

# The Syntax and Syncretisms of the Person Case Constraint\*

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## 1. Introduction

This paper aims to isolate language-specific morphological idiosyncrasies from the core syntactic mechanisms responsible for Person Case Constraint (PCC) effects. On the syntactic side, this comprises showing that the PCC is irreducibly a matter of how syntactic features are organized in grammatical structures. On the morphological side, it comprises explaining how these syntactic structures feed morphological effects concomitant with the PCC in unrelated languages.

Here, we introduce a new set of data from Kiowa, a Kiowa-Tanoan language of Oklahoma. Kiowa displays a classical PCC paradigm: in ditransitive constructions, agreement triggered by the direct object must be third person.<sup>1</sup> An apparently independent fact about Kiowa morphology is that non-third person arguments trigger identical agreement whether they are direct or indirect objects. We term this Case Syncretism. The same syntactic and morphological facts, that is the Person Case Constraint and Case Syncretism, hold in French (and other Romance languages). Our aim is to show that this correlation has a grammatical basis.

Below, we show that the PCC follows simply from a theory of how  $\varphi$ -features are distributed on functional heads in clause structure and how the valuation of these features is constrained by core syntactic principles (Chomsky 2000, Chomsky 2001). Case Syncretism follows naturally from a grammatical architecture where this kind of syntactic structure feeds the morphological component.

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<sup>1</sup>This is the ‘strong version’ of the PCC. Here, we will not discuss the ‘weak version’ (which states that the direct object may be non-third person, but only if the indirect object is also non-third person), because the strong/weak dichotomy strikes us as too coarse, with some speakers accepting only a subset of the argument combinations permitted by the weak version. Further research is needed into the correct generalizations (but see Bonet 1991, Bonet 1994, Anagnostopoulou 2003laba).

## 2. A Correlation to be Explained

This section illustrates the Person Case Constraint and Case Syncretism, and their correlation, in Kiowa and French.

### 2.1. The Person Case Constraint

In many languages, agreement for some semantically well-formed combinations of person and case is restricted in how it may be realized. The most famous example of this is the **me-lui** constraint reported by Perlmutter (1971). French has accusative clitics for first singular, **me**, and third singular, **le**, and it has dative clitics for these person-number combinations as well, **me** and **lui**, respectively. Accusative and dative clitics may cooccur:<sup>2</sup>

- (1) On me le montrera  
one me.DAT it.ACC show.FUT  
'They will show it to me'

However, when they do, the accusative clitic must be third person (note that the order of the clitics is irrelevant to the point under discussion):

- (2) \*On me lui montrera  
one me.ACC him.DAT show.FUT  
*for* 'They will show me to him'

That this restriction is not semantic is evidenced by the acceptability of the following paraphrase.

- (3) On me montrera à lui  
one me.ACC show.FUT to him  
'They will show me to him'

This phenomenon is found in other languages such as Greek (Anagnostopoulou 2003:lab), Catalan (Bonet 1991), Basque (Laka 1991); see Haspelmath (2001) for a wide range of genetically diverse languages

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<sup>2</sup>Abbreviations: ACC accusative, AGT agentive, ANIM animate, CT control, DAT dative, DETR detransitive, DL dual, ETH ethical, FEM feminine, FUT future, GEN genitive, HAB habitual, HSY hearsay, IMPF imperfective, INF infinitive, LOC locative, MASC masculine, NEG negative, NEUT neutral, PERF perfective, PL plural, PT participant, Q interrogative, REFL reflexive, SG singular.

The Kiowa orthography adopted here was devised in association with Carrie Guoladdle, a younger Kiowa. As in Watkins (1984) and the *IJAL* articles of the 1950's, it has diacritics for nasality, high tone, and falling tone; respectively, the Polish hook, acute accent, and circumflex. Low tone is unmarked as is nasality of vowels in a syllable with a nasal stop. Length is indicated by repetition of the vowel, e.g., **aa**. However, long mid-high vowels are diphthongized and so, following Harrington (1928), are written as **ei** or **ou**. Ejective consonants are marked with an exclamation mark and aspiration by an **h**. The voiceless alveolar affricate is written **x**.

(4) **The Person Case Constraint (PCC):** In a ditransitive, where both internal arguments are realized as phonologically weak elements, the direct object must be third person.

(5) First and second person are said to be **local**.

In Kiowa, the PCC affects the **verbal agreement prefix**, a phonologically fused element that obligatorily precedes every Kiowa verb. This prefix is composed entirely of  $\varphi$ -features contributed by the subject, indirect object and direct object (Merrifield 1959b, Watkins 1984, Harbour 2004). For instance, in (6), the prefix is composed of features of the first person singular subject, the second person singular indirect object and the third person singular direct object.<sup>3</sup>

- Postpositional phrases, in contrast to DPs, do not trigger agreement. This results in alternations, such as (7), where a DP is either free-standing and agrees with the verb or is the complement of a postposition and does not.<sup>4</sup>

- Although agreement prefixes can encode three arguments, this is impossible when the combination of arguments violates the PCC. For example, when the verb **bóó** ‘bring’ takes an indirect object and a second person direct object, the verbal agreement prefix cannot encode all three arguments. Rather, the indirect object argument occurs as a non-agreeing postpositional phrase.<sup>5</sup>

<sup>4</sup>Note that a PP can occur with agreement for the P's complement, as in **Nóǵeí thalyóp nó-xán** 'The boys came to me'. We regard such cases as analogous to French hanging topics, which do not involvement agreement with a PP:

- <sup>5</sup>The postposition seems to vary across speakers, **-ei** or **-em**.

- (8) Hegó k!yátáák!ii-ęj em- pəbóótəə  
 now chief- LOC I:you.SG-bring.FUT  
 ‘I’ll bring you to the chief’

This contrasts with (9), where the indirect object can occur as an agreeing DP because the direct object is third person and the PCC is not violated.

- (9) Hegó k!yátáák!ii gyá- pəbóótəə  
 now chief I:to.him:him-bring.FUT  
 ‘I’ll bring him to the chief’

Thus, Kiowa exhibits the PCC, just as French does. We now illustrate a second commonality between the two languages.

## 2.2. Case syncretism

In French, the form of the direct object clitic is identical to that of the indirect object clitic for any combination of number and *local* person.

- (10) On me / te / nous / vous voit  
 One me.ACC / you.SG.ACC / us.ACC / you.PL.ACC sees  
 ‘They see me / you / us / you all’
- (11) On me / te / nous / vous donnera un livre  
 One me.DAT / you.SG.DAT / us.DAT / you.PL.DAT give.FUT a book  
 ‘They will give me / you / us / you all a book’

This is not the case for third person clitics:

- (12) On le / la / les voit  
 One him.ACC / her.ACC / them.ACC sees  
 ‘They see him / her / them’

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<sup>6</sup>We do not give starred Kiowa equivalents of, e.g., (2), because they would require us to improvise new prefixes, which can only be done if we adopt a specific theory of the phonological elements that comprise the prefix. Although this is possible (see, e.g., Merrifield 1959a, Watkins 1984, Harbour 2004), the result would be too theory dependent to be helpful here.

- (13) On lui / lui / leur donnera un livre  
 One him.DAT / her.DAT / them.DAT give.FUT a book  
 ‘They will give him / her / them a book’

We term this property of local clitics Case Syncretism.

- (14) **Case Syncretism:** For any combination of number and *local* person, direct object agreement/clitics and indirect object agreement/clitics are identical.<sup>7</sup>

An interesting question is whether Case Syncretism is a peculiarity of French (and other Romance languages), deriving from diachronic idiosyncrasies, or perhaps even just coincidental, given the relative simplicity of French morphology.

A rather striking fact is that Kiowa also displays Case Syncretism. However, given the richness of Kiowa morphophonology, its effects are far more prevalent. We present three.

The first can be seen by comparing a local argument, such as ‘us’, with a third person argument, such as third plural animate, ‘them.ANIM’, in two sentence frames: ‘They all saw \_\_\_’ and ‘They all gave it to \_\_\_’. Consider, first, ‘us’. Here, the agreement prefixes are identical.

- (15) Dó- bôú  
 they : us-saw  
 ‘They saw us’

- (16) Dó- ǫǫ  
 they : to.us : it-gave  
 ‘They gave it to us’

By contrast, consider ‘them.ANIM’. Here, the agreement prefixes are clearly different.<sup>8</sup>

- (17) Ém- bôú  
 they : them.ANIM-saw  
 ‘They saw them’

- (18) Á- ǫǫ  
 they : to.them.ANIM : it-gave  
 ‘They gave it to them’

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<sup>7</sup>The term ‘Case Syncretism’ should not be interpreted as involving Case features, like ‘DAT’ and ‘ACC’. In fact, our analysis of this phenomenon (section 5) wholly eschews such features.

<sup>8</sup>The tonal difference of ‘gave’ in (16) and (18) is discussed immediately below.

The lack of contrast for agreement prefixes in (15)–(16) versus the substantial contrast between (17)–(18) generalizes across other local versus non-local persons.

A second morphophonological effect relates to the tonal contours of the prefix and the following verb.

Consider a singular local object, such as ‘me’. Here, we find falling tone on the prefix and low on the verb.

- (19)    Âa-        bọụ  
           they : me-saw  
           ‘They saw me’

The same falling-low pattern is found when ‘me’ is an indirect object.

- (20)    Âa-                ɔɔ  
           they : to.me : it-gave  
           ‘They gave it to me’

Similarly, consider a plural local object, such as ‘us’. Here, we find high tone on both prefix and verb.

- (21)    Dó-        bọ́ụ  
           they : us-saw  
           ‘They saw us’

The same high-high pattern is found when ‘us’ is an indirect object.

- (22)    Dó-                ọ́ọ  
           they : to.us : it-gave  
           ‘They gave it to us’

In general, for a given local  $\varphi$ -feature set, the tonal pattern of the prefix and verb is the same whether the object or indirect object bears these features.<sup>9</sup> Though this holds for some third person  $\varphi$ -feature sets, it is not true generally: tone is not constant in the columns of (23).

(23)

	...him’	...them.DL’	...them.PL’
‘I saw ...	<b>low-high</b> gya-bọ́ụ	<b>low-high</b> nen-bọ́ụ	<b>high-high</b> dé-bọ́ụ
‘I gave it to ...	<b>high-high</b> gyá-bọ́ụ	<b>high-high</b> nén-bọ́ụ	<b>high-high</b> bét-bọ́ụ

The third morphophonological phenomenon concerns the distribution of the vowel ɔ in the agreement prefix. The simple generalization is that ɔ occurs only when an indirect object triggers agreement. For

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<sup>9</sup>The one exception is the second person singular, which is anomalous in several other respects (see Harbour 2003).

instance, consider two sentence frames, ‘\_\_\_ broke a stick for me’ and ‘\_\_\_ broke a stick’. These are identical except that agreement prefixes in the first will encode an indirect object, whereas those in the second will not. As examples, (24) gives four agreement prefixes, corresponding to different subjects. All contain **ɔ**.

(24)		‘___ broke a stick for me’
	They.DL	énôɔ
	They	dôɔ
	You.DL	mónôɔ
	You.PL	bódôɔ

The table in (25) shows exactly the same four subjects. However, there is no indirect object. Consequently, none of the agreement prefixes contains **ɔ**.

(25)		‘___ broke a stick’
	They.DL	én
	They	et
	You.DL	mén* <sup>10</sup>
	You.PL	bét

The generalization is that **ɔ** only occurs in agreement prefixes that encode an indirect object.

However, there are exceptions to this generalization: some agreement prefixes contain **ɔ** but do not encode an indirect object:

- (26)
- a. **dɔ** as in ‘\_\_\_ saw us’
  - b. **gɔ** as in ‘\_\_\_ [not 1SG] saw you.SG’
  - c. **mɔ** as in ‘\_\_\_ saw you.DL’
  - d. **bɔ** as in ‘\_\_\_ saw you.PL’

These four exceptions all involve local direct objects. So, again, in accord with Case Syncretism, we find local direct objects displaying behavior otherwise confined to indirect objects.

We have seen that the PCC and Case Syncretism cooccur in both French and Kiowa. The natural question to ask is whether there is a basis for this cooccurrence.

### 3. Does PCC derive from Case Syncretism?

The previous section showed that Kiowa, like French, displays Case Syncretism, that is, local direct objects and local indirect objects are realized identically when phonologically weak, while third person

<sup>10</sup>\* signifies that the agreement prefix deletes the verb’s high tone(s).

agreement/clitics distinguish between direct and indirect objecthood. We also saw that Kiowa, again like French, obeys the PCC, that is, when direct and indirect objects both trigger agreement/clitics, the direct object must be third person. In this section, we investigate whether it is possible to derive the PCC from Case Syncretism, a move which would account for their cooccurrence in Kiowa and French. After underscoring the initial plausibility of this idea, we argue that it would actually be a mistake to pursue this approach, on Kiowa-internal and on crosslinguistic grounds.

An initial indication that it might be productive to derive the PCC from case syncretism is the impossibility in Kiowa of having two agreeing indirect object arguments. To see this, consider benefactives and possessives. The following sentences show that both trigger indirect object agreement.

- (27) K!ódál b́-                      ́́-                      h́́́́́́  
 car      I : to.you.PL : it-temporarily-get.FUT  
 ‘I’ll borrow a car for you all’

- (28) K!ódáttó b́́t-p!́́́́́́  
 cars      I : to.you.PL : them-wash.FUT  
 ‘I’ll wash y’all’s cars’

It is possible to construct sentences with both a benefactor and a possessor. In such cases, only one can trigger indirect object agreement.

- (29) Ám- k!ódal ń́́́-kom    gyá-                      h́́́́́́  
 your-car    my-friend I : to.him : it-get.FUT  
 ‘I’ll get y’all’s car for my friend’

- (30) K!ódál ń́́́-kom    b́-                      ́́-                      h́́́́́́  
 car      my-friend I : to.you.PL : it-temporarily-get.FUT  
 ‘I’ll borrow y’all’s car for my friend’

We can conclude from this that Kiowa has a uniqueness condition on agreeing indirect objects, plausibly deriving from the morphological structure of the prefix, which has only a single indirect object agreement “slot”.

- (31) **Double IO Agreement Filter:** \* IO-AGR IO-AGR

Given (31) and given Case Syncretism, the PCC follows. Case Syncretism entails that local direct objects trigger indirect object agreement. Therefore, the combination of a true syntactic indirect object (such as a benefactive argument) and a local direct object will result in two instances of indirect object agreement. This violates (31). Hence, local objects are predicted to be impossible with syntactic indirect objects, which is precisely the content of the PCC.



There are several reasons to reject this general approach; some concern the filter *per se*, others the tight correlation it draws between Case Syncretism and the PCC.

**A Kiowa-internal argument.** The first problem concerns third animate plural indirect objects in Kiowa. These are never morphologically realized. This results in a systematic ambiguity for transitive sentences with third person objects: they may, or may not, be construed with a, say, benefactive ‘for them.ANIM’. E.g.:

- (32) Gya- hógya (Watkins 1984, p. 198)  
 I:(to.them.ANIM:) it-got  
 ‘I got it (for them)’

Given this zero realization, the combination of ‘for them.ANIM’ with a local direct object will not violate the Double IO Filter, on the assumption that this filter constrains overt morphological realizations. However, this is simply incorrect:

- (33) \*Kóígú em- pəhíítəə  
 Kiowas I:you.SG-bring.FUT  
 for ‘I’ll take you to the Kiowas’

This sentence contains an indirect object and a local direct object. However, the indirect object argument is third plural animate and so it has no morphological exponent in the agreement prefix. The Double IO Filter incorrectly predicts (33) to be well-formed. However, the PCC as stated in (4) correctly rules out (32) and so is active even when the Double IO Filter is irrelevant.

As expected, it is possible to express (33) in Kiowa. However, to do so, ‘Kiowas’ must appear in a non-agreeing PP, just as ‘chief’ does in (8).<sup>11</sup>

- (34) Kóí- em em- pəhíítəə  
 Kiowa-LOC I:you.SG-bring.FUT  
 for ‘I’ll take you to the Kiowas’

It does not help to assume that the Double IO Filter applies to syntactic rather than morphological representations, since, in the syntax, we have an indirect object, ‘to the Kiowas’, and a direct object,

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<sup>11</sup>In (33), **gú** is a number-class marker (the ‘inverse’). In PPs, nouns generally appear in their root form, as in (34). See Watkins (1984) for discussion.

‘you’, not two indirect objects.<sup>12,13</sup>

**A crosslinguistic argument.** A more general argument against deriving the PCC from Case Syncretism via the Double IO Filter comes from languages in which these three come apart. In Catalan, for example, a succession of two indirect object clitics is possible:

- (35) No te li faran res (Bonet 1991 p. 64)  
not you.SG.ETH 3SG.DAT do.3PL.FUT anything  
‘They won’t do anything to him/her [“on you”]’

However, Catalan observes the PCC:

- (36) \*A en Josep, me li va recomanar la Mireia (ibid.,  
to the Josep me.ACC 3SG.DAT goes recommend.INF the Mireia p. 178)  
for ‘Mary will recommend me to Josep’

Clearly, then, the PCC does not derive from the Double IO Filter.

Similarly, Greek shows the independence of the PCC and Case Syncretism. In this language, local direct object clitics and local indirect object clitics are morphologically distinct:

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<sup>12</sup>The only way to rescue the filter-based approach involves complications that deprive it of its initial simplicity and appeal. For example, the filter could regulate the relationship between syntax and morphology via:

- (i) \*IO-AGR for OBJ in the morphology, if there is an indirect object in the syntax.

This, however, amounts to stipulation, not explanation, of the original observation. An alternative is that the output of the syntax is IO-AGR DO-AGR, that Case Syncretism applies immediately to yield IO-AGR IO-AGR, and then the Double IO Filter applies prior to deletion of the first IO-AGR (for third plural animate indirect objects). This gets the right result, but requires a questionable stipulation about the ordering of morphological rules: alteration of a single agreement feature (DO→IO) before deletion of a particular combination of person, number and case features. The latter rule, affecting a feature combination, is more specific than the former, affecting only a single feature. By Pāṇini’s Principle, the ordering should be the reverse.

<sup>13</sup>For further evidence against such filters, see Bonet (1995), pp. 627–629.

(37)		<b>Indirect Object</b>	<b>Direct Object</b>
	1SG	mu	me
	1PL	mas	mas
	2SG	su	se
	2PL	sas	sas
	3SG.MASC	tu	ton
	3SG.FEM	tis	tin
	3SG.NEUT	tu	to
	3PL.MASC	tus	tus
	3PL.FEM	tus	tis/tes
	3PL.NEUT	tus	ta

However, Greek also observes the PCC (Anagnostopoulou 2003lab):

- (38) Tha mu to stilune  
 FUT me.GEN him.ACC send.3PL  
 ‘They will send it to me’

- (39) \*Tha tu me stilune  
 FUT him.GEN me.ACC send.3PL  
*for* ‘They will send me to him’

Once again, this shows that any attempt to derive the PCC from Case Syncretism is unlikely to succeed.

In place of a morphological filter, we will pursue a syntactically driven explanation of these effects.

#### 4. Theoretical Preliminaries

Two broad types of account of the PCC have been offered within generative linguistics: syntactic and morphological.<sup>14</sup> We will not review these in detail (see Anagnostopoulou 2003lab), but merely sketch them to situate our own approach to the problem.

Typical of morphological accounts is Bonet (1991) (see also Bonet 1995 and Miller and Sag 1997). Bonet’s core claim is that the combination of an indirect object with a local direct object is not syntactically ill-formed, rather the morphological component rules out such a combination as unacceptable. However, if a language makes a morphological repair strategy available—such as deletion of a feature to

<sup>14</sup>Functionalism accounts have also been offered (e.g., Haspelmath 2001). These trade on the notion that PCC-violating sentences are unlikely to be used for a variety of pragmatic, discourse and sociocultural reasons. The PCC results, then, from grammaticalization of frequencies and tendencies. However, it remains obscure to us how grammaticalization of the most frequent structures entails ungrammaticality of the least frequent. (See Jelinek (1993) for similar comments on functionalist accounts of ergative splits.)

produce a PCC-compatible feature combination—then the structure becomes acceptable though it reflects only a subset of the arguments’  $\varphi$ -features. On the other hand, if no repair strategy is available, the sentence is rejected by the Morphological Component and is therefore ungrammatical. Bonet’s account is not then an explanation of the PCC per se, but rather an explanation in terms of morphological theory of how potential PCC violating feature combinations can be realized.

Syntactic approaches trade on the intuition that the PCC is the reflex of competition in the syntax. Typical of these is Anagnostopoulou (2003<sub>lab</sub>) (but see also Boeckx 2000, Ormazabal and Romero 2002, Bejar and Rezac 2003). Anagnostopoulou assumes that agreement inflection (and clitics) are reflexes of Agree/Move relations (an assumption we will also adopt). The core of her proposal is that PCC effects arise when both a Dative and an Accusative argument check features with a single functional head. The dative argument checks person features (and is, essentially, defective for number), while the accusative argument needs to check all of its features. The derivation for double object constructions crucially involves the checking of the person features of the dative argument first, which means that the relevant functional head has checked person features:

$$(40) \quad \text{DP}[\text{DAT}, \text{person}] \text{ F}[\text{person}, \text{number}]$$

The derivation continues with the accusative argument moving and checking its features with this same functional head. If the accusative argument is first or second person, then these features cannot be checked, since the person feature on F is already checked.

$$(41) \quad * \text{DP}[\text{DAT}, \text{person}] \text{ DP}[\text{ACC}, \text{person}, \text{number}] \text{ F}[\text{person}, \text{number}]$$

However, following a long tradition, Anagnostopoulou assumes that third person arguments actually lack person features and bear only number features. This means that a third person accusative argument will be able to check its features, and the derivation will converge:

$$(42) \quad \text{DP}[\text{DAT}, \text{person}] \text{ DP}[\text{ACC}, \text{number}] \text{ F}[\text{person}, \text{number}]$$

The PCC then derives from the general feature checking architecture, combined with a particular view of the derivation of double object constructions and the idea that, while dative arguments need not check number features, accusative arguments (and, in fact, structurally case marked arguments in general) must check all their features.

Our account appeals to some similar ideas—we too will assume that third person differs from first and second in that it is less specified, and we also adopt a feature checking approach. However, rather than deriving the PCC as an effect of competition between two arguments for case licensing by a single head, we argue that it follows from a defective feature specification on a case licensing head. The major theoretical and empirical differences arise with respect to (i) the theory of the morphology/syntax interface that

gives rise to partial correlation between Case Syncretism and the PCC (section 5) and (ii) instances of the PCC where the verb is unaccusative (section 6).

As a preliminary to our own account, we first lay out the basics of Kiowa clause structure. By considering basic facts about word order and selection relationships between adverbials and morphemes on the verb, we develop a view of Kiowa clause structure (section 4.1). We then outline our theoretical assumptions: in section 4.2, we briefly specify a feature geometry for  $\varphi$ -features, and indicate how this enters into the analysis of the Kiowa facts. In section 4.3, we detail the mechanism whereby arguments are introduced into clause structure, and how they are syntactically licenced.

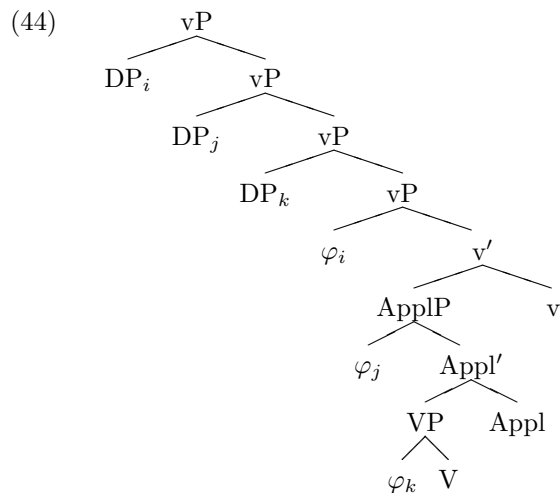
### 4.1. Kiowa clause structure

As a preliminary to our analysis of the PCC and Case Syncretism, this section lays out some basic facts about the clause structure of Kiowa.

Kiowa is a head-final language. As already mentioned, its verbs agree with up to three DPs, the agreement being expressed as a tightly fused verbal prefix.

- (43)      Ā-                                  ㄗㄗ  
they : to.them.ANIM : it-gave  
'They gave it to them'

On a preliminary analysis, Kiowa fits the Baker/Jelinek profile for polysynthetic languages reasonably well, exhibiting freedom of word order, noun incorporation, rich agreement and absence of quantifiers for ‘no’, ‘most’, to name a few characteristics from Jelinek (1984), Baker (1996). Following the general thrust of this work, we will assume that DP arguments in Kiowa are adjoined and are associated with argumental agreement. Concretely, we propose the following verb phrase structure:



According to (44), the three arguments of the verb are the nodes marked  $\varphi$ . These are spelled out as the verbal prefix. (Note that (43) is, in consequence, not a pro-drop construction; rather, it is a sentence with three arguments but without any adjoined DPs.) Three points require further comment: what the vP-internal heads are; what ‘ $\varphi$ ’ is; the syntactic status of the DPs as adjuncts and the motivation for their particular position in the tree.

Following much recent work (Kratzer 1996, Hale and Keyser 1993, Ramchand 2003, Pylkkanen 2002, Cuervo 2003, Marantz 1993, Borer 2004), we adopt the idea that arguments are introduced by functional heads. We assume the existence a functional head, v, which introduces the external argument (Kratzer 1995, Hale and Keyser 1993). External arguments in Kiowa are agents, that is, generally volitional controllers of events. Similarly, we assume the existence of a functional head, Appl, which introduces applicative arguments (Marantz 1993, Pylkkanen 2002). Applicative arguments in Kiowa are recipients of ditransitives, benefactors, malefactors, sources, causees and possessors. We will assume objects to be introduced as sisters of V, though this is not a crucial assumption. We refer to the three arguments as, respectively, **subject**, **indirect object** and **direct object**, using these purely as descriptive labels.

The specifiers of the heads V, Appl and v are simply bundles of  $\varphi$ -features, not full DPs (Baker 1996). The content of these  $\varphi$ -feature bundles is addressed in section 4.2. Though the spellout relationship between the  $\varphi$ -feature bundles and the phonological form of the prefix is non-trivial, Merrifield (1959a), Watkins (1984) and Harbour (2004) have shown the prefixes are indeed the spellout of the features of subject, direct object and indirect object.

As expected for a polysynthetic language, full DPs are optional and freely ordered. For example, in the first clause of (45), we find the order, indirect > direct object; however, in the second clause, we find the reverse.

- (45) Məʔthəxəʔhijj mək!ʔn ʔ- səʔhəl- depeidou, ɛʔhəʔ-al  
*coyote nose he : to.him : it-sharpened-because now- too*  
 hétʔ mək!ʔn məʔthəxəʔhyop məʔ xəʔgʔ bét- dʔʔ  
*still noses coyotes like awls : to.them : them-be*  
 ‘Because [Seyndey] filed the coyote’s nose, nowadays still the noses of  
 coyotes are awl-shaped.’

Furthermore, DPs can be either preverbal (46) and (47) or postverbal.

- (46) Nəʔ-p!ii gya- təʔtəʔ (Watkins 1984, p. 244)  
 my- sister I : her-talk.to  
 ‘I am *or* was talking to my sister’

- (47) An gya- bôu- tɔtɔ nɔ́ɔ-plii (Watkins 1984, p. 244)  
 HAB I: her-often-talk.to my-sister  
 ‘I often talk to my sister’

Our ongoing research suggests that the full variety of word orders is best explained by appeal to the interaction between discourse-related displacement operations and a basic word order, subject > indirect object > direct object.<sup>15</sup>

Finally, we explain why the DPs in (44) are vP-adjoined and not higher in the structure. In addressing this question, we take the opportunity to sketch the higher functional structure of the Kiowa clause. Pertinent information comes from sentential particles and their interaction with inflectional morphology on the verb.

Kiowa verbs inflect for aspect, negation, futurity, and evidentiality. These categories are expressed by suffixes.

- (48) K!yááhî Ø- tóúnêi hón ɛ- xáng- ôɔ- t!ɔɔ- dei ɔ́hɔɔ  
 man he-say.IMPF.HSY NEG they.DL-reach-NEG-FUT-HSY there  
 ‘The man said that they (two) won’t be getting *or* won’t manage to get there.’  
 (Watkins 1984, p. 329)

Some of these suffixes are in a syntactic dependency relation with independent particles that occur before the verbal complex. For instance, when a verb is marked with a negative suffix, it is always preceded by the negative particle **hón**, as in the previous example. Other particles generally cooccur with aspect, futurity, or evidentiality. The following example shows this for **béthɔɔ** ‘unknowingly’, which requires a hearsay-marked verb.

- (49) Béthɔɔ a-póú-k!ý́de-hel  
 unknowingly I-see- bad- HSY  
 ‘I didn’t realize I was so ugly’

These particles occupy fixed positions in the clause, although they may be moved if they bear special stress (cf. adverbs in Italian, Cinque 1999). Moreover, particles that govern evidentiality precede modal particles that govern futurity, and these precede modal and aspectual particles that govern aspect:

- (50) Béthɔɔ hón ám em- dý́-môɔ- hel  
 unknowingly NEG you you.SG-be- NEG-HSY  
 ‘I didn’t realize it wasn’t you’

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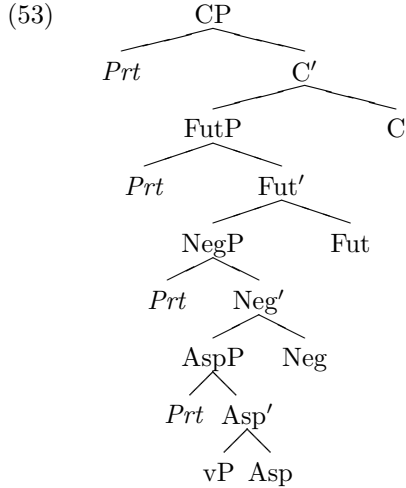
<sup>15</sup>Note that this order mimics that of v > Appl > V. We will not address here what accounts for there being a basic word order, despite the adjunct status of DPs.

- (51) Háyáttó hón Ø- deḡ- héḡ-môḡ-t!ḡḡ  
 maybe NEG he-sleep-die-NEG-FUT  
 ‘Maybe he won’t fall asleep’

- (52) Béthḡḡ an ḡ- bôu- hḡnx!ou- yii- t!ḡḡ- dei  
 unknowingly HAB :to.him: REFL-always-come.late-IMPF-FUT-HSY  
 ‘I didn’t realize he was going to keep on coming late’

The particle order and the morpheme order are mirror images, as the underlining indicates. **Béthḡḡ** selects **-hel** or, after the future marker, **-dei**; **háyáttó** selects **-t!ḡḡ**. **Hón** selects **-môḡ**; **an** selects **-yii**.

This mirroring suggests the following kind of structure:<sup>16</sup>



Of these projections, it appears that AspP is obligatory, and we shall assume that it is the locus of VP external case checking (much as T is in more familiar languages).

We now return to the proposal that DPs are adjoined to vP. In the informationally neutral word order, DPs occur between the particles and the verb. For instance, taking an example with a single overt argument, any of the following orders is possible.

- (54) Hón máthḡn Ø- xáḡḡnḡḡ  
 NEG girl she-arrive.NEG  
 ‘The girl didn’t arrive’

- (55) Máthḡn hón Ø- xáḡḡnḡḡ  
 girl NEG she-arrive.NEG  
*approximately* ‘The girl, she didn’t arrive’

<sup>16</sup>We have placed the particles in specifier positions here, but the alternative, that they are adjoined to the projections of the functional heads, would also give the right results.



- (56) Hón Ø- xááñô mathon  
 NEG she-arrive.NEG girl  
*approximately* ‘She didn’t arrive, the girl.’

Example (54) represents the informationally unmarked, or broad focus, order. When the DP precedes the particles, as in (55), it is interpreted as a sentence topic or focus. Postverbally, as in (56), it is discourse-old. The rightmost particle can, therefore, be regarded as marking the right edge of the area of the clause which hosts left-displaced arguments. In consequence, arguments such as **mathon** ‘girl’ in the informationally unmarked word order must remain low in the structure, essentially within vP.

The following example illustrates that in an informationally neutral sentence, overt DPs occur between the particles and the verb and that their underlying order is subject > indirect object > direct object.

- (57) Hón P!óthópdek!ii Paithalí áádô é- thém- ʔəm- ʔʔ  
 NEG Daniel Vincent stick he:to.him:it-break-make-NEG  
 ‘Daniel didn’t make Vincent break the stick’

This concludes our comments on and justification for the structure given in (44).

## 4.2. Feature Inventory

An important aspect of our account of the Person Case Constraint and of Case Syncretism is the nature of the  $\varphi$ -feature bundles in (44), to which now we turn.

Kiowa agreement marks four morphosyntactic categories: person, number, class and empathy. An articulated theory of the features behind these categories has been developed by Noyer (1992) and Harbour (2004). For current purposes, we abstract away from the actual features involved and merely adopt the following conventions: there is a number feature with the possible values singular, dual and plural and there is a participant feature with values 1 and 2. Class, irrelevant here, is systematically disregarded. We propose a privative feature [empathy] (ANIM is glosses), specified for certain nominals, the referents of which are regarded, culturally, as worthy of empathy: adult Kiowas, sometimes children, sometimes horses. We represent feature-value combinations as:

- (58) [participant : \_\_ , number : \_\_]

where the lacunae are filled by values. For instance, first person inclusive dual is represented as:

- (59) [participant : 12, number : dual]

In our current notation, we stipulate that values for the number feature are both mutually exclusive and obligatorily specified. In contrast, the participant feature may be specified for both values or for neither. (See Appendix B for derivation of these stipulations.)

Third person has been commonly claimed to differ from first and second (Benveniste 1966, Taraldsen 1995, Ritter 1995, Kayne 1998 among others). In our system, there are two ways to represent third person: (i) by specifying only number (and empathy); (ii) by specifying number, (empathy) and participant but without a value. For instance, third person singular can have either of the following representations:

- (60)    a. [participant : , number : singular]  
           b. [number : singular]

We tie this formal difference to an interpretive one: specification for [participant : ] entails semantic animacy (which we take to be akin to ‘capable of mental experience’, cf., Reinhart’s (2000) feature  $[\pm\text{Mental state}]$ ). This is a natural suggestion, given that local persons ([participant : 1], [participant : 2], [participant : 12]) are all semantically animate. This motivates the idea that specification for the participant feature per se, irrespective of its value, entails semantic animacy. It follows from this that a third person pronoun bearing [participant : ] will be interpreted as animate. In contrast, there is no entailment that a third person pronoun lacking the feature participant is (in)animate.

Note that semantic animacy is also entailed by [empathy], though only a small class of nouns bears the feature. Furthermore, a nominal may quite properly refer to a semantically animate referent, even in the absence of syntactic specification for the features [participant : ] or [empathy].

We have now seen how feature bundles correlate with classes of pronominals and that a bundle without [participant : ] but with [number : ] is third person. An obvious question is whether there are any pronominals without [number : ] but with [participant : ]. We propose that this is exactly the specification of Romance’s third person reflexive *se* clitics. As is well known, these clitics show no morphological specification for number but pattern with local arguments (Perlmutter 1970; see also section 6 below). This gives us the following typology:<sup>17</sup>

- (61)    a. [participant : value, number : value] = First and second person pronominals of any number  
           b. [participant : , number : value] = semantically animate third person pronouns of any number  
           c. [number : value] = third person pronominals, with no entailments as to semantic animacy  
           d. [participant : ] = (semantically animate) third person reflexives

#### 4.3. Syntactic mechanics of case and agreement

We now turn to the distribution of  $\varphi$ -features in the phrase structure. In section 4.3.1, we discuss how arguments’ semantic restrictions are featurally encoded. In section 4.3.2, we discuss how arguments are licensed. And in section 4.3.3, we illustrate how the system works via a schematic example.

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<sup>17</sup>We presume reflexives are further differentiated by a [reflexive] feature, irrelevant here, but implicated in the syntax and semantics of reflexivity and that local reflexives bear number features.

#### 4.3.1. *Semantics of arguments*

In Kiowa, as in other languages, some arguments have restricted interpretations. Indirect objects (specifiers of Appl) are always interpreted as semantically animate, i.e., capable of experience. This restriction is familiar from Indo-European languages (Fillmore 1968, Pesetsky 1995); for instance, it is responsible for the oddness of examples like (62), where the indirect object **the conference** has to be somehow interpreted as personified.

(62) ? We sent the conference the abstract.

The subject (specifier of v) is also interpreted as animate and, additionally, as exerting control over the event (Watkins 1984). This can be seen in the following contrasts.

- (63) a. K!óáttó é- ót  
dish he:it-drop.PERF  
'He dropped the dish (deliberately, in a fit of anger)'
- b. K!óáttó ó- ótkyá  
dish :to.him:it-drop.DETR.PERF  
'He dropped the dish (accidentally)'

In this example, we have a contrast between a controlling and a non-controlling 'subjects' of the verb **ót** 'drop'. When the 'subject' is interpreted as not being in control of the event it triggers indirect object agreement and the verb is detransitivized (morphologically marked here by an affix).

A further example of the same contrast is seen with the future affix. This affix has two allomorphs (Watkins 1984, p. 170–172), **tóó** for verbs interpreted as agentive, **t!óó** for non-agentive ones. This allomorphy correlates with what kind of agreement is marked in the prefix: subject agreement correlates with agentive marking, and indirect object with non-agentive:

- (64) a. Móp!ál gyat- héídé- tóó  
trash I:them-remove-FUT.AGT  
'When I've cleared the trash away, ...'
- b. Móp!ál yá- héídáí- t!óó  
trash :to.me:them-remove.DETR.PERF-FUT.NON-AGT  
'If I can get things cleared away, ...'

Direct objects are not subject to the interpretative restrictions associated with higher positions.

We implement the interpretational restrictions on the specifiers of Appl and v by requiring their specifiers to have a particular syntactic specification: the specifier of Appl must be instantiated with the

[participant:] feature, while the specifier of *v* must bear not only this, but an additional interpretable feature [control]. The semantic interpretation of the [participant:] feature involves animacy, as discussed above, while that of [control] involves the control over the event that typifies agenthood in Kiowa.

#### 4.3.2. *Syntactically licensing arguments*

Arguments introduced by the verb, Appl and *v* must be syntactically licensed. We implement this, following Chomsky (2001), by assuming that DPs need to check structural Case and that this involves them entering into an Agree relation with a head bearing uninterpretable  $\varphi$ -features. These  $\varphi$ -features are unvalued, and obtain a value from an argument via Agree. We notate this as follows:

$$(65) \quad F[\varphi:] \dots DP[\text{participant: value, number: value}] \rightarrow \\ F[\text{participant: value, number: value}] \dots DP[\text{participant: value, number: value}]$$

We assume, again with Chomsky, that a feature is uninterpretable if it enters the derivation without a value.<sup>18</sup> Agree is constrained so that it holds between an unvalued feature and the closest matching feature (Chomsky 2000).

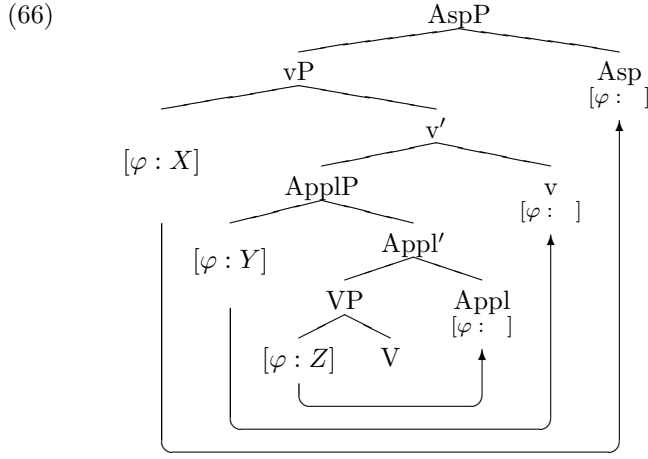
Chomsky (2000, p. 124) proposes that structural Case on a DP is only checked by a head bearing a full complement of  $\varphi$ -features; defective heads, such as non-finite *T*, cannot check structural Case. We adopt this with one modification, namely, that defective heads may check structural Case on a DP provided that the DP is defective in the same way as the Case checking head. For instance, if both are unspecified for [participant:], they can Agree and structural Case of the DP is checked. In essence, Case checking requires the features of the checking head to be  **$\varphi$ -complete** with respect to the checkee, rather than being  $\varphi$ -complete tout court. This modification maintains the empirical coverage of Chomsky's proposal, whilst permitting a natural analysis of the PCC facts presented here.

We implement this approach via the following convention.  $[\varphi:]$ , that is, an uninterpretable  $\varphi$ -feature bundle, is a variable over the features [participant:] and [number:]. This means that  $[\varphi:]$  can be checked by any well-formed bundle of  $\varphi$ -features; for example, [number: singular], [participant:, number: singular] and [participant: 1, number: singular] are all equally capable of checking  $[\varphi:]$ . In our terms, then, a head bearing  $[\varphi:]$  is  $\varphi$ -complete with respect to any checkee. However, a head bearing just [number:], for example, will only be  $\varphi$ -complete with respect to a nominal bearing just [number:].

The heads in the functional spine of the clause that can check Case on arguments are Asp, *v* and Appl (McGinnis 1998). The locality constraint on Agree entails that each argument is checked by whichever of Asp, *v* and Appl is the closest c-commanding head. For a ditransitive structure, the checking relations will be:

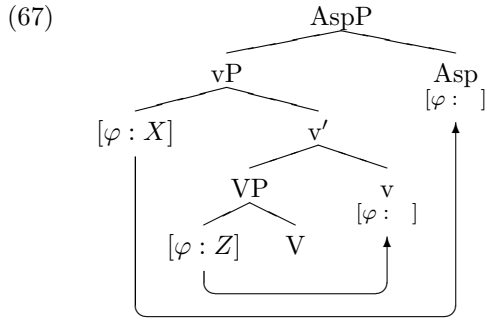
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<sup>18</sup>Adger and Ramchand (2003) argue that uninterpretability and lack of value are distinct notions. For our purposes, Chomsky's position is sufficient.

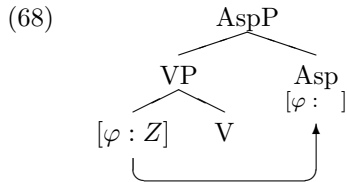


(Although we notate Appl as having uninterpretable  $\varphi$ , we will argue below that it in fact bears only uninterpretable number.)

Appl and/or  $v$  (and the arguments they introduce) can be absent. For instance, in a simple transitive clause, Appl is absent; consequently, the direct object checks Case with  $v$  and the agent with Asp.<sup>19</sup>

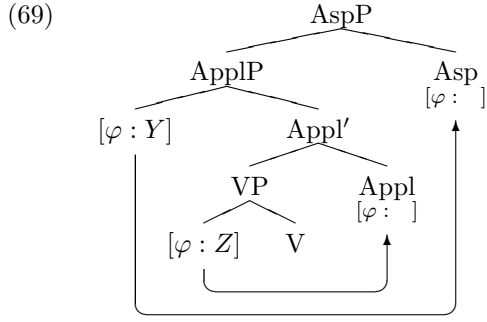


When both  $v$  and Appl are absent, the direct object checks Case with Asp.



A third possibility is that Appl is present but  $v$  absent (unaccusatives with indirect objects). In this instance, the direct object checks case with Appl and the indirect object with Asp.

<sup>19</sup>Feature valuation, of course, takes place derivationally. It is illustrated here as though it applies after the construction of the whole tree for presentational purposes only.

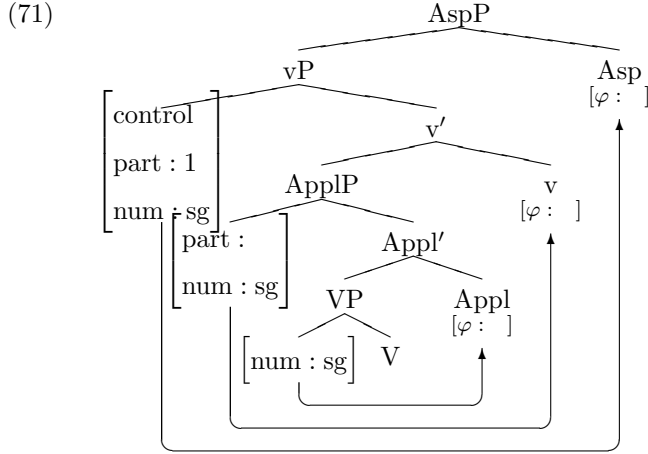


#### 4.3.3. A schematic example

We now illustrate how this system derives a schematic example involving a ditransitive verb.

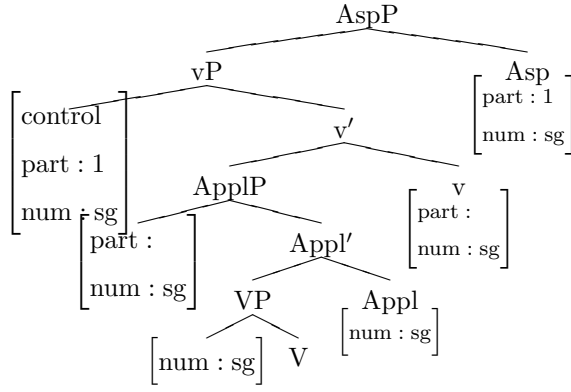
- (70) Gyá-            ǵǵ  
 I : to.him : it-give.PF  
 'I gave it to him'

The structure for (70), before feature valuation has taken place, is:



Recall that  $v$  and Appl require that their specifiers bear  $[\text{participant} : ]$ , and that  $v$  further instantiates  $[\text{control}]$  on its specifier. Concentrating first on the argument in the specifier of  $v$ , in our example this is the argument that Agrees with Asp and it checks Asp's uninterpretable  $\varphi$ -features. Similarly, the argument introduced by Appl must be specified for  $[\text{participant} : ]$ . In the current example, this argument Agrees with  $v$  and checks  $v$ 's  $\varphi$ -features. Finally, the object checks the uninterpretable features of Appl. After valuation, we have:

(72)



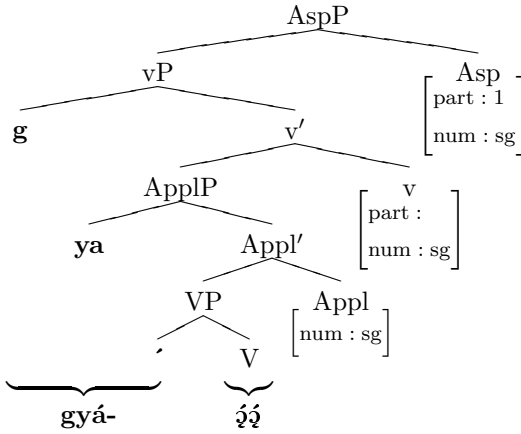
Note that the difference between the third person object and the third person indirect object is that the former bears no specification for [participant:], whereas the latter does (it is [participant:, number: singular]). This difference in feature specification leads to a difference in phonological exponence:

- (73) a. [participant:, number: singular] ↔ ' (high tone)  
 b. [number: singular] ↔ **ya**

Noting in addition (74), we have (75):

- (74) [control, participant: 1, number: singular] ↔ **g**

(75)



This analysis makes the idea of subject agreement, indirect object agreement and direct object agreement epiphenomenal. There is no special case diacritic which distinguishes these types of agreement (such as NOM or ACC). What is relevant is the semantically interpretable feature [participant:], which distinguishes indirect objects and subjects from third person direct objects, and the feature [control], which distinguishes subjects from indirect objects.

## 5. Deriving the PCC and Case Syncretism

We can now explain the basis of the PCC and Case Syncretism.

Recall that the PCC disallows the cooccurrence of agreement with both a local direct object and an indirect object. We can capture its effects with the following statement:

(76) Appl cannot enter into an Agree relation with a [participant:] argument

This entails that, if Appl is present, the direct object must be third person, as any argument lacking the feature [participant:] is automatically third person.

We implement (76) by differentiating the uninterpretable features of Appl from those of Asp and v: Asp and v bear uninterpretable  $\varphi$ -features, that is [ $\varphi$ :]; Appl, on the other hand, bears [number:] only. So, our claim is that Appl is defective. This defectiveness constrains the Agree relations that Appl may enter into. Recall that a defective head may check structural Case of a DP only if it and the DP are defective with respect to the same features. Consequently, Appl can only enter into Agree relations with arguments unspecified for [participant:], i.e., with third person. Schematically:

(77) Appl[number:] ... DO[number:value]  $\rightarrow$   
 Appl[~~number:value~~] ... DO[number:value]

It follows that no Agree relation can hold between Appl and a local direct object.

(78) Appl[number:] ... DO[participant:value, number:value]  $\nrightarrow$  [*crash*]

(The closest head that has the right features to check a *local* direct object is v (or Asp, if v is absent). However, the direct object cannot enter into Agree with these heads, as the indirect object introduced by Appl intervenes.)

This system permits us, further, to explain why Case Syncretism affects only local arguments. In essence, our explanation comes down to the fact that local arguments are always specified for [participant:], whereas third person arguments are not always so specified.

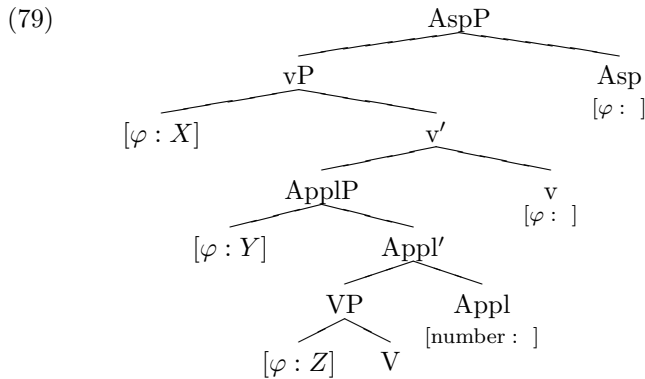
More specifically, consider the difference between a third person singular *direct* object and a third person singular *indirect* object. The only  $\varphi$ -feature such arguments bear intrinsically, i.e., in virtue of their meaning, is [number:singular]. However, Appl forces a third person singular indirect object to bear the feature [participant:] too (this is how Appl syntactically enforces the selectional restriction that its specifier be semantically animate). Consequently, a third person singular direct object is simply [number:singular], but a third person singular indirect object is [participant:, number:singular]. Now, presence versus absence of [participant:] is something that phonological exponence can be sensitive to. It follows that third person direct object agreement can differ from third person indirect object agreement. (This is precisely what we saw in (72)–(75): **ya** and **ʻ** are both agreement forms for third person singular,



but one is for indirect ([participant:], the other for direct ([participant:] -less), objects.)

Consider now local arguments. [participant:1] is the person specification for first person exclusive, as [participant:12] is for first person inclusive and [participant:2] for second person. All three include [participant:], necessarily, as ‘1’ and ‘2’ are values of that feature. So, Appl will contribute nothing to the feature bundle of a local argument that is not present intrinsically, i.e., in consequence of its meaning. For example, a first person singular direct object is [participant:1, number:singular], and a first person singular indirect object is [participant:1, number:singular]. What Appl adds to third person arguments and what differentiates third person direct from indirect objects, namely [participant:], is already present for local arguments. Consequently, realization of local direct object agreement and local indirect object agreement involves one and the same  $\varphi$ -feature bundle; hence, Case Syncretism.

Now, it is simply a fact that there are no PCC-type restrictions on subjects and indirect objects: they may be either local or third person. In our system, this means that the heads they check Case against in Kiowa must be  $\varphi$ -complete and is captured by Asp and v bearing [ $\varphi$ :] (as opposed to Appl’s [number:]).



A consequence of  $\varphi$ -completeness on v/Asp is that a third person direct object (bearing just [number:]) can check [ $\varphi$ :] on v/Asp. (For v, this happens in a transitive clause, such as ‘I saw him’; for Asp, in an unaccusative, such as ‘He came’.)

## 6. Consequences

We now turn to several consequences of our proposal and ways in which it differs from other accounts of the PCC.

A first prediction is the impossibility of unaccusative verbs which take both a local direct object and an indirect object. This prediction holds in Kiowa: the only way to express an example like ‘I came to you’ will be via a non-agreeing postpositional phrase:

- (80) Ám-ɛ̃j a-xán  
 you-LOC I-arrived  
 ‘I came to you’

To see how this works, consider the unaccusative verb **xán** ‘arrive’.<sup>20</sup> Derivation of (80) produces the following structure.

- (81) [ Asp<sup>0</sup> [ ApplP you [ Appl<sup>0</sup> [VP I V<sup>0</sup> ] ] ] ]

With Appl being valued by the internal argument, the internal argument is forced to be third person, as Appl cannot enter into an Agree relation with an argument specified as [participant:].

Spanish further confirms this prediction (Ormazabal and Romero 2002) :

- (82) \* Tú me llegaste tarde  
 you.NOM me.DAT arrived.2SG late  
*for* ‘You came late to me’

The result that PCC effects obtain even in the absence of an external argument is of particular relevance to current debate, as the syntactic approach to the PCC developed by Anagnostopoulou (2003labbb) predicts the opposite since, in her system, the PCC only arises when the transitive version of *v* is present. This system is motivated by facts from Greek, where presence versus absence of the external argument is crucial to the PCC. As a result, unaccusatives with local direct objects can cooccur with indirect objects, making, e.g., ‘I came to you’ effable with two phonologically reduced arguments (in this case agreement and a clitic), in contrast to the Kiowa case just discussed.

- (83) tu irtha (Anagnostopoulou 2003labbb, p254)  
 him.GEN came.1SG  
 ‘I came to him’

To account for the difference between Spanish and Greek, Anagnostopoulou suggests that dative arguments in Spanish may check their person feature in two positions: *v*-TR (in PC-environments) or T (in certain unaccusatives). However, this solution will not extend to Kiowa, because in an example like ‘Two men came to you’, cf., (87), ‘two men’ triggers direct object agreement, not subject agreement (see below for more detail). This means that the proform corresponding to ‘two men’ is not in a Case relation

<sup>20</sup>That this verb is unaccusative can be seen by the kind of allomorphy it triggers. It appears only with the non-agentive allomorph of the future suffix (see section 4.3.1):

- (i) xánt!ɔɔ / \* xántɔɔ ‘arrive.FUT’

It follows that the single obligatory argument of **xán** ‘arrive’ is a direct object.

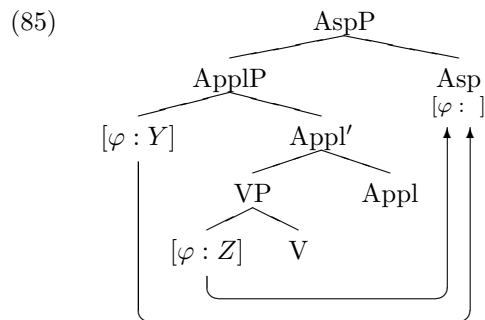
with T. However, our own analysis has difficulty with the converse fact in Spanish, that the direct object in (82) is nominative and so appears to be in a Case relation with T, rather than Appl.

An account of the difference between Greek and Kiowa might depart from the different positions that direct objects of unaccusatives obligatorily raise to in the two languages. In Kiowa, which we have argued to be a polysynthetic language (section 4.1), all of the verb-phrase-internal arguments remain *in situ*. In Greek, however, the direct object of an unaccusative is in a high enough position to check Case with T, plausibly because it has raised above Appl. This can be seen from the fact that it bears nominative case:

- (84) I            soupa        tou        eftase  
          the.NOM soup.NOM him.GEN arrived.3SG  
          ‘The soup arrived to him’, ‘The soup was enough for him’

We have argued, in contrast, that the direct object of an unaccusative in Kiowa is in a Case checking relationship with Appl, whenever an indirect object is present. It follows that, under these circumstances, PCC effects will hold in Kiowa but not in Greek. For this account to extend to Spanish, we would need to argue that the direct object is in a relation both with Appl (for  $\varphi$ -checking) and with T (for Case).

For greater clarity with regard to the Kiowa facts, let us illustrate the difficulty of extending to Kiowa Anagnostopoulou’s treatment of Spanish. Assume that dative case is checked on T(/Asp) rather than on v and that competition for case checking with T(/Asp) between the direct object and indirect object results in the PCC for unaccusative predicates. This involves replacing (69) with:



The difficulty with this approach, in Kiowa, is that direct objects of unaccusatives with applicatives trigger agreement clearly different from that of subjects. Consider again the unaccusative verb **xán** ‘arrive’:

- (86) Hó yí klyááhî gə-                      bôú khiídêl?  
       Q   two men        they :you.SG-saw yesterday  
       ‘Did two men see you yesterday?’

- (87) Hó yí k!yááħĭ nén- xán khíidêl?  
 Q two men :to.you.SG :them.DL-arrived yesterday  
 ‘Did two men come to you yesterday?’

By Case Syncretism, second person singular triggers identical agreement in both sentences. So, differences between the prefixes are due to the other arguments. As these are third person dual in both cases, the crucial difference is whether ‘they two’ triggers subject agreement or direct object agreement. As **bóú** ‘see’ is transitive, ‘they two’ in (86) must trigger subject agreement. So, ‘they two’ in (87) must trigger direct object agreement, as the gloss indicates (Harbour (2003a, ch. 5) shows this at length). This suggests that there is no relationship between T/Asp and the direct object in (87), and, so, there is no case competition with the indirect object.

Anagnostopoulou’s account of Spanish is inspired by Icelandic’s restriction on nominative objects: if there is a dative, they must be third person (Sigurðsson 1996, p. 30).

- (88) Mér höfðu fundist þær vera gáfaðar  
 me.DAT had found they.NOMbe intelligent  
 ‘I had found them intelligent’

- (89) \*þeim höfum alltaf fundist við vinna vel  
 them.DAT have always found we.NOMwork well  
 ‘They have always thought that we work well’

This person restriction on nominative objects is quite natural given our argument that indirect objects (as specifiers of Appl) always bear the feature [participant:]. Let us accept, with Anagnostopoulou, that, in Icelandic, (i) T enters into a relationship both with datives (which satisfy T’s EPP requirement) and with direct objects of unaccusatives (hence their nominative case), (ii) datives do not require case licensing. The person restriction on nominative objects now follows: when the [participant:]-specified dative checks T’s EPP feature, it ‘inadvertently’ values T’s uninterpretable [ $\varphi$ :] as [participant:]. For the purpose of any further case checking relation, T is defective and capable of agreement in [number:] only. (We leave aside the implementation of this idea; it requires a mechanism whereby T enters into multiple Agree relations—see, e.g. Anagnostopoulou 2003laba.)

A second aspect of our account relevant to current debate concerns animacy. Ormazabal and Romero (2002) broaden the PCC to a constraint on agreement with animate direct objects. That is, they assign to [ $\pm$ animate] a role similar to that played by [participant:] in our system. The empirical basis for their approach is an interesting set of facts from *leísta* dialects of Spanish. In these varieties, the clitic usually reserved for dative arguments, **le**, is also used for animate direct objects, yielding the following contrasts:

(90) Lo / le vi  
 3ACC.[−animate] / 3ACC.[+animate] saw.1SG  
 ‘I saw it/him’

(91) a. Te lo di  
 2DAT.SG 3ACC.[−animate] gave.1SG  
 ‘I gave it to you’  
 b. \*Te le di  
 2DAT.SG 3ACC.[+animate] gave.1SG  
*for* ‘I gave him to you’

Ormazabal and Romero propose that *v* encodes animacy agreement with the direct object, when the verb is of the right semantic type. They treat dative agreement essentially as involving preposition incorporation. Without going into details, their account is that animacy agreement and preposition incorporation clash with each other and causing the derivation to crash.

The result of this approach is a strong prediction that agreement for an animate direct object cannot cooccur with indirect object. Our account makes no such prediction, and, with Kiowa as its empirical focus, this is felicitous: agreement with animate direct objects does occur with indirect objects in Kiowa.

(92) Nén- hól (Harrington 1928, p. 249)  
 I : to.him : them.ANIM-killed  
 ‘I killed them [people] for him’

As noted in section 4.2, the feature [empathy], which entails semantic animacy, is relevant for the specification of the verbal agreement prefix in Kiowa. However, it does not interact with the PCC. The likely source, in our system, for the animacy effects Ormazabal and Romero observe is, again, the feature [participant:]. This feature, like [empathy], entails semantic animacy, and it is the feature responsible for PCC effects.

One further result that emerges from our system is the prediction that third person reflexives that bear [participant:] features (but no number features), will always give rise to PCC effects. This is true in French and other Romance languages.

(93) \*On se lui montrera  
 one REFL.ACC him.DAT show.FUT  
*for* ‘They will show themselves to him’

In Kiowa, however, animacy of the reflexive is not encoded (i.e., entailed) by the feature [participant:], but by the feature [empathy]. Consequently, (92) is ambiguous between the translation given and ‘I killed myself for him’ and so reflexives, though animate, do not violate the PCC.

A final observation about our system. Although it creates syntactic representations that naturally feed Case Syncretism, these syntactic representations do not force it. The syncretism arises because local direct and indirect objects bear the same  $\varphi$ -feature set. If we realize these features in a straightforward fashion, that is, not looking at the surrounding context, then Case Syncretism follows. However, if the realization of the agreement does depend on the surrounding context, then Case Syncretism is no longer forced.

To see this, take a case where there is a local direct object; it follows that there is no Appl head (otherwise the PCC is violated). However, when there is a local indirect object, there clearly has to be an Appl head. This means that even though the local direct and local indirect objects both value the higher head with the same  $\varphi$ -feature set, the two cases are distinguished by the presence versus absence of the Appl head. The Appl head can then serve as a context conditioning the realization of  $\varphi$ -features. This leaves scope for languages that, like Greek, obey the PCC without exhibiting Case Syncretism. Specifically, in the indirect~direct clitic pairs **mu~me**, **su~se** (37), **u** realizes [number:singular] in the context of Appl (and [participant:]), and **e** realizes the same features when Appl is absent. The appeal to contextualization by Appl is required independently, to account for other syncretisms in (37). Observe that third person plural indirect object clitics syncretize for gender: masculine, feminine and neuter are all **tus**. This can be captured by an impoverishment rule, affecting gender, that is contextualized to apply only when Appl is present: [gender]  $\rightarrow \emptyset$  in the context of Appl and [number:plural]. Nonetheless, Case Syncretism does partially hold in Greek, for plural arguments: **as** realizes [number:plural] for any local argument, making **mas**, **sas** ambiguous with respect to direct and indirect objecthood. So, languages like Greek, where PCC and Case Syncretism do not (perfectly) correlate, are accommodable.

## 7. Conclusion

In this paper, we have provided a syntax-driven account of the PCC and Case Syncretism that relies on the interaction between the features that arguments bear in virtue of the heads with which they are merged, and the features that heads bear in virtue of the Agree relations that they enter into. Our account differs from other syntactic approaches to the PCC in the role it affords Appl in constraining Case checking and in the attention it pays to the syntactic structures that feed morphology and therefore induce syncretism.

## References

- Adger, David and Ramchand, Gillian. 2003. Predication and equation. *Linguistic Inquiry* 34:325–359.
- Anagnostopoulou, Elena. 2003a. Strong and weak person restrictions: A feature checking analysis, to appear in Heggie and Ordoñez (eds.), Benjamins.

- Anagnostopoulou, Elena. 2003b. *The Syntax of Ditransitives: Evidence from Clitics*. Berlin: Mouton de Gruyter.
- Baker, Mark. 1996. On the structural position of Themes and Goals. In Johan Rooryck and Laurie Zaring, eds., *Phrase Structure and the Lexicon*, 7–34, Dordrecht: Kluwer.
- Bejar, Susana and Rezac, Milan. 2003. Person licensing and the derivation of PCC effects, unpublished ms, University of Toronto.
- Benveniste, Emile. 1966. *Problèmes de linguistique générale*. Paris: Gallimard.
- Boeckx, Cedric. 2000. Quirky agreement. *Studia Linguistica* 54:354–380.
- Bonet, Eulàlia. 1991. Morphology after syntax: Pronominal clitics in Romance. Ph.D. thesis, MIT, Cambridge MA.
- Bonet, Eulàlia. 1994. The person-case constraint: A morphological approach. In Heidi Harley and Colin Phillips, eds., *The Morphology-Syntax Connection*, volume 22, 33–52, Cambridge, MA: MIT Working Papers in Linguistics.
- Bonet, Eulàlia. 1995. Feature structure of Romance clitics. *Natural Language and Linguistic Theory* 13:607–647.
- Borer, Hagit. 2004. *Structuring Sense*. Oxford: Oxford University Press.
- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In R. Martin, D. Michaels, and Juan Uriagereka, eds., *Step by Step: essays on Minimalist syntax in honour of Howard Lasnik*, 89–115, Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz, ed., *Ken Hale: a Life in Language*, 1–52, Cambridge, MA: MIT Press.
- Cinque, Guglielmo. 1999. *The Syntax of Adverbs*. Oxford: Oxford University Press.
- Cuervo, Maria Cristina. 2003. Structural asymmetries but same word order: The dative alternation in Spanish. In Anna Maria Di Sciullo, ed., *Asymmetry in Grammar, Vol. I: Syntax and Semantics*, 117–144, Amsterdam: John Benjamins Publishing Company.
- Fillmore, C. 1968. The case for case. In C. Bach and R. Harms, eds., *Universals in Linguistic Theory*, 1–81, New York: Holt, Rhinehart and Winston.
- Hale, Ken and Keyser, Samuel J. 1993. On argument structure and the lexical expression of syntactic relations. In Ken Hale and Samuel J. Keyser, eds., *The View from Building 20*, Cambridge, Massachusetts: MIT Press.
- Harbour, Daniel. 2003. The Kiowa case for feature insertion. *Natural Language and Linguistic Theory* 21:543–578.

- Harbour, Daniel. 2004. Elements of number theory. Ph.D. thesis, MIT.
- Harrington, John P. 1928. *Vocabulary of the Kiowa Language*. Washington, DC: Government Printing Office.
- Haspelmath, Martin. 2001. Explaining the ditransitive person-role constraint: A usage-based approach, max-Planck-Institut für evolutionäre Anthropologie.
- Jelinek, Eloise. 1984. Empty categories, case and configurationality. *Natural Language and Linguistic Theory* 2:39–76.
- Jelinek, Eloise. 1993. Ergative splits and argument type. In Jonathan Bobaljik and Colin Phillips, eds., *Papers on Case and Agreement*, 15–42, MIT, Cambridge, Massachusetts: MITWPL.
- Kayne, Richard. 1998. Overt vs. covert movement. *Syntax* 1:128–191.
- Kratzer, Angelika. 1995. Stage and individual level predicates. In Greg N. Carlson and François J. Pelletier, eds., *The Generic Book*, Chicago, IL: University of Chicago Press.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In Johan Rooryck and Laurie Zaring, eds., *Phrase Structure and the Lexicon*, 109–138, Dordrecht: Kluwer.
- Laka, Itziar. 1991. The structure of inflection: A case study on X<sup>0</sup> syntax. In José-Ignacio Hualde and Jon Ortiz de Urbina, eds., *Generative Studies in Basque Linguistics*, 21–70, Amsterdam: John Benjamins.
- Marantz, Alec. 1993. Implications of asymmetries in double object constructions. In Sam Mchombo, ed., *Theoretical Aspects of Bantu Grammar*, 113–150, Stanford, CA: CSLI Publications.
- McGinnis, Martha. 1998. Locality in A-movement. Ph.D. thesis, MIT.
- Merrifield, William R. 1959a. Classification of Kiowa nouns. *International Journal of American Linguistics* 25:269–271.
- Merrifield, William R. 1959b. The Kiowa verb prefix. *International Journal of American Linguistics* 25:168–176.
- Miller, Philip and Sag, Ivan. 1997. French clitic movement without clitics or movement. *Natural Language and Linguistic Theory* 15:573–639.
- Noyer, Rolf. 1992. Features, positions and affixes in autonomous morphological structure. Ph.D. thesis, MIT.
- Ormazabal, Javier and Romero, Juan. 2002. Agreement restrictions, university of the Basque Country and University of Alcalá.
- Perlmutter, David. 1970. On the article in English. In M. Bierwisch and K.E. Heidolph, eds., *Progress in Linguistics*, The Hague: Mouton.



- Perlmutter, David. 1971. *Deep and Surface Structure Constraints in Syntax*. New York: Holt, Reinhart and Winston.
- Pesetsky, David. 1995. *Zero Syntax: Experiencers and Cascades*. Cambridge, MA: MIT Press.
- Pylkkanen, Liina. 2002. Introducing arguments. Ph.D. thesis, MIT.
- Ramchand, Gillian. 2003. First phase syntax, ms. University of Oxford.
- Reinhart, T. 2000. *The Theta System: Syntactic Realization of Verbal Concepts*. Utrecht: UiL OTS Working Papers.
- Ritter, Elizabeth. 1995. On the syntactic category of pronouns and agreement. *Natural Language and Linguistic Theory* 13:405–443.
- Sigurðsson, Halldór. 1996. Icelandic finite verb agreement. *Working Papers in Scandinavian Syntax* 57:1–46.
- Taraldsen, Tarald. 1995. On agreement and nominative objects in Icelandic. In Susan Olsen Hubert Haider and Sten Vikner, eds., *Studies in Comparative Germanic Syntax*, 307–327, Dordrecht: Kluwer Academic Publishers.
- Watkins, Laurel (with the assistance of Parker McKenzie). 1984. *A Grammar of Kiowa*. Lincoln: University of Nebraska Press.

## A. Appendix: Table of Agreement Prefixes

### Notes

1. Data from Watkins (1984). Fieldwork by Harbour has found minor phonological variation across regions. E.g.: **bágîi** is **bátîi** for Mount Scott Kiowas.
2. Cells representing impossible agreement combinations are blank.
3. ‘Any’ includes  $\emptyset$ , unless the direct object is  $\emptyset$ .  $\emptyset$ :x: $\emptyset$  is an impossible agreement combination in Kiowa.
4. The following abbreviations are used in the table: s singular, D dual, P plural, I inverse (see next comment), AP animate plural. The symbol ‘\*’ indicates that the following verb has low tone.
5. Inverse agreement (I) arises on the verb when the corresponding noun bears a special number-class suffix. Some nouns take this suffix when singular, others when plural (and others never). Inverse agreement is consequently opaque to semantic number.
6. Third plural inanimate intransitive agreement is **gya**.

Subject: (Ind. Obj.):	Direct Object					
	Ø	s	D	P	I	AP
1s:	a	gya	nen	gyat	dé	de
1D/P.INCL	ba	bá*	bet	bát*	bét	bé
1D/P.EXCL	e	é*	ét	é*	ét	ét
2s:	em	a	men	bat	bé	be
2D:	ma	má*	mén	mán*	mén*	mé
2P:	ba	bá*	bet	bát*	bét	bé
3s:	Ø	Ø	ę	gya	é	em
3D:	ę	ę*	én	én*	én	én
3AP:	á	á*	et	gyá*	et	ém
I:	e	é*	ét	é*	ét	ét
Ø/2s/3s:1s:	é	é	né	yǎ	nó	né
2D:1s:	mâa*	mâa*	ménêi*	mánîi*	mónô*	ménêi*
2P:1s:	bâa*	bâa*	bédêi*	bágîi*	bódô*	bédêi*
3D:1s:	êi*	êi*	énêi*	énîi*	énô*	énêi*
I:1s:	êi*	êi*	édêi*	égîi*	édô*	édêi*
3AP:1s:	âa*	âa*	dêi*	gîi*	dô*	dêi*
any:1D/P:	dó	dó	dét	gyát	dót	dét
Ø/1s:2s:	em	gyá	nén	yán	gó	nén
other:2s:	gɔ	gó	dét	gyát	dót	dét
any:2D:	mó	mó	mén	mán	món	mén
any:2P:	bó	bó	bét	bát	bót	bét
1s:3s:		gyá	nén	yán	gó	nén
Ø/2s/3s:3s		á	én	án	ó	én
any:3D:		mé	mén	mén	mén	mén
any:I:		bé	bét	bét	bét	bét
1D/P.INCL:3s:		bâa*	bédêi*	bágîi*	bódô*	bédêi*
1D/P.EXCL:3s:		êi*	édêi*	égîi*	édô*	édêi*
2D:3s:		mâa*	ménêi*	mánîi*	mónô*	ménêi*
2P:3s:		bâa*	bédêi*	bágîi*	bódô*	bédêi*
3D:3s:		êi*	énêi*	énîi*	énô*	énêi*
I:3s:		êi*	édêi*	égîi*	édô*	édêi*
3AP:3s:		âa*	dêi*	gyâa*	dô*	dêi*

## B. Appendix: Features

The feature notation adopted above is based on the theory of person and number features advanced by Noyer (1992) and Harbour (2003). Our notation, though simple and, so, heuristically valuable, required us to stipulate that [participant:] may be valueless, but that [number:] may not. These stipulations follow straightforwardly when we look at the features behind our notation.

There are three person features: [ $\pm$ participant], [ $\pm$ author], [ $\pm$ hearer]. The last two are dependent on plus specification of the first. Thus, possible feature combinations are:

(94)

Features	Notation	Description
[ ]	[ ]	Third person direct object
[−participant]	[participant:]	Third person indirect object/subject
[+participant −author −hearer]	[participant:]	Romance third person reflexive clitics
[+participant +author −hearer]	[participant:1]	First person exclusive
[+participant +author +hearer]	[participant:12]	First person inclusive
[+participant −author +hearer]	[participant:2]	Second person

It can now be seen why [participant:] does not require a value in our heuristic notation. The values ‘1’ and ‘2’ abbreviate only [+author] and [+hearer]. The minus values of these features, [−author] and [−hearer], are unrepresented. Furthermore, both [+participant] and [−participant] are represented as [participant:], without reflection of ‘+’ or ‘−’. Consequently, [+/-participant (−author −hearer)] are represented as [participant:] without reference to the values ‘1’ or ‘2’.

Consider now number. There are two number features, [ $\pm$ singular] and [ $\pm$ augmented], which correspond to our notation as follows:

(95)	<b>Features</b>	<b>Notation</b>	<b>Description</b>
	[+singular −augmented]	[number:singular]	Singular
	[−singular −augmented]	[number:dual]	Dual
	[−singular +augmented]	[number:plural]	Plural

This table exhausts possible combinations of the number features (see Harbour 2004, pp. 85–91, for definitions and proof of the rightmost column and of the contradictoriness of [+singular +augmented]). Consequently, our notation in the middle column exhausts the possible numbers and so [number:] without a value has no meaning. I.e., in contrast to [participant:], value specification is obligatory.