halle, Morris, and Alec Marantz. 1993. Distributed Morphology and the pieces of inflection. In *The view from building 20*, ed. Ken Hale and S.J. Keyser, 111–176. Cambridge, MA: MIT Press.
- Halle, Morris, and Alec Marantz. 1994. Some key features of Distributed Morphology. In *MITWPL 21: Papers on phonology and morphology*, ed. Andrew Carnie and Heidi Harley, 275–288. Cambridge, Massachusetts: MITWPL.
- Harbour, Daniel. 2016. *Impossible persons*. Linguistic Inquiry Monographs. Cambridge, MA: MIT Press.
- Harley, Heidi. 2002. Possession and the double object construction. *Linguistic Variation Yearbook* 2:31–70.
- Harley, Heidi. 2013. External arguments and the Mirror Principle: On the distinctness of Voice and v. *Lingua* 125:34–57.
- Harley, Heidi. 2017. The “bundling” hypothesis and the disparate functions of little v. In *The verbal domain*, ed. Roberta D’Alessandro, Irene Franco, , and Ángel J. Gallego. Oxford: Oxford University Press.

- Harley, Heidi, and Rolf Noyer. 1999. State-of-the-article: Distributed Morphology. *GLOT International* 4.4:3–9.
- Harley, Heidi, and Elizabeth Ritter. 2002a. Person and number in pronouns: A feature-geometric analysis. *Language* 78:482–526.
- Harley, Heidi, and Elizabeth Ritter. 2002b. Structuring the bundle: A universal morphosyntactic feature geometry. In *Pronouns—Grammar and Representation*, ed. Horst J. Simon and Heike Wiese, volume 52 of *Linguistics Today*, 23–39. Philadelphia: John Benjamins.
- Harris, Alice C. 1981. *Georgian syntax: A study in Relational Grammar*, volume 33 of *Cambridge Studies in Linguistics*. New York: Cambridge University Press. Reprinted in 2009.
- Haspelmath, Martin. 2004. Explaining the Ditransitive Person-Role Constraint: A Usage-Based Account. *Constructions* URL <http://constructions-journal.com/>.
- Hauge, Kjetil Rå. 1999. The word order of predicate clitics in Bulgarian. *Journal of Slavic Linguistics* 7:89–137. First published in 1976 as no. 10 in the series Universitetet i Oslo. Meddelelser baltisk institutt.
- Heger, Klaus. 1966. La conjugaison objective en français et en espagnol. *Persée* 1:19–38.
- Heim, Irene, and Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Malden, Massachusetts: Blackwell.
- Heim, Johannes, Hermann Keupdjio, Zoe Wai-Man Lam, Adriana Osa-Gómez, and Martina Wiltschko. 2014. How to do things with particles. In *Proceedings of the 2014 annual conference of the Canadian Linguistic Association*. URL http://cla-acl.ca/wp-content/uploads/Heim_Keupdjio_Lam_Osa-Gomez_Wiltschko-2014.pdf.
- Heinat, Fredrik. 2006. Probes, pronouns, and binding in the Minimalist Program. Doctoral Dissertation, University of Lund, Lund, Germany.
- Hicks, Glyn. 2009. *The derivation of anaphoric relations*. Amsterdam: John Benjamins.
- Hiraiwa, Ken. 2001. Multiple agree and the defective intervention constraint in Japanese. In *Proceedings of the MIT-Harvard Joint Conference (HUMIT) 2000*, volume 40 of *MIT Working Papers in Linguistics*, 67–80.

- Hiraiwa, Ken. 2005. Dimensions of symmetry in syntax: Agreement and clausal architecture. Doctoral Dissertation, MIT.
- Hockett, Charles F. 1996. What algonquian is really like. *International Journal of American Linguistics* 32:59–73.
- Horn, Laurence. 1984. Toward a new taxonomy for pragmatic inference: Q- and R-based implicature. In *Meaning, Form, and Use in Context*, ed. D. Shiffrin, 11–42. Washington, D.C.: Georgetown University.
- Iatridou, Sabine, Elena Anagnostopoulou, and Roumyana Izvorsky. 2001. Observations about the form and meaning of the perfect. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 189–238. Cambridge, MA: MIT Press. Reprinted in *Perfect explorations*. New York: Mouton de Gruyter. 2003.
- Jackendoff, Ray S. 1990. *Semantic structures*, volume 18 of *Current Studies in Linguistics*. Cambridge, MA: MIT Press.
- Jaeggli, Osvaldo. 1982. *Topics in romance syntax*, volume 12 of *Studies in generative grammar*. Cinnaminson, NJ: Foris Publications.
- Jouitteau, Mélanie, and Milan Rezac. 2008. The French ethical dative: 13 syntactic tests. *Bucharest Working Papers in Linguistics* IX:97–108.
- Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, Massachusetts: MIT Press.
- Kayne, Richard S. 1975. *French syntax: The transformational cycle*. Current studies in linguistics series: 6. Cambridge, MA: MIT Press.
- Keenan, Edward L. 1972. Relative clause formation in Malagasy. In *The Chicago which hunt: Papers from the Relative Clause Festival*, ed. Paul M. Peranteau, J. N. Levi, and G. C. Phares, 169–189. Chicago, IL: Chicago Linguistic Society.
- Kempchinsky, Paula. 1992. The Spanish Possessive Dative Construction: θ -Role Assignment and Proper Government. In *Romance Languages and Modern Linguistic Theory*, ed. Paul Hirschbühler and E. F. K. Koerner, 135–149. Amsterdam: John Benjamins.
- Klamer, Marian. 1997. Spelling out clitics in Kambara. *Linguistics* 35:895–927.
- Klamer, Marian. 1998. *A grammar of Kambara*, volume 18 of *Mouton Grammar Library*. New York: Mouton de Gruyter.

- Konnolly, Lex, and Elizabeth Cowper. 2018. The future is *they*: the morphosyntax of an English epicene pronoun. Ms., University of Toronto.
- Kornfilt, Jaklin, and Omer Preminger. 2015. Nominative as no case at all: An argument from raising-to-ACC in Sakha. In *Proceedings of the 9th Workshop on Altaic Formal Linguistics (WAFLL 9)*, ed. Andrew Joseph and Esra Predolac, number 76 in MIT Working Papers in Linguistics, 109–120. Cambridge, MA: MITWPL.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, ed. Johan Rooryck and Laurie Zaring, volume 33 of *Studies in Natural Language and Linguistic Theory*, 109–137. Boston, MA: Springer.
- Kuno, Susumu. 1972. *The structure of the Japanese language*. Cambridge, MA: MIT Press.
- Kučerová, Ivona. 2016. Long-distance agreement in icelandic: Locality restored. *The Journal of Comparative Germanic Linguistics* 19:49–74.
- Laenzlinger, Christopher. 1993. A syntactic view of romance pronominal sequences. *Probus* 5:241–270.
- Laka, Itziar. 1993. The structure of inflection: A case study in X^0 syntax. In *Generative Studies in Basque Linguistics*, ed. José Ignacio Hualde and Jon Ortiz de Urbina, volume 105 of *Current Issues in Linguistic Theory*, 22–70. Philadelphia: John Benjamins.
- Laka, Itziar. 1996. A brief grammar of euskara, the basque language. URL <http://www.ehu.eus/en/web/eins/basque-grammar>, open-access grammar.
- Langacker, Ronald W. 1968. Observations on French possessives. *Language* 44:51–75.
- Larson, Richard K. 1988. On the double object construction. *Linguistic Inquiry* 19:335–391.
- Lee-Schoenfeld, Vera. 2008. Binding, phases, and locality. *Syntax* 11:281–298.
- Legate, Julie Anne. 2002. Phases in “Beyond Explanatory Adequacy”. URL <https://pdfs.semanticscholar.org/9a3f/bb5a372a1f775ce29ef1f4315742cbbba1977.pdf>, ms., MIT.
- Legate, Julie Anne. 2014. *Voice and v: Lessons from Acehnese*, volume 69 of *Linguistic Inquiry Monographs*. Cambridge, MA: MIT Press.

- Levin, Theodore, and Omer Preminger. 2015. Case in Sakha: are two modalities really necessary? *Natural Language & Linguistic Theory* 33:231–250.
- Levin, Theodore F. 2015. Licensing without Case. Doctoral Dissertation, MIT.
- Lochbihler, Bethany. 2007. The inverse system in Ojibwe: A comparison with the Person-Case Constraint. In *Proceedings of the 2007 annual conference of the Canadian Linguistic Association*. Canadian Linguistic Association. URL <http://homes.chass.utoronto.ca/~cla-acl/actes2007/Lochbihler.pdf>.
- Lochbihler, Bethany Christina. 2012. Aspects of argument licensing. Doctoral Dissertation, McGill University, Montreal, QC.
- Lumsden, John Stewart. 1987. Syntactic features: Parametric variation in the history of English. Doctoral Dissertation, MIT.
- Lyons, John. 1977. *Semantics*, volume 1. Cambridge: Cambridge University Press.
- Lyth, R. E. 1971. *A murle grammar*, volume 7 of *Linguistic Monograph Papers*. Khartoum: Sudan Research Unit, University of Khartoum.
- Malchukov, Andrej, Martin Haspelmath, and Bernard Comrie. 2007. Ditransitive constructions: a typological overview. First draft of a chapter in *Studies in Ditransitive Constructions: A Comparative Handbook* ed. Andrej Malchukov, Martin Haspelmath and Bernard Comrie. New York: De Gruyter Mouton. 2010.
- Malchukov, Andrej L. 2008. Animacy and asymmetries in differential case marking. *Lingua* 118:203–221.
- Marantz, Alec. 2001. Words. Paper presented at West Coast Conference on Formal Linguistics XX, USC, LA.
- Mathieu, Eric. 1999. French WH in situ and the intervention effect. *UCL Working Papers in Linguistics* 11:441–472.
- McCoard, Robert W. 1978. *The english perfect: Tense choice and pragmatic inferences*. Amsterdam: North-Holland Press.
- McGinnis, Martha. 2001. Variation in the phase structure of applicatives. *Linguistic Variation Yearbook* 1:101–42.
- McGinnis, Martha. 2005. On markedness asymmetries in person and number. *Language* 81:699–718.

- McGinnis, Martha. 2017. The morphosyntax of the Person-Case Constraint. Presentation handout from Manitoba Workshop on Person in Winnipeg, MB.
- Merchant, Jason. 2007. The syntactic representation of implicit arguments? URL <http://home.uchicago.edu/merchant/pubs/berlin.indefinites.pdf>, presentation handout at the ‘funny’ indefinite workshop at Zentrum für Allgemeine Sprachwissenschaft, University of Chicago.
- Miller, Philip H. 1992. *Clitics and constituents in Phrase Structure Grammar*. London: Garland.
- Mithun, Marianne. 1991. Active/agentive case marking and its motivations. *Language* 67:510–546.
- Miyagawa, Shigeru. 2012. Agreements that occur mainly in the main clause. In *Main clause phenomena: new horizons*, ed. Lobke Aelbrecht, Liliane Haegeman, and Rachel Nye, volume 190 of *Linguistics Today*, 79–112. Philadelphia: John Benjamins.
- Miyagawa, Shigeru. 2017. *Agreement beyond phi*, volume 75 of *Linguistic Inquiry Monograph*. Cambridge, MA: MIT Press.
- Morin, Yves-Charles. 1978. Interprétation des pronoms et des réfléchis en français. *Cahier de linguistique* 8:337–376.
- Nevins, Andrew. 2007. The representation of third person and its consequences for person-case effects. *Natural Language and Linguistic Theory* 25:273–313.
- Nevins, Andrew. 2011. Multiple agree with clitics: person complementarity vs. omnivorous number. *Natural Language and Linguistic Theory* 29:939–971.
- Nevins, Andrew, and Oana Săvescu. 2010. An apparent ‘Number Case Constraint’ in romanian: The role of syncretism. In *Romance linguistics 2008: Interactions in romance*, ed. Karlos Arregi and, 185–199. Philadelphia: John Benjamins.
- Nicol, Fabrice. 2005. Romance clitic clusters: On diachronic changes and cross-linguistic contrasts. In *Clitic and Affix Combinations: Theoretical perspectives*, volume 74 of *Linguistik Aktuell/Linguistics Today*, 141–198. Philadelphia: John Benjamins.
- Nishiyama, Kunio. 1998. V-V compounds as serialization. *Journal of East Asian Linguistics* 7:175–217.

- Norris, Mark. 2014. A theory of nominal concord. Doctoral Dissertation, University of California Santa Cruz.
- Norris, Mark. 2017. Description and analyses of nominal concord (pt i & ii). *Language and Linguistics Compass* 11:e12266–7.
- Noyer, Rolf. 1992. Features, positions and affixes in autonomous morphological structure. Doctoral Dissertation, MIT, Cambridge, MA.
- Ormazábal, Javier, and Juan Romero. 1998. On the syntactic nature of the *me-lui* and the Person-Case Constraint. *Anuario del Seminario Julio de Urquijo* 32:415–434.
- Ormazábal, Javier, and Juan Romero. 2002. On the syntactic nature of the *me-lui* and the person-case constraint. *Anuario del Seminario de Filología Vasca Julio de Urquijo (ASJU, International Journal of Basque Linguistics and Philology)* 32:415–433.
- Ormazábal, Javier, and Juan Romero. 2007. The object agreement constraint. *Natural Language & Linguistic Theory* 25:315–347.
- Oxford, Will. 2018. Inverse marking and Multiple Agree in Algonquin: Complementarity and variability. *Natural Language & Linguistic Theory* 1–42. URL <https://doi.org/10.1007/s11049-018-9428-x>.
- Oxford, William R. 2014. Microparameters of agreement: A diachronic perspective on Algonquian verb inflection. Doctoral Dissertation, University of Toronto, Toronto, ON.
- Oyharçabal, Bernard. 1993. Verb agreement with non arguments: On allocutive agreement. In *Generative Studies in Basque Linguistics*, ed. José Ignacio Hualde and Jon Ortiz de Urbina, volume 105 of *Current Issues in Linguistic Theory*, 89–114. Philadelphia: John Benjamins.
- Pancheva, Roumyana. 2003. The aspectual makeup of Perfect participles and the interpretations of the Perfect. In *Perfect explorations*, ed. Artemis Alexiadou, Monika Rathert, and Arnim von Stechow, 277–306. New York: Mouton de Gruyter.
- Pancheva, Roumyana, and Maria Luisa Zubizarreta. 2017. The Person Case Constraint: The Syntactic Encoding of Perspective. *Natural Language & Linguistic Theory* online first. URL <https://doi.org/10.1007/s11049-017-9395-7>.
- Partida-Peñalva, Virgilio A. 2018. Split-S in Mazahua and the obligatory little-v agreement. Generals Paper, University of Toronto.

- Perlmutter, David, and Paul Postal. 1972/1983. The Relational Succession Law. In *Studies in Relational Grammar*, ed. David Perlmutter, volume 1, 30–80. Chicago, IL: University of Chicago Press.
- Perlmutter, David M. 1971. *Deep and surface structure constraints in syntax*. New York: Holt, Rinehart, and Winston.
- Pesetsky, David. 1982. Paths and categories. Doctoral Dissertation, MIT, Cambridge, MA.
- Pesetsky, David. 1991. Zero Syntax. Vol. 2: Infinitives. URL <http://lear.unive.it/jspui/handle/11707/80>, material intended for *Zero Syntax* Pesetsky (1995) but not included in the final publication.
- Pesetsky, David. 1995. *Zero syntax: Experiencers and cascades*, volume 27 of *Current studies in linguistics*. Cambridge, MA: MIT Press.
- Pesetsky, David, and Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In *Phrasal and clausal architecture*, ed. Simin Karimi, Vida Samiian, and Wendy Wilkins, 262–294. Amsterdam: John Benjamins.
- Postal, Paul M. 1989. *Masked inversion in French*. Chicago, IL: University of Chicago Press.
- Postal, Paul M. 1990. French indirect object demotion. In *Studies in relational grammar 3*, ed. Paul M. Postal and Brian D. Joseph, 104–200. Chicago: University of Chicago Press.
- Preminger, Omer. 2009. Breaking agreements: Distinguishing agreement and clitic doubling by their failures. *Linguistic Inquiry* 40:619–666.
- Preminger, Omer. 2011. Agreement as a fallible operation. Doctoral Dissertation, MIT.
- Preminger, Omer. 2014. *Agreement and its failures*. Cambridge, MA: MIT Press.
- Preminger, Omer. 2015a. Beyond interface conditions. URL <http://omer.lingsite.org/files/Preminger---Beyond-interface-conditions.pdf>, UCLA Linguistics Colloquium Handout.
- Preminger, Omer. 2015b. Syntactic operations exceed what the interfaces can account for (or: The heartbreak of interface-driven syntax). URL <http://omer.lingsite.org/>

- `files/Preminger---The-heartbreak-of-interface-driven-syntax.pdf`, dGfS 37
What Derives Syntactic Computation (AG3) Presentation Handout.
- Preminger, Omer. 2018. Back to the future: Non-generation, filtration, and the heart-break of interface driven minimalism. In *Syntactic structures after 60 years: The impact of the Chomskyan revolution in linguistics*, ed. Norbert Hornstein, Howard Lasnik, Pritty Patel-Grosz, and Charles Yang, 355–380. Boston, MA: De Gruyter Mouton.
- Preminger, Omer. 2019. What the PCC tells us about “abstract” agreement, head movement, and locality. *Glossa: A Journal of General Linguistics* 4:1–42.
- Prince, Alan, and Paul Smolensky. 1993. Optimality Thoery: Constraint Interaction in Generative Grammar. Ms., Rutgers University and University of Colorado at Boulder.
- Pylkkänen, Liina. 2002. Introducing arguments. Doctoral Dissertation, MIT, Cambridge, MA.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.
- Reinhart, Tanya, and Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24:657–720.
- Rett, Jessica. 2007. Antonymy and evaluativity. In *Proceedings of salt 17*, ed. M. Gibson and T. Friedman, 210–27. Ithaca, NY: CLC Publications.
- Rett, Jessica. 2008. Degree modification in natural language. Doctoral Dissertation, Rutgers University.
- Rett, Jessica. 2015. *The semantics of evaluativity*, volume 54 of *Oxford Studies in Theoretical Linguistics*. Oxford: Oxford University Press.
- Rezac, Milan. 2007. Escaping the person case constraint: Referential computation in the phi-system. *Linguistic Variation Yearbook* 6:97–138.
- Rezac, Milan. 2008. The syntax of eccentric agreement: The person case constraint and absolutive displacement in basque. *Natural Language & Linguistic Theory* 26:61–106.
- Rezac, Milan. 2011. *Phi-features and Modular Architecture of Language*, volume 81 of *Studies in Natural Language and Linguistic Theory*. New York: Springer.
- Rice, Keren. 1986. Some remarks on direct and indirect speech in Slave (Northern Athapaskan). In *Direct and indirect speech*, ed. Florian Coulmas, 47–76. New York: Mouton de Gruyter.

- Richards, Norvin. 1997. What moves where when in which language? Doctoral Dissertation, MIT, Cambridge, MA.
- van Riemsdijk, Henk C. 1978. *A case study in syntactic markedness : the binding nature of prepositional phrases*. Lisse: The Peter de Ridder Press. Reprinted in *A Case Study in Syntactic Markedness: The Binding Nature of Prepositional Phrases*. Dordrecht: Foris.
- Rivero, María L. 2005. Topics in bulgarian morphology and syntax: a minimalist perspective. *Lingua* 115:1083–1128.
- Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, Massachusetts: MIT Press.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar: handbook of generative syntax*, ed. Liliane Haegeman, 281–337. Dordrecht, the Netherlands: Kluwer.
- Rizzi, Luigi. 2015. Notes on labeling and subject positions. In *Structures, Strategies and Beyond: Studies in honor of Adriana Belletti*, ed. Elisa Di Domenico, Cornelia Hamann, and Simona Matteini, volume 223 of *Linguistics Today*, 17–46. Philadelphia: John Benjamins.
- Roberge, Yves, and Michelle Troberg. 2007. Thematic indirect objects in French. *French Language Studies* 17:297–322.
- Roberts, Ian. 2010. *Agreement and head movement: Clitics, incorporation, and defective goals*, volume 59 of *Linguistic Inquiry / Monographs*. Cambridge, MA: MIT Press.
- Robinson, Christine. 2008. Agreement in Scottish Gaelic: A Distributed Morphology analysis. Master's thesis, University College Dublin, Dublin, Ireland.
- Rosen, Carol. 1990. Rethinking Southern Tiwa: The geometriry of a triple-agreement language. *Language* 66:669–713.
- Rouveret, Alain, and Jean-Roger Vergnaud. 1980. Specifying reference to the subject: French causatives and conditions on representations. *Linguistic Inquiry* 11:97–202.
- Roy, Isabelle. 2013. *Non-verbal predication: Copular sentences at the syntax-semantics interface*. Oxford: Clarendon Press.
- Ruwet, Nicholas. 1982. *La grammaire des insultes et autres études*. Paris: Seuil.

- Safir, Ken. 2014. One true anaphor. *Linguistic Inquiry* 45:91–124.
- Sagey, Elizabeth. 1986. The representation of features and relations in non-linear phonology. Doctoral Dissertation, MIT, Cambridge, MA.
- Sauerland, Uli. 1996. The Late Insertion of Germanic inflection. Ms., MIT.
- Sauerland, Uli. 2003. Intermediate adjunction with A-movement. *Linguistic Inquiry* 34:308–314.
- Sauerland, Uli, and Jonathan Bobaljik. 2013. Syncretism distribution modeling: Accidental homophony as a random event. In *Proceedings of glow in asia ix 2012: The main session*, ed. Nobu Goto, Koichi Otaki, Atsushi Sato, and Kensuke Takita, 31–53. Mie University. URL [http://faculty.human.mie-u.ac.jp/\\$\sim\\$glow_mie/IX_Proceedings_Oral/03Sauerland&Bobaljik.pdf](http://faculty.human.mie-u.ac.jp/\simglow_mie/IX_Proceedings_Oral/03Sauerland&Bobaljik.pdf).
- Schmitt, Cristina. 2001. Cross-linguistic variation and the present perfect: The case of Portuguese. *Natural Language & Linguistic Theory* 19:403–453.
- Schwegler, Armin. 1990. *Analycity and syntheticity*. Berlin: Mouton de Gruyter.
- Sebba, Mark. 1987. *The syntax of serial verbs*. Amsterdam: John Benjamins.
- Sibawayh, ‘Amribn ‘Uthmān. 1881. *Le Livre de Sībawaihi, traité de Grammaire Arabe*, volume 1. Paris: Imprimerie Nationale.
- Sigurðsson, Halldór. 1996. Icelandic Finite Verb Agreement. *Working Papers in Scandinavian Syntax* 57:1–46.
- Siloni, Tal. 2012. Reciprocal verbs and symmetry. *Natural Language & Linguistic Theory* 30:261–320.
- Simpson, Jane, and Mary Margaret Withgott. 1986. Pronominal clitic clusters and templates. In *The syntax of pronominal clitics*, ed. Hagit Borer, 149–174. Orlando: Academic Press.
- Speas, Peggy, and Carol Tenny. 2003. Configurational properties of point of view roles. In *Asymmetry in Grammar volume i: Syntax and semantics*, ed. Anna Maria Di Sciullo, *Linguistics Today* 57, 315–344. Philadelphia: John Benjamins.
- Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19:425–449.

- Starke, Michal. 2001. Move dissolves into Merge: a theory of locality. Doctoral Dissertation, University of Geneva, Geneva, Switzerland.
- Stegovec, Adrian. 2016. Not two sides of one coin: Clitic person restrictions and Icelandic quirky agreement. In *Formal Studies in Slovenian Syntax: In honor of Janez Orešnik*, ed. F. L. Marušič and R. Žaucer, 283–313. Amsterdam: John Benjamins.
- Stegovec, Adrian. 2017. Taking Case out of the Person-Case Constraint? URL <http://ling.auf.net/lingbuzz/002632>, ms. dated October 3, 2017 to appear in *Natural Language & Linguistic Theory*.
- Stegovec, Adrian. 2019. Taking Case out of the Person-Case Constraint. *Natural Language & Linguistic Theory* online first. URL <https://doi-org.myaccess.library.utoronto.ca/10.1007/s11049-019-09443-0>.
- Sudo, Yasutada. 2012. On the Semantics of Phi Features on Pronouns. Doctoral Dissertation, MIT, Cambridge, MA.
- Săvescu Ciucivara, Oana. 2011. A cartographic approach to clitic clusters in Romanian. *Revue Roumaine de Linguistique* 56:97–114.
- Svenonius, Peter. 1994. C-selection as feature-checking. *Studia Linguistica* 48:133–155.
- Takezawa, Koichi. 1987. A configurational approach to Case-marking in Japanese. Doctoral Dissertation, University of Washington, Seattle, WA.
- Taraldsen, Tarald Knut. 1994. Reflexives, pronouns and subject/verb agreement in Icelandic and Faroese. *Working Papers in Scandinavian Syntax* 54:43–58.
- Taraldsen, Tarald Knut. 1995. On agreement and nominative objects in Icelandic. In *Studies in Comparative Germanic Syntax*, ed. Hubert Haider, Susan Olsen, and Sten Vikner, 307–327. Dordrecht: Kluwer Academic Publishers.
- Tenny, Carol L. 2006. Evidentiality, experiencers, and the syntax of sentience in Japanese. *Journal of East Asian Linguistics* 15:245–288.
- Thoma, Sonja Christine. 2016. Discourse particles and the syntax of discourse: Evidence from Miesbach Bavarian. Doctoral Dissertation, University of British Columbia, Vancouver, BC.
- Tryon, Darrell. 2011. Buma. In *The Oceanic Languages*, 573–586. New York: Routledge. First published in 2002 by Curzon Press.

- Ura, Hiroyuki. 1996. Multiple feature-checking: A theory of grammatical function splitting. Doctoral Dissertation, MIT, Cambridge, MA.
- Ura, Hiroyuki. 2000. *Checking theory and grammatical functions in Universal Grammar*. New York: Oxford University Press.
- van Valin, Robert D., Jr., and Randy J. LaPolla. 1997. *Syntax: Structure, meaning, and function*. Cambridge Textbooks in Linguistics. Cambridge, UK: Cambridge University Press.
- Vinokurova, Nadya. 2005. Lexical categories and argument structure: a study with reference to Sakha. Doctoral Dissertation, UiL-OTS, Utrecht. LOT dissertation series.
- Walkow, Martin. 2012. Goals, Big and Small. Doctoral Dissertation, University of Massachusetts - Amherst.
- Walkow, Martin. 2013. Cyclic Agree and person restrictions in Classical Arabic. In *Perspectives on Arabic Linguistics 26*. Selected proceedings of Arabic Linguistic Symposium 2012.
- Wasow, Thomas. 1972. Anaphoric relations in English. Doctoral Dissertation, MIT, Cambridge, MA.
- Wiltschko, Martina. 2017. Response particles beyond answering. In *Order and structure in syntax*, ed. Laura R. Bailey and Michelle Sheehan, volume I, 241–279. Berlin: Language Science Press.
- Wiltschko, Martina, and Johannes Heim. 2016. The syntax of confirmational: A neo-performative analysis. In *Outside the clause*, ed. Gunther Kaltenböck, Evelien Keizer, and Arne Lohmann, Studies in Language Companion Series 178, 305–339. Philadelphia: John Benjamins.
- Wurmbrand, Susi. 2013. Qr and selection: Covert evidence for phasehood. In *The proceedings of North Eastern Linguistics Society (NELS) 42*, ed. Stefan Keine and Shayne Sloggett, volume 2, 619–632. Amherst, MA: GLSA.
- Wurmbrand, Susi. 2014. The Merge Condition: A syntactic approach to selection. In *Minimalism and Beyond: Radicalizing the interfaces*, ed. Peter Kosta, Steven L. Franks, Teodora Radeva-Bork, and Lilia Schürcks, 130–166. Amsterdam: John Benjamins.
- Yokoyama, Tomohiro. 2015a. Bi-functional features: Head movement analysis of object markers in Kinyarwanda. Ms., General Paper, University of Toronto.

- Yokoyama, Tomohiro. 2015b. Features wearing two hats: Derivation of object-marked verbs in Kinyarwanda. In *The proceedings of North Eastern Linguistics Society (NELS) 45*, ed. Thuy Bui and Deniz Özyildiz, volume 3, 241–250. Amherst, MA: GLSA.
- Yokoyama, Tomohiro. 2016. Structure and features: the ordering of object markers in Kinyarwanda. URL <https://blogs.helsinki.fi/bantu-6/files/2016/09/Bantu6-WS4-Yokoyama-Ordering-OMs-In-Kinyarwanda.pdf>, Presentation handout from the 6th International Conference on Bantu Languages (BANTU 6).
- Zeijlstra, Hedde. 2012. There is only one way to agree. *The linguistic Review* 29:491–539.
- Zribi-Hertz, Anne. 1980. Coréférence et pronoms réfléchis: Notes sur le contraste lui/lui-même en français. *Linguisticæ Investigationes* 4:131–179.
- Zribi-Hertz, Anne. 2003. Réflexivité et disjonction référentielle en français et en anglais. In *Essais sur la grammaire comparée du français et de l'anglais*, ed. Philippe Miller and Anne Zribi-Hertz, 189–227. Saint-Denis: Presses Universitaires de Vincennes.
- Zribi-Hertz, Anne. 2008. From intensive to reflexive: The prosodic factor. In *Reciprocals and reflexives: Theoretical and typological explanations*, ed. Ekkehard König and Volker Gast, 591–632. Berlin: Mouton de Gruyter.
- Zwicky, Arnold M. 1974. Taking a false step. *Language* 50:215–224.