

# Syntactic architecture and its consequences III

Inside syntax

Edited by

András Bárány

Theresa Biberauer

Jamie Douglas

Sten Vikner

Open Generative Syntax ?? ??



## Open Generative Syntax

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You say you want a revolution  
Well you know  
We all want to change the world  
You tell me that it's evolution  
Well you know  
We all want to change the world  
Don't you know it's gonna be alright

— The Beatles, *Revolution 1*



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# Introduction

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The three volumes of *Syntactic Architecture and Its Consequences* present contributions to comparative generative linguistics that “rethink” existing approaches to an extensive range of phenomena, domains, and architectural questions in linguistic theory. At the heart of the contributions is the tension between descriptive and explanatory adequacy which has long animated generative linguistics and which continues to grow thanks to the increasing amount and diversity of data available to us. As the three volumes show, such data from a large number of understudied languages as well as diatopic and diachronic varieties of well-known languages are being used to test previously stated hypotheses, develop novel ideas and expand on our understanding of linguistic theory.

The volumes feature a combination of squib- and regular-length discussions addressing research questions with foci which range from micro to macro in scale. We hope that together, they provide a valuable overview of issues that are currently being addressed in generative linguistics, broadly defined, allowing readers to make novel analogies and connections across a range of different research strands. The chapters in Volume 1, *Syntax inside the grammar*, and Volume



2, *Between syntax and morphology*, address issues at the syntactic interfaces and in morphosyntax, such as language change, complexity, and variation, as well as syntactic categories, constituent orders, and demonstrative systems.

The contributions to the present, third volume, *Inside syntax*, develop novel insights into a number of core syntactic phenomena, such as the structure and properties of relative clauses, constituent orders, demonstrative systems, case and agreement splits, and the syntax of null elements. The volume is divided into two parts, *Case and agreement* (Part I), and *Null syntax* (Part II).

The chapters in Part I, *Case and agreement*, address case and agreement in different domains across languages, from both conceptual and empirical perspectives. A novel approach to alignment typology is proposed by Zwart and Lindenbergh, Alexiadou and Anagnostopoulou provide a fresh take on the nature of nominative case, and Baker and Vinokurova address the nature of structural case by considering the properties of partitive case in Sakha. Kallulli's contribution, in turn, deals with deponents and how they affect properties of verbal paradigms. Several chapters deal with the interaction of case and agreement: Den Dikken and Dékány reconsider Roberts's (2010) notion of "defective goals" and how it applies to clitics and noun incorporation, whilst clitics in French ditransitive constructions are the topic of Sportiche's chapter. Holmberg discusses case and agreement in the nominal domain, namely in possessive noun phrases, while Galves and Avelar compare case and agreement in Romance and Bantu. A further domain of agreement is discussed by Corver, who focuses on inflected modifiers in the Dutch noun phrase. The chapters by van Riemsdijk and Taraldsen deal with mismatches in case and agreement respectively, namely mismatches found in relative clauses and nominal phrases ("unagreement").

Part II, *Null syntax*, deals with different types of null elements that have been assumed in syntactic theory in recent decades. The chapters by Wurmbrand, Sevdali and Sheehan, as well as Bobaljik, respectively address implicit, partial and absolute control in a number of different languages. Michelioudakis' contribution takes a new look at the syntax of implicit agents, while Rizzi revisits the Empty Category Principle or what is left of it in the 21st century. The final chapters deal with null categories in Brazilian Portuguese: Kato and Duarte explore parametric variation in null subjects, while Cyrino relates Brazilian Portuguese null objects to differential object marking in Spanish.

The contributions to this volume, many of which have been influenced and inspired by Roberts (2010; 2012), Roberts & Roussou (2003), Roberts & Holmberg (2010), and Biberauer & Roberts (2015), thus provide varied perspectives on syntactic variation in diathesis and agreement, the interaction of case and agreement, and the nature of null elements.

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## **Part I**

# **Case and agreement**



## Chapter 1

# Voice morphology (mis)behaving itself

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This paper reconsiders some core issues on the morphosyntax and semantics of deponents, and what I contend are their counterparts in languages with no fully-fledged voice paradigms, namely pseudo-reflexives in Germanic and Romance. In particular, I show that non-active voice and reflexive marking in these constructions functions as a verbalizer, specifically on the roots of these verbs, which are nominal. Consequently, at least some roots seem to be categorial, and their category and other selectional features (such as non-causative semantics) relevant for Merge. Thus, the paper provides novel evidence for the view that roots have meaning, and in particular, for the existence of entity denoting roots.

## 1 Introduction

While the literature on non-active (versus active) voice morphology in languages with two distinct conjugational paradigms such as Latin, Albanian and Greek has been prolific, in this paper I focus on a particular phenomenon that has not received a great deal of attention, but that to my mind reveals that, on top of other functions, non-active voice morphology – and more generally special morphology in languages devoid of fully-fledged voice paradigms, such as reflexive morphology in Romance and Germanic – acts as a verbalizer, in which case it is located in the little *v* head (and not in the higher Voice head). The crucial evidence I discuss comes from deponent verbs in languages such as Latin, Albanian and Greek, as well as from pseudo-reflexive verbs of the type ‘to behave (oneself)’ across Germanic and Romance, which for all intents and purposes, behave like deponents in the aforementioned languages, as I will show.

The paper is organized as follows. In §2, I introduce deponent and deponent-like verbs, that is, the basic patterns that motivate the present inquiry. §3 gives



a bird's eye view of the most common assumptions on the syntax of voice morphology in the current literature. In §4, building on my previous work, I present an alternative analysis, the most far-reaching consequence of which is that it calls into question the extreme constructionist position according to which roots never project (and are thus invariably acategorical).

## 2 Deponent and deponent-like verbs

While voice syncretisms of the sort found in languages like Albanian, Greek, and Latin, which have two distinct conjugational voice paradigms (namely, active and non-active, the latter used for verbs in the passive, anticausative and/or reflexive alternation) are well-known – see for instance (1a) vs. (1b) from Albanian – deponent verbs familiar first and foremost from traditional grammars of Latin have featured much less in modern theoretical syntax, even though recently there has been increased interest in them (for a thorough review, see Grestenberger 2014).

(1) Albanian

- a. Po krihem.

PROG comb.1SG.NACT

(i) 'I am combing myself.'

(ii) 'I am being combed (by someone else).'

- b. Po kreh fëmijën.

PROG comb.1SG.ACT child.the

'I am combing the child.'

Deponent verbs, which have been traditionally characterized as passive in form but active in meaning and/or as verbs that do not have an active form, are illustrated through the verb *hortor* 'I encourage/incite' in (2b) for Latin, which as Grestenberger (2018a) notes, can only appear with passive morphology (i.e. there is no *\*hortō*) but is syntactically active and transitive like *amō* 'I love', but which unlike the passive form of *amō*, namely *amor* 'I am loved', never means *\*I am encouraged*.<sup>1</sup> This amounts to saying that deponent verbs do not passivize.<sup>1</sup> The Albanian examples in (2) further illustrate the point that deponents do not have formally (i.e. morphologically) active counterparts (compare with (1)).

---

<sup>1</sup>Grestenberger (2014; 2018a) notes however that there is a rather small set of deponent verbs that do passivize. I postpone the discussion of these verbs to §4.



(2) Latin

	Present, active	Present, non-active
a. alternating	<i>am-ō</i> 'I love'	<i>am-or</i> 'I am loved'
b. deponent	—	<i>hort-or</i> 'I encourage/incite'

(3) Albanian

	Non-active	Active
a. <i>dergj-em</i> 'I linger'	a'. * <i>dergj</i>	
b. <i>përgjigj-em</i> 'I answer'	b'. * <i>përgjigj</i>	
c. <i>kreno-h-em</i> 'I take pride in'	c'. * <i>kreno-j</i>	
d. <i>lig-em</i> 'I weaken'	d'. * <i>lig</i>	
e. <i>pendo-h-em</i> 'I regret'	e'. * <i>pendo-j</i>	
...		

Furthermore, unlike in Latin, deponent verbs in Albanian are invariably intransitive, i.e. they cannot combine with a direct object bearing accusative case, though some may combine with dative objects, as shown in (4).<sup>2</sup>

(4) Albanian

- a. Do t'u përgjigjem pyetjeve.<sup>3</sup>  
 FUT SBJV.CL.DAT.3PL answer questions.DAT  
 'I'll answer the questions.'
- b. \*Do t'i përgjigj pyetjet.  
 FUT SBJV.CL.ACC.3PL answer questions.ACC<sup>4</sup>  
 intended: 'I'll answer the questions.'

<sup>2</sup>Not all deponent verbs in Latin are transitive either, but crucially, unlike in Albanian, some are. See also §4.

<sup>4</sup>Dative arguments are invariably clitic doubled in Albanian.

<sup>4</sup>Nominative plural and accusative plural are in fact syncretic in Albanian.

Deponent verbs in Albanian are thus reminiscent of pseudo-reflexive verbs across Romance and Germanic languages, in the sense that the reflexive element here obviously cannot be interpreted as a direct object the way it may be when occurring with so-called “inherently reflexive” verbs such as ‘to wash’, ‘to shave’, or ‘to comb’ across all these languages. To see this, consider the examples in (5) through (10). Crucially, unlike in (5a), (7a) and (9a), the reflexive element in (6a), (8a) and (10a) cannot be said to correspond to a logical argument of the verb, as is evidenced by comparing the grammatical (5b), (7b) and (9b), to the respective (6b), (8b) and (10b), all of which are ungrammatical. The conclusion that the ungrammaticality of (6b), (8b) and (10b) is due to a violation of (some version of) the theta-criterion is therefore imminent.<sup>5</sup>

(5) Italian

- a. Martina si lava.  
Martina REFL.3 washes  
‘Martina washes herself.’
- b. Martina lava la camicia.  
Martina washes the shirt  
‘Martina washes the shirt.’

---

<sup>5</sup>Dutch, which is famous for two morphological classes of reflexives, namely simple *zich* versus complex *zichzelf*, constitutes an interesting case in this context, since pseudo- or “fake” reflexives (i.e. reflexive elements that cannot be said to instantiate an argument of the verb) are simple, just like reflexive arguments of verbs of bodily grooming such as *comb*, *wash*, *shave* etc. (which are inherently reflexive), and unlike reflexive arguments of non-inherent reflexive verbs such as *hate* or *love*, which are complex. This is interesting because in languages with full-blown conjugational paradigms like Albanian, Greek and Latin, a non-inherent reflexive verb bearing non-active morphology can never have a reflexive interpretation (see e.g. Embick 1997; 2004 on reflexives in Greek).

- (i) Dutch  
Jan schaamt zich / \*zichzelf.  
Jan shames REFL.3 REFL.3-SELF  
‘John is ashamed (of himself).’
- (ii) Dutch  
Jan haat \*zich / zichzelf.  
John hates\*REFL.3 REFL.3-SELF  
‘John hates himself.’

(6) Italian

- a. Martina si        arrabbia spesso.  
Martina REFL.3 angers    often  
‘Martina often gets angry.’
- b. \* Martina arrabbia spesso Piero.  
Martina angers    often    Piero  
intended: ‘Martina often angers Piero.’

(7) German

- a. Martina wäscht sich.  
Martina washes REFL.3
- b. Martina wäscht das Hemd.  
Martina washes the shirt

(8) German

- a. Ich schäme mich.  
I    shame    me/myself  
‘I am ashamed of myself.’
- b. \* Ich schäme dich                / (die) Martina.  
I    shame    you/yourself    the Martina

- (9) a. John washed (himself).
- b. John washed the child.

- (10) a. John behaved (himself).
- b. \* John behaved the child.

The question then arises what the role of the reflexive element in examples such as (6a), (8a) and (10a) is. I have argued in previous work that the reflexive element here is the counterpart of non-active or passive morphology in the class of verbs known from traditional grammars of Latin as “deponent” verbs, a view that is at first blush also corroborated by the fact that reflexive morphology is also involved in building the so-called “short passives” in Romance languages, examples of which are given in (11) and (12) for Italian and French, respectively.

(11) Italian

Le fragole        si    mangiano.  
the strawberries REFL eat

(i) ‘The strawberries are (being) eaten.’

(ii) ‘Strawberries are edible.’

(12) French

Trois maisons se    sont louées (\*par des    touristes) hier.  
three houses REFL are    rented    by    some tourists    yesterday  
‘Three houses were rented (by some tourist) yesterday.’

I will show that the special morphology of deponent and pseudo-reflexive verbs is not located in the head of a VoiceP, but in little  $v^0$ , and is thus as a genuine verbalizer. However, before doing that, in the next section I quickly review the main lines of analyses of deponent verbs in current research pointing out their merits and their drawbacks, which motivate the alternative analysis I provide in §4.

### 3 Analytical state-of-the-art

An influential study of deponent verbs within modern syntactic thinking is provided in Embick (1997). Within his overall underspecification approach (Embick’s study is situated within the framework of Distributed Morphology), the source of the well-known syncretism between (alternating and non-alternating) unaccusatives, passives and reflexives, is a particular syntactic property, namely the lack of an external argument. That is, what these distinct syntactic constructions have in common is that they all lack an external argument, and it is precisely this syntactic property that the syncretic morphology (which Embick dubs “u-syncretism”) is sensitive to, or reflects. To deponents, which as discussed, in many languages share this very same morphology, Embick assigns a so-called “class” feature, namely *passive*. More specifically, Embick argues that with deponents, unlike in genuine (i.e. syntactic) passivization and reflexivization contexts, this feature does not show up on a functional head, but rather on a root, where subcategorization information and interpretation are not affected.

In spite of the fact that the background of Embick’s approach to the morpho-syntax of voice is a realizational framework, Embick’s approach to deponents is conceptually eerily similar to lexicalist approaches such as the one in Kiparsky (2005: 121–122),<sup>6</sup> who suggests that “passive inflection in Latin is a conjugational

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<sup>6</sup>See also Sadler & Spencer (2001).

feature – we’ll call it [ $\pm$ Passive] – which can be lexically specified, for verb stems as well as for inflectional endings, or left unspecified”, and who further goes on to state that “[+Passive] inflections trigger one or more of the operations on the verb’s argument structure [...] forming passives, as well as possibly reflexives, reciprocals, and inchoatives, depending on further, partly idiosyncratic, properties of the verb”. The question then also for Embick is what, if anything, enables the appearance of this class feature on roots? This question becomes even more pressing in view of generalizations like those drawn in work by Xu et al. (2007) on deponents in Latin, Kallulli (2013) on deponents in Albanian, and Zombolou & Alexiadou (2014) on deponents in Greek, according to which there is no mismatch. Under these approaches, the morphological exponent faithfully realizes a certain abstract semantic property, i.e. deponent verbs in all these languages can form a semantically defined natural class with other, more obvious instances of non-active morphology after all. For instance, in Kallulli (2013) I argue that the fact that cross-linguistically deponents are overwhelmingly denominal crucially evidences the canonicity of the non-active form for this class of verbs, since nouns typically lack external arguments.<sup>7</sup> I will indeed defend this proposal here, in particular taking issue with another recent influential proposal, namely the one in Grestenberger (2014; 2018a), which I turn to next.

Based on Grestenberger (2014), Grestenberger (2018a) provides the definition of deponency in (13):

(13) Definition of deponency:

In an active/non-active voice system, a deponent is a verb with an agent subject that appears in a syntactically active context and is morphologically non-active.

Thus, Grestenberger argues that deponent verbs, as a lexical property, project an agent DP *within* the VP (as opposed to *v*P which in her notation equals VoiceP). That is, there is an agent, the clause is transitive, but the context for morphological realization of active exponence (see (14)) is not present, which is what leads Müller (2016) to classify Grestenberger’s approach as a “spurious

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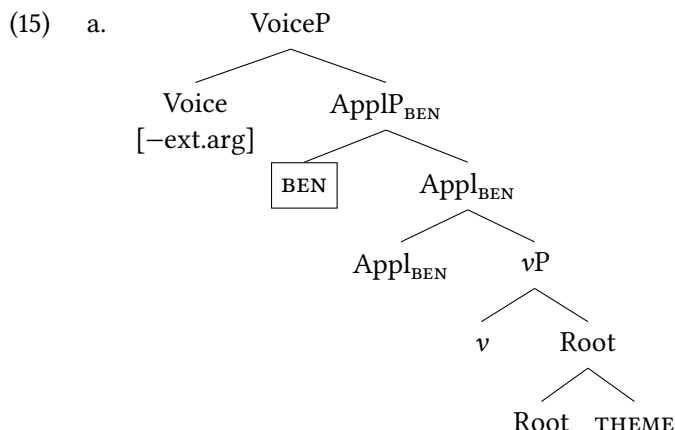
<sup>7</sup>In Kallulli (2013) I also show that this is largely the case for pseudo-reflexives in modern Romance and Germanic, too; i.e. like deponents, pseudo-reflexives are cross-linguistically overwhelmingly denominal.

morpho-syntactic” one.<sup>8</sup>

(14) Post-syntactic rules of morphological exponence:

- a. Voice triggers non-active morphology if it does not have an agentive DP as its specifier
- b. Voice triggers active morphology if it has an agentive DP as its specifier

More specifically, Grestenberger argues that the low agent of deponents is the outcome of a diachronic reanalysis process by which a self-benefactive argument, which is merged below VoiceP as given in (15a), is reanalyzed as an agent, as shown in (15b), where the boxed DP is the one undergoing the reanalysis. The resulting deponent structure is given in (16).<sup>9</sup>

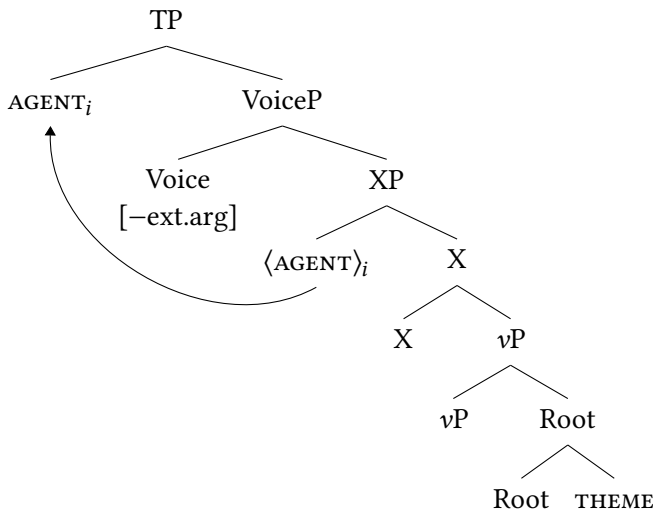


<sup>8</sup>For Müller (2016), Grestenberger’s approach belongs to the class of spurious morpho-syntactic approaches to deponency because non-active morphological realization is tied to the abstract morpho-syntactic property of Voice devoid of a DP specifier, and it is this abstract property that characterizes regular passive verbs and deponent verbs as a natural class. Thus, strictly speaking there is no mismatch between form and function, even though Grestenberger herself classifies her approach as involving a genuine mismatch given her contention that the agent of deponents is merged low (i.e. not in Spec of VoiceP, the canonical position where agents are externally merged).

<sup>9</sup>Note that self-benefactive arguments always occur with non-active morphology in languages like Latin and Greek. For details, see Grestenberger (2014; 2018a).



(16) Deponent



The Albanian data in (17) seem to lend support to Grestenberger’s approach. Specifically, in (17a), with the non-active verb *lutem* ‘I beg’, Eva (who bears nominative case) is the beggar and Ben (who bears dative) the one being begged. In (17b), with the active verb *lus* ‘I beg’, again (nominative) Eva is the beggar and Ben, which crucially bears accusative here, is the one being begged. While the two sentences feel synonymous, there is a sense in which Eva in (17a) – note the existence of non-active morphology here – feels more “affected” than in (7b), i.e. like pleading with Ben, thus reflecting a sense of self-beneficial implication. Under Grestenberger’s approach, this “affectedness” effect could be said to have

been lost over time (at least with certain verbs), resulting in the same unmarked agent reading as in (17b), but with the non-active morphology as a sort of diachronic remnant.<sup>10</sup>

(17) Albanian

- a. Eva       iu                       lut       Benit   (për muaj   me rradhë).  
      Eva.NOM CL.3SG.DAT.NACT begged Ben.DAT for months on end  
      ‘Eva begged Ben (for months on end).’
- b. Eva       e                       luti               Benin   (për muaj   me  
      Eva.NOM CL.3SG.ACC begged.ACT.3SG Ben.ACC for months on  
      rradhë).  
      end  
      ‘Eva begged Ben (for months on end).’

A potentially problematic aspect of Grestenberger’s approach for data such as these however lies in her statement that “the non-active morphology of deponents cannot be motivated in terms of the *synchronic* canonical functions of non-active morphology. That is, synchronically they do not fall into any of the categories listed [...] (reflexive, self-benefactive, anticausative, etc)”. At least in Albanian, deponents, which in this language are incompatible with objects bearing accusative case, actually do seem to fall into some such category associated with the synchronic canonical functions of non-active morphology (namely: self-benefactive). In other words, the pattern observed in (17a) vs. (17b) seems to be productive, as also replicated in (18a) vs. (18b).

(18) Albanian

- a. Mendohem                       \*(për) të ardhmen.  
      ponder.1SG.PRS.NACT for future.the.ACC  
      ‘I ponder/think about the future.’
- b. Mendoj                       (për) të ardhmen.  
      think.1SG.PRS.ACT about future.the.ACC  
      ‘I think about the future.’

A solution to this tension might be that the synchronic analysis of data such as (17a) and (18a) might be different from the languages Grestenberger scrutinizes,

<sup>10</sup>Incidentally, Laura Grestenberger (personal communication) confirms that ‘beg’ and ‘ask’ are definitely verbs that show up as deponents in Ancient Greek and Sanskrit (mostly with accusative objects).



especially in view of the “affectedness” ingredient in these examples as opposed to (17b) and (18b), respectively. Coupled with the productivity of the pattern (i.e. the alternation) illustrated here and the fact that deponents in Albanian are incompatible with accusative objects, it seems reasonable to assume that Grestenberger (2018a) wouldn’t have to analyze cases like (17a) and (18a) as deponents at all, because they are not agentive; recall her definition of deponency in (13).<sup>11</sup> It is precisely in terms of (lack of) agency that my approach to deponents differs from Grestenberger’s (as well as from Embick’s). Specifically, I maintain that Grestenberger’s definition of deponency is not only too narrow in that not all deponents can be conceived of as agentive predications, but that deponents are truly non-agentive predications. I discuss this issue in detail among others in the next section.

#### 4 Deponents and pseudo-reflexives are unaccusatives

Building on my previous work in Kallulli (2013), I maintain that deponents and their pseudo-reflexive counterparts in languages with no full-fledged voice paradigms are truly unaccusative predications – i.e. they lack an external argument. The main evidence for this contention involves the following issues. Firstly, though “transitive” deponents (i.e. deponents that combine with objects bearing accusative case) exist both in Latin, Greek and other languages with voice paradigms (for details, see Grestenberger 2014; 2018a), which is the main if not sole argument motivating the view that syntactically they are not unaccusative, not all languages that have deponent verbs have transitive deponents. Thus, in Albanian there are no transitive deponents, as already mentioned. Secondly, as Flobert (1975: 590) notes, most of the oldest deponents in Latin are intransitive, a fact that is itself in need of explanation, and that might be construed to reveal the true (unaccusative) nature of this class of verbs.<sup>12</sup> Similarly, the fact that intransitive deponents in Modern Greek far outnumber transitive deponents, and the fact that the majority of transitive deponents are verbs that thematically assign experiencer roles (Zombolou 2012), also speaks for their unaccusative nature.<sup>13</sup>

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<sup>11</sup>I am grateful to Laura Grestenberger for discussing these data and the issues they present with me.

<sup>12</sup>On the emergence and development of “active” deponents in Latin see also Cennamo (2008), who notes among other things that full activization of deponents in this language is attested from the 7th century onwards.

<sup>13</sup>Zombolou (2012) reports that 70% of all deponent verbs in this language are intransitive and only 18% out of 100% combine with an object bearing accusative case.

Thirdly, the fact that deponents just like their fake reflexive counterparts in modern Romance and Germanic are largely denominal (see Kallulli 2013 and references therein) also speaks for their unaccusative nature, given that nouns lack external arguments. Finally, though deponents cannot always combine with prepositional phrases indicating the presence of an agent or external cause of an event, some verbs that are clearly derived from such deponents with no causative semantics (compare (19a) to (20a) below) can however transitivize, as shown in (20b) which contrasts with (20c).<sup>14</sup>

(19) Albanian

- a. Dielli u duk (\*nga Zoti / qielli).  
sun NACT appeared from/by God sky  
'The Sun appeared (\*by/from God / the sky).'
- b. Krenohem (\*nga djali) / për / me djalin.  
am.proud.PRS.NACT from/by son.the.NOM for with son.the.ACC  
'I am proud of my son.'

(20) Albanian

- a. Në rregull, po zhdukem atëhere.  
in order PROG disappear.NACT then  
'OK, I (will) disappear then.'
- b. I zhduka gjurmët.  
CL.3PL.ACC disappear traces  
'I made the traces / evidence disappear.' (i.e. 'I destroyed the evidence'.)
- c. \*Duk diellin / gjurmët.  
appear.ACT sun.the traces.the  
'I make the sun/the traces (i.e. evidence) appear.'

The very same transitivization process as in (20b) is also attested with pseudo-reflexives in Romance and Germanic, as illustrated in (21) for Italian and (22) for German.<sup>15</sup>

<sup>14</sup>The prefix *zh-* in Albanian is a productive antonymizing one analogous to *dis-* in English and seemingly attaches to various categories, including verbs, adjectives and nouns.

<sup>15</sup>As an anonymous reviewer correctly points out, the German prefix *be-* is a transitivizing one and also attaches to non-deponent forms of course, which is however irrelevant in the context of the present discussion.

(21) Italian

- a. quando Dio \*(si) vergogna degli uomini e gli uomini \*(si)  
when God REFL shamed of-the men and the men REFL  
vergognano di Dio  
shamed of God  
‘when God is ashamed of men and men are ashamed of God’
- b. \* Gli uomini hanno vergognato il Dio  
the men have shamed the God  
‘Men have put God to shame’
- c. Gli uomini hanno svergognato il Dio  
the men have shamed God  
‘Men have put God to shame’

(22) German

- a. Ich schäme mich.  
I shame me/myself  
‘I am ashamed of myself.’
- b. \* Ich schäme dich.  
I shame you/yourself  
‘I put shame on you.’ / ‘I put you to shame.’
- c. Ich beschäme dich.  
I ashame you/yourself  
‘I put shame on you.’ / ‘I put you to shame.’

Taken together, these facts suggest that the function of non-active morphology in deponents and, accordingly, of reflexive morphology in languages that do not have full-fledged voice paradigms, is that of a verbalizer, i.e. verbalizing nominal roots, an idea which is also theoretically appealing, since what we know about nouns is that just like unaccusative (and passive) verbs, they lack external arguments, thus making the appearance of non-active/reflexive morphology be the canonical and therefore expected rather than the non-canonical, unexpected form.

One question that arises, however, concerns the so-called “transitive” (Embick 1997) deponents of the *sequor* ‘I follow’ type, which as mentioned can combine with an accusative object (and which Grestenberger argues to be truly “agentive”).<sup>16</sup> Following a suggestion originally due to Embick (1997), which he how-

<sup>16</sup>Incidentally, as an anonymous reviewer reminds me, evidence for an unaccusative approach to ‘follow’-type verbs is clearer in German, where it takes a dative, not an accusative, object.

ever eventually discards, but which has more recently been picked up in Alexiadou (2013), Kallulli (2013) and Zombolou & Alexiadou (2014), I uphold that transitive non-alternating non-active verbs can be analyzed synchronically as verbs taking experiencer arguments (note that according to Pesetsky (1995) experiencer arguments are arguments of the root), specifically as dyadic unaccusative (stative) psych predicates.<sup>17</sup> As mentioned earlier, this line of reasoning has however been newly rejected in Grestenberger (2014; 2018a), who contends that there is indeed a small class of truly agentive deponents. Grestenberger's main arguments are the following. First, reiterating Embick's observations which eventually led him to discard the idea that transitive deponents are psych verbs, she points out that with some psych-verbs, both an agentive and a psychological reading is possible in Modern Greek. Under what she refers to as "the agentive reading", as in (23a) which contains an animate subject, the object does not have to be clitic doubled, while under the psychological reading in (23b) (note that the subject is inanimate), the object needs to be clitic doubled.

(23) Greek

- a. I Maria enohli ton Petro.  
the Maria.NOM bothers the Petro.ACC  
'Maria bothers Petro.'
- b. Ta epipla \*(ton) enohlun ton Petro.  
the furniture.NOM him.CL.ACC bothers the.ACC Petro  
'The furniture bothers Petro.'

Transitive agentive deponents like *hriazome* 'need' pattern with the so-called "agentive" reading and do not require clitic doubling, as shown in (24). Grestenberger takes this to indicate that the subject of *hriazome* is therefore an agent rather than a cause/theme.

(24) Greek

- I Maria hriazete ton Petro.  
the Maria.NOM needs the.ACC Petro  
'Maria needs Petros.'

While these judgments seem clearer for some Greek speakers than for others, all they show is that the distinction between animate and inanimate subjects has some bearing on clitic doubling of the object.<sup>18</sup> Jumping from such data to the

<sup>17</sup>See also Zombolou (2012), who points out that the subject of the majority of transitive deponents in Modern Greek (transitive deponents combining with an accusative object make up 18% of deponents in this language) are experiencers.

<sup>18</sup>I thank Artemis Alexiadou (personal communication) for discussing these data with me.

conclusion that the relevant contrast (highlighted in (23a) vs. (23b)) is due to the agentivity of the subject in (23a), is unwarranted, since Maria could equally well be an actor unintentionally causing bother to Petro, i.e. Maria could be an actor but not an agent. Likewise, in (24) Maria might indeed need Petro without intending or even wanting to. In other words, what these examples show, is just that clitic doubling of the object is affected by the (in)animacy of the subject but they can certainly not be used as a test for agentivity, since participants capable of willful agency might always act unintentionally.<sup>19</sup> Similarly, Embick's observation reiterated by Grestenberger that transitive deponents pattern as non-psych verbs in triggering clitic left-dislocation is not any more conclusive of the agentivity of transitive deponents.

Secondly, as I point out in Kallulli (2007) in a different context, Grestenberger's claim that so-called "agent-oriented" adverbs expressing intention or volition only modify agentive predicates is cross-linguistically contradicted by data like those in (25) for Italian and (26) for German, which specifically demonstrate that unaccusative syntax is not incompatible with such adverbs:

(25) Italian (Folli & Harley 2006)

- a. Gianni é caduto / \*ha caduto apposta.  
Gianni is fallen has fallen on.purpose
- b. Gianni é rotolato / \*ha rotolato giu apposta.  
Gianni is rolled has rolled down on.purpose

(26) German

- Peter ist / \*hat absichtlich eingeschlafen.
- Peter is has deliberately fallen.asleep
- 'Peter fell asleep on purpose.'

Grestenberger's strongest argument for the agentive status of (transitive) deponents comes from languages like Vedic and in some cases Ancient Greek, which have a trivalent voice system, where one can distinguish among other things between deponents and passives on the basis of morphology. In other words, Grestenberger's strongest argument is that there are languages in which deponents may passivize. While the data she provides from Vedic (and Ancient Greek) seem to indicate this, these data have the potential to bring down Grestenberger's own system, since one would have to assume a Passive head on top of the voice head, which makes these languages similar to English, German or Hebrew

<sup>19</sup>For details on (animate) actors versus (intentional) agents and their representation, see Demirdache (1997) and Kallulli (2006; 2007).

(see Alexiadou 2013 and Alexiadou et al. 2015), but which in turn contradict her own observation that there are no deponents in English/German. In even more recent work, Grestenberger (2018b) argues however that these languages do not have a higher Passive head, and that what looks like a passive suffix is between the root and the Voice head, in the position where we usually find *v*, which has recently been analyzed as verbalizing morphology (see Alexiadou et al. 2015 and references therein). In other words, the passive head in such trivalent systems selects roots rather than *v* or Voice, and seems to suppress the projection of higher arguments (that is, agents). While Grestenberger maintains that this holds as a diagnostic of agentivity in deponents because this passive suffix blocks the projection of both non-deponent and deponent agentive verbs alike, it should be noted that she thus directly provides independent evidence for my central claim in this paper, namely the existence of verbalizing voice morphology close to the root, which moreover seems rather similar in function to non-active and/or reflexive morphology in deponents (and elsewhere) in that it blocks the projection of higher arguments.<sup>20</sup> Notice also that my claim that non-active and/or reflexive morphology can on top of other things also function as a verbalizer (specifically in the case of deponents and/or fake reflexives), fills in a gap in the voice typology provided in Schäfer (2008), which is summarized in (27). According to this picture, (27a) generates so-called “se-reflexives” such as (the Romance and Germanic counterparts of) *wash oneself*, which are semantically and syntactically transitive predicates.<sup>21</sup> In contrast, the semantically intransitive but syntactically transitive structure in (27b) generates *se* (i.e. reflexively) marked anticausatives as in Romance (e.g. *se casse* ‘breaks’ in *Le vase se casse* ‘The vase breaks’) or Germanic (e.g. *Die Tür öffnet sich* ‘The door opens’), with the reflexive marker being an expletive argument. The statements in (27c) and (27d) are self-explanatory: (27c) refers to the general passive voice, introduces an external argument  $\theta$ -role but lacks a D-feature, and the external argument must remain implicit but can be taken up via *by*-phrase, whereas (27d) refers to the Voice head for marked anticausatives in languages like Greek (i.e. anticausatives bearing non-active rather than active morphology), with the expletive not introducing a  $\theta$ -role.<sup>22</sup>

- (27) a. [TP T [VoiceP DP<sub>AGENT</sub> Voice [<sub>v</sub>P *v* SE<sub>PATIENT</sub> ]]]  
 b. [TP T [VoiceP SE<sub>EXPL</sub> Voice [<sub>v</sub>P *v* DP<sub>THEME</sub> ]]]

<sup>20</sup>Grestenberger provides one more argument from agent nouns for her claim that deponents are agentive predicates. Since the discussion of this issue is rather complex, and the evidence is confounding and therefore non-conclusive, I will for reasons of space not dwell on it here.

<sup>21</sup>Note that this does not include fake reflexives.

<sup>22</sup>Note that (27d) differs from the active expletive Voice in (27b), as it does not project a specifier.

- c. Thematic passive Voice
- d. Non-thematic (expletive) passive Voice

It should thus be obvious from the preceding discussion that what the voice typology in (27) does not cover is one of the core patterns discussed in the present paper, namely pseudo-reflexives across Romance and Germanic.

It is important to note that the fact that deponents are largely denominal does not entail that if a verb is denominal, it is deponent (i.e. there is an implication, but there is no equivalence). Indeed denominals have correctly been claimed to be the historical source for unergatives in languages like English and potentially universally. Interestingly however, unlike (denominal) unergatives, denominal deponents in Albanian do not involve nominal morphology. That is, the noun in the latter class of verbs is just the historical source. Crucially, as Xu et al. (2007: 139) point out for Latin deponents but the point is more general (see Kallulli 2013), Latin denominal or deadjectival verbs differ in form depending on whether they have a causative sense: “[t]hose with causative senses tend to be active, while those that fall into general non-causative semantic categories such as ‘to act or to be x’, ‘to act like y’, ‘to give or make (with a sense of creation) z’, ‘to use z’, and ‘to get z’ tend to assume deponent forms”. This is precisely why non-active rather than active morphology is used as a default verbalizer in these (non-causative) contexts, but this does not mean that active morphology cannot be used as a verbalizer in other contexts, such as causative ones, where indeed it is the default one. This notion of “defaultness” is closely tied to Kallulli’s (2007) system summarized in Table 1 below, with the primitive features in this system being privative.

Indeed, the very existence of the grammatical sentences (20b), (21c) and (22c) above as opposed to the ungrammaticality of (20c), (21b) and (22b) across Albanian, Italian and German, respectively, is evidence for the correctness of my core contention here.

## 5 Conclusion

In this paper, I have reconsidered some core issues on the morpho-syntax and semantics of deponents and what I have contended are their counterparts in languages with no fully-fledged voice paradigms, namely pseudo-reflexives. In particular, I have shown that non-active voice and reflexive marking can sometimes function as a verbalizer, specifically on “deponent” roots, which are nominal. Thus, a far reaching conclusion is that at least some roots seem to be categorial, and their category and other selectional features (such as non-causative

Table 1: Feature system in Kallulli (2007)

Features in $v^0$		
a.	[+activity]	<i>Ben ate the apple.</i>
b.	[+activity] [−external argument]	<i>The apple was eaten by Ben.</i>
c.	[+cause]	<i>The pressure cracked the window.</i>
d.	[+cause] [−external argument]	<i>The window cracked (from the pressure).</i>
e.	[+cause] [+activity]	<i>John cleaned the table.</i>
f.	[+cause] [+activity] [−external argument]	<i>The table was cleaned (by John).</i>
g.	[−external argument]	<i>John arrived.</i>

semantics) relevant for Merge. At the very least we have seen novel evidence for the view that roots have meaning and that specifically there are entity denoting roots, as argued in Harley (2005); Levinson (2007) and others.

## Abbreviations

1	first person	NACT	non-active
3	third person	NOM	nominative
ACC	accusative	PL	plural
ACT	active	PROG	progressive
BEN	benefactive	PRS	present
CL	clitic	REFL	reflexive
DAT	dative	SBJV	subjunctive
FUT	future	SG	singular

## Acknowledgements

During Eric Reuland’s talk at the Budapest Conference on Minimalist Approaches to Syntactic Locality in August 2009, turning to Ian sitting next to me I ask tongue in cheek whether he knows anything about the etymology of the verb ‘behave’,



noting that it contains both ‘be’ and ‘have’. Ian laughs, ponders for an instant, and says: “You might be right, it sounds Germanic, but the moment you think of ‘behaviour’ you have Romance”. Indeed one does, as pseudo-reflexives in English seem to be latinate: absent/behave/perjure/vaunt/... oneself. (Here’s to many more Tokajis, dear Ian!)

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## Chapter 2

# Rethinking alignment typology

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Considering the standard typological distinction between ergative and accusative alignment, this article argues that the variety of phenomena suggests the need for a more fine-grained classification of alignment types. We start from the observation that grammatical processes may or may not apply to all the grammatical functions, leading to a basic division in complete and incomplete types. It follows that “ergative” is just one of 18 alignment types, while some incomplete alignment types that look ergative are in fact different, and closer to the family of accusative types.

## 1 Introduction

ALIGNMENT is the grouping of grammatical functions (such as subject, object; henceforth GFs) across transitive and intransitive clauses. As is well known, the subject of an intransitive clause ( $S^I$ ) may be grouped, in terms of case-marking, control of verbal agreement, syntactic position, etc., with either the subject ( $S^T$ ) or the object (O) of a transitive clause. With  $S^I/S^T$  grouping we get *accusative* alignment, with  $S^I/O$  grouping *ergative* alignment (Plank 1979; Dixon 1994; Deal 2015).<sup>1</sup>

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<sup>1</sup>The transitive subject, intransitive subject, and object are conventionally referred to as A, S, and O (or P), respectively, after Dixon (1972: xxiii), but we refrain from utilizing these symbols here in order to stay as close as possible to the cumbersome but appropriate locutions “subject of a transitive/ intransitive clause”. We are also not committed to the view, often underlying the use of A/S/O, that these symbols stand for “universal syntactic-semantic primitives” (Dixon 1994: 6).



The two alignment types are named after the morphological case of the outlier in each type of grouping: O in the S<sup>I</sup>/S<sup>T</sup> grouping accusative type, S<sup>T</sup> in the S<sup>I</sup>/O grouping ergative type. Thus in German (1), an accusative language (where case is marked on the determiner), the determiner of the S<sup>I</sup>/S<sup>T</sup> *der Mann* ‘the man’ is invariably nominative *der*, whereas the determiner of the O *den Mann* in (1b) is marked differently with accusative *den*.<sup>2</sup>

(1) German (cf. Curme 1952)

- a. de-r            Mann   schwimm-t  
       DET-M.NOM man(M) swim-3SG  
       ‘The man is swimming.’
- b. de-r            Mann   sieh-t   de-n            Hund  
       DET-M.NOM man(M) see-3SG DET-N.ACC dog(N)  
       ‘The man sees the dog.’

Contrasting with this, in Coast Tsimshian (2), an ergative language (where case is marked on predicate markers cliticizing to the constituent to their left), the S<sup>I</sup> *üüla* ‘the seal’ in (2a) and the O *hoon* ‘the fish’ in (2b) are marked by the absolutive predicate marker *-a*, whereas the S<sup>T</sup> *duus* ‘the cat’ in (2b) is marked differently with the ergative predicate marker *-da*.

(2) Coast Tsimshian (Mulder 1994: 32)

- a. yagwa hadiks-a    üüla  
       PRS    swim-ABS seal  
       ‘The seal is swimming.’
- b. yagwa-t    huum-da    duus-a    hoon  
       PRS-3SG.SBJ smell-ERG cat-ABS fish  
       ‘The cat is sniffing the fish.’

Our discussion in this article starts from the assumption that the characterization of elements as subjects or objects in the relevant languages is uncontroversial. On this assumption it is clear that the ergative alignment type cuts across grammatical functions, grouping S<sup>I</sup>/O together to the exclusion of S<sup>T</sup>.

In this introductory section we have followed the usual practice of calling a language with ergative alignment for some grammatical phenomenon “ergative”.

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<sup>2</sup>Glosses are abbreviated according to the Leipzig Glossing Rules (<https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf>), and have been adjusted from our sources for reasons of consistency.

But the usefulness of alignment as a typological characteristic has been questioned, most notably by DeLancey (2004), who observes that ergative patterning shows too much variation to allow us to identify an ergative subset of languages in any theoretically interesting way. Somewhat in line with this, Deal (2015) decomposes ergativity into three ergativity properties, listed in (3).

- (3) Ergativity properties (Deal 2015)
- a. The ergative property  
 $S^T \neq S^I$  for some grammatical generalization(s)
  - b. The absolutive property  
 $S^I = O$  for some grammatical generalization(s)
  - c. The argument-structural property  
 As the ergative property, but restricted to  $S^I$  of unaccusative predicates

“Canonical” ergativity, as illustrated in (2) for Coast Tsimshian case, combines the ergative (3a) and absolutive (3b) properties, but there is room for less canonical shades of ergativity, where one or more of the properties in (3) may be missing. In fact, certain grammatical phenomena are generally (perhaps universally) aligned according to (3b) or (3c), as argued by Queixalós (2013), suggesting that the components of ergativity are not restricted to ergative languages.<sup>3</sup> Conversely, Verbeke & Willems (2012) argue that special behavior of  $S^T$  in Indo-Aryan languages (i.e. property (3a)) is not necessarily a marker of ergativity.

We want to add to this discussion by showing that the typological characterization of alignment is generally complicated by an unwarranted idealization which assumes that all grammatical functions ( $S^I/S^T/O$ ) partake in the relevant grammatical phenomena (case, agreement, wh-movement, etc.). Very often, this is not the case, and it is not immediately clear how alignment generalizations carry over when it is not, or, conversely, how incomplete phenomena are to be characterized in terms of alignment typology. We argue for the recognition of a different typological dimension, *completeness*, ranging over the extent to which grammatical functions participate in grammatical processes, and consider its consequences for alignment typology.

Based on the parameter of completeness, we can identify 18 different alignment types, which may be grouped in four families (ergative, accusative, indifferent, and residual). We show that the ergative property (3a) is found in both the

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<sup>3</sup>Queixalós (2013) mentions in this connection deverbal nominalization/adjectivalization, orientation of secondary predicates, control of verbal number and honorific agreement, raising of embedded arguments in causative constructions. See also Moravcsik (1978); Plank (1979).

ergative and the accusative family, and that the absolutive property (3b), while restricted to the ergative family, is found in both complete and incomplete types.

Having outlined the basic typology of alignment patterns, we illustrate the phenomena in a number of more or less complicated languages, turn to the puzzling “tripartite” alignment type, and reconsider the notion of ergative as a “dependent case” (Marantz 1991), instrumental to a discussion of the relation between case and agreement in accusative and ergative languages in Bobaljik (2008).

## 2 Completeness

In German (1) we saw that both subjects and objects are marked for case, along the lines of accusative alignment ( $S^I/S^T$  vs O). However, verbal agreement is triggered only by subjects (in fact alike by both  $S^I$  and  $S^T$ ), as can be seen when we manipulate the number of the noun phrases:

(4) German

- a. d-**ie**            Män-**ner** seh-**en** de-n            Hund  
DET-NOM.PL man-PL    see-PL    DET-N.ACC dog(N)  
‘The men see the dog.’
- b. de-r            Mann sieh-**t** d-**ie**            Hund-**e**  
DET-M.NOM man(M) see-3SG DET-ACC dog-PL  
‘The man sees the dogs.’

In fact, there is never any reflection of the grammatical features of the object on the verb in German. This is different from, say, Swahili where both the subject (always) and the object (under circumstances) trigger verbal agreement:<sup>4</sup>

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<sup>4</sup>See Creissels (2000: 235–236) for a discussion of the conditions favoring object agreement marking in Bantu languages. This touches on the phenomenon of differential object marking, which we cannot discuss in any detail within the confines of this article. Suffice it to say here that differential object marking may affect the completeness/incompleteness typology in various ways, depending on the factor that determines the marking. To take the example of object agreement in Bantu languages, in some cases, where only topics trigger object agreement, one might argue that object agreement is qualitatively different from subject agreement, and agreement would no longer be complete. On the other hand, in cases where object agreement is a function of definiteness of the object, as in Swahili, we may take object marking to involve an overt/covert opposition, still within the complete type.

- (5) Swahili (Barrett-Keach 1980: 18)

Juma a-li-(ki)-soma ki-tabu

Juma(1) 1-PST-7-read 7-book

'Juma read the book.'

Both German and Swahili show accusative alignment for agreement, but the languages clearly differ in that in Swahili all grammatical functions participate in agreement, whereas agreement is restricted to subjects in German. To refer to this difference, we will say that Swahili is complete and German incomplete, for verbal agreement.

Characterizing languages as complete or incomplete is complicated by the circumstance that morphological oppositions typically involve markedness, where an unmarked member of the opposition may be zero. This is not a simple matter, but we proceed on the assumption that the distinction between zero marking and nonparticipation can be made. In Swahili, for instance, it makes sense to describe the optional presence of the object agreement marker *ki* in (5) in terms of a *ki*/∅ opposition, so that the object will participate in agreement even in the case of absence of object agreement morphology. No such argument can be made for object agreement in German.<sup>5</sup>

Completeness or incompleteness can also be demonstrated in the domain of case, as in Spanish, where only objects (under certain conditions) can ever be marked by the preposition *a*.<sup>6</sup>

- (6) Spanish (Leonetti 2004: 80)

busc-a (a) un médico

look-3SG OBJ INDEF doctor

'S/he is looking for a (particular) doctor.'

Since subjects are never marked by *a* (or any other particle), we have to say that only objects participate in case-marking, so that Spanish, unlike German and Coast Tsimshian, is incomplete for case.<sup>7</sup>

<sup>5</sup>See Nordlinger (1998: 146) for discussion of this question in the context of Wambaya object agreement. In Wambaya, the form of the auxiliary is sensitive to the presence or absence of object agreement, allowing Nordlinger to conclude that third person object marking is absent rather than zero.

<sup>6</sup>The discussion applies to Spanish nonpronominal noun phrases only. Case-marking of personal pronouns in Spanish is complete, with different forms for subject and object pronouns.

<sup>7</sup>In this connection we should refer to Jakobson's (1971 [1936]) theory of case-marking, in which the nominative is basically the case for the noun (phrase) in isolation, not signaling any opposition to a marked counterpart. If so, the nominative may be characterized as absence of case in the grammar of many languages (Zwart 1988), suggesting that incompleteness for case is more widespread than commonly assumed.

To see how completeness complicates alignment typology, consider the case of Paumari (Chapman & Derbyshire 1991), a language characterized as ergative. Paumari has a case-marker *-a* that appears only with  $S^T$ :

- (7) Paumari (Chapman & Derbyshire 1991: 164)  
Dono-a bi-ko'diraha-'a-ha ada isai hoariha  
Dono-ERG 3SG.TR-pinch-ASP-TH:M DEM:M child other  
'Dono pinched the other boy.'
- (8) Paumari (Chapman & Derbyshire 1991: 163)  
soko-a-ki hida mamai  
wash-DETR-NTH DEM:F mother  
'Mother is washing.'

This would appear to be a tell-tale sign of ergativity (property (3a)). However, we should be careful, as the case system is incomplete: only the immediate preverbal noun phrase gets marked (Chapman & Derbyshire 1991: 250), and the unmarked word orders are  $S^T$ -V-O and V- $S^I$ . Marked orders do occur, such as  $S^T$ -O-V (9), and  $S^I$ -V (10), and in these cases the system is again incomplete, with O marked by *-ra*,  $S^I$  by zero, and  $S^T$  not participating.

- (9) Paumari (Chapman & Derbyshire 1991: 197)  
bano pa'isi o-sa'a-ra anani-hi  
piranha small 1SG-finger-OBJ bite-TH  
'A small piranha bit my finger.'
- (10) Paumari (Chapman & Derbyshire 1991: 197)  
Morosi va-a-kaira-ha-'a-ha  
Morosi 3PL-VBLZ-guava-PRT-ASP-TH  
'Morosi c.s. went to get guava.'

The only analysis that unifies the marked and unmarked word orders is a tripartite analysis, with different markings for each of  $S^T$ / $S^I$ /O in the immediate preverbal position. But in unmarked orders Paumari is apparently incomplete rather than ergative, as only  $S^T$  participates in case-marking.

We have to be similarly careful in the analysis of Paumari agreement. In the third person singular, there is a special agreement marker *bi-* for  $S^T$ , once more suggesting ergativity (see (7) vs. (8)). However, in all other feature specifications, there is a single agreement prefix for  $S^T$  and  $S^I$  (e.g. 3PL *va-* in intransitive (10) and transitive (11)).



- (11) Paumarí (Chapman & Derbyshire 1991: 281)  
ija'ari va-ipohi-ki-a          va-ka-abada-bada-risaha-khama-ha  
people 3PL-many-DESC-ERG 3PL-TR.DISTR-touch-RED-ITER-DISTR-TH  
'Each of the many people was in turn touching him.'

On the other hand, O never triggers person/number agreement on the verb.<sup>8</sup> It seems, therefore, that the pattern is basically accusative (agreement only with  $S^T/S^I$ ), and that on top of that verbal agreement is sensitive to transitivity (in the 3rd person singular).

The example of Paumarí shows that the question of completeness must precede the question of alignment typology. It also shows another thing, namely that special treatment of  $S^T$  (the ergative property (3a)) is not enough to decide that the system is ergative. In the case of Paumarí agreement, we observe that a particular grammatical relation, verb agreement, is incomplete, applying to subjects only ( $S^T/S^I$  vs. O). Moreover, the morphological realization of the relation (at least in the third person singular) shows sensitivity to transitivity (i.e.  $S^T \neq S^I$ ). To adequately characterize the nature of Paumarí case and agreement, then, we need a more fine-grained descriptive apparatus, one that takes completeness into account and distinguishes between relations and realizations of these relations.

### 3 Completeness prolegomena

The first question to ask is whether a particular grammatical phenomenon applies to all of  $S^T$ ,  $S^I$ , and O, or just to a subset.<sup>9</sup> If a grammatical process  $\pi$  in language  $\lambda$  involves the complete set  $\{S^T, S^I, O\}$ , we will say that  $\lambda$  is COMPLETE for  $\pi$ . If the process involves just a subset of  $\{S^T, S^I, O\}$  the language is INCOMPLETE for that process. If a process in a language  $\lambda$  applies to none of  $\{S^T, S^I, O\}$ , we will say that  $\lambda$  is NEUTRAL for that process.

If a grammatical process applies to the full set of  $\{S^T, S^I, O\}$ , the next question to ask is whether the process is realized in identical ways with  $S^T$ ,  $S^I$ , and O. Here the possibilities are (where “=” indicates identical realization and “≠” different realization):

<sup>8</sup>The object does trigger gender agreement on the verb, determining the choice of the verb-final theme affix, but so can any other postverbal noun phrase (Chapman & Derbyshire 1991: 288).

<sup>9</sup>Throughout the discussion, we ignore the grammatical function of indirect object, as is standard in the analysis of alignment typology. However, as a reviewer correctly points out, indirect objects do participate in case-marking and verbal agreement. We leave the implications of this fact for further research. Likewise, we consider only basic transitive and intransitive constructions, and leave the application of the concept of completeness to ditransitives, causatives, applicatives, etc. for future research.

(12) *Complete types*

- |    |                       |                     |
|----|-----------------------|---------------------|
| a. | $S^T = S^I = O$       | <b>identical</b>    |
| b. | $S^T = S^I \neq O$    | <b>accusative</b>   |
| c. | $S^T \neq S^I = O$    | <b>ergative</b>     |
| d. | $S^T = O \neq S^I$    | <b>intransitive</b> |
| e. | $S^T \neq S^I \neq O$ | <b>tripartite</b>   |

The names of the types (12b,c) are derived from the case that would normally mark the single element.

Next we can illustrate the incomplete alignment types, where we have twelve logically possible combinations, of which the types that involve two participating grammatical functions (a–c) all represent three possibilities (the “>” indicates which of the elements is morphologically more marked).

(13) *Incomplete types*

- |    |                |      |             |                                |
|----|----------------|------|-------------|--------------------------------|
| a. | only $S^T/S^I$ | i.   | $S^T = S^I$ | <b>subjective</b>              |
|    |                | ii.  | $S^T > S^I$ | <b>transitive subjective</b>   |
|    |                | iii. | $S^T < S^I$ | <b>intransitive subjective</b> |
| b. | only $S^I/O$   | i.   | $S^I = O$   | <b>absolutive</b>              |
|    |                | ii.  | $S^I > O$   | <b>intransitive absolutive</b> |
|    |                | iii. | $S^I < O$   | <b>transitive absolutive</b>   |
| c. | only $S^T/O$   | i.   | $S^T = O$   | <b>transitive</b>              |
|    |                | ii.  | $S^T > O$   | <b>subjective transitive</b>   |
|    |                | ii.  | $S^T < O$   | <b>objective transitive</b>    |
| d. | only $O$       |      |             | <b>objective</b>               |
| e. | only $S^T$     |      |             | <b>narrow ergative</b>         |
| f. | only $S^I$     |      |             | <b>narrow intransitive</b>     |

Referring to the ergativity properties of Deal (2015; cf. (3)), we may say that a language that combines the ergative (3a) and absolutive (3b) properties for some grammatical generalization  $\gamma$  is complete for  $\gamma$  and in fact ergative (12c). But a language that has the ergative property (3a) but not the absolutive property (3b) for  $\gamma$  can be either complete or incomplete for  $\gamma$ , depending on whether  $O$  participates in  $\gamma$ . If so, the language is complete for  $\gamma$  and in fact tripartite ((12e), e.g. Paumari for case), but if not, the language is incomplete for  $\gamma$ , and in fact subjective ((13a), e.g. Paumari for agreement).

Both tripartite and what we have called subjective are typically considered to be ergative variants (“three-way ergative”, cf. Deal 2015), perhaps because they are not obviously affiliated with the accusative type. But from the perspective proposed here, considering completeness first, we may question which variants among the complete and incomplete types might be meaningfully grouped together under the rubrics of “ergative” or “accusative”. It seems to us that this grouping should be as in (14), calling the groupings “families”.

(14)	family	complete types	incomplete types	other types
	ACCUSATIVE	accusative (12b)	subjective (13a) objective (13d)	
	ERGATIVE	ergative (12c)	absolutive (13b) narrow ergative (13e)	
	INDIFFERENT	identical (12a) tripartite (12e)		neutral
	RESIDUAL	intransitive (12d)	transitive (13c) narrow intransitive (13f)	

To illustrate the logic behind this grouping, consider the subjective type (13a). This is one of the incomplete types, where only  $S^T/S^I$  participate in  $\gamma$ . This creates a subject–object opposition typical of the accusative family of types. Within the subjective type, further divisions are possible, depending on whether  $\gamma$  is realized identically for  $S^T$  and  $S^I$  or not. What Deal (2015) calls the ergative property (3a) may in fact be identified as (transitive) subjective in those cases where the language is incomplete for the relevant grammatical generalization.

## 4 Some illustrations

In this section we illustrate the completeness-based typology for the data introduced above and for a number of other cases from the literature.<sup>10</sup>

<sup>10</sup>This research started as an investigation of agreement in split-ergative languages, for which we used a convenience sample based on data extracted from the *World Atlas of Language Structures* (Dryer & Haspelmath 2013, accessed April 2014). The languages included in the sample were: Chamorro (Austronesian), Georgian (Kartvelian), West Greenlandic (Eskimo-Aleut), Hunzib (North Caucasian), Lak (North Caucasian), Marathi (Indo-European), Ngiyambaa (Australian), Paumari (Arauan), Pitjantjatjara (Australian), Suena (Trans New Guinea), Coast Tsimshian (Penutian), Wambaya (Australian), Yidiny (Australian), Yup'ik (Eskimo-Aleut). These were supplemented by data from Nez Perce (Penutian) and Shipibo (Panoan), and from familiar Indo-European languages such as German and Spanish. No claim of representative coverage of the languages of the world is made.

German (1) is complete for case and in fact ACCUSATIVE, and incomplete for agreement, in fact SUBJECTIVE (as shown in (4)). Subjective being in the accusative family (cf. (14)), we may identify German as an accusative language.

Coast Tsimshian (2) is complete for case and in fact ERGATIVE. However, the phenomena are considerably more complicated, as discussed in great detail in Mulder (1994).<sup>11</sup> First, tense and aspect are relevant (p. 85), and secondly, things differ when the noun phrase is a name (p. 39). In the past, the ergative predicate connective *-da* becomes *-a*, yielding an IDENTICAL pattern (p. 85). With names the cake is cut differently: the predicate marker for  $S^T/S^I$  is *-as* and for O *-at*, yielding an ACCUSATIVE pattern; but in the imperfective/present,  $S^T$  has its own predicate marker *-dit*, yielding a TRIPARTITE pattern (p. 40–41). So while Coast Tsimshian is invariably complete for case, it ranges over four different complete types, leaving only the (rare) intransitive type unused. To complicate matters further, while free pronouns behave like (non-name) noun phrases (p. 66), clitic pronouns have their own system (p. 54–55). Clitics are taken from one of three series, called subjective (preverbal), objective (postverbal) and definite objective (postverbal). In the subjunctive, these are organized along ERGATIVE lines,  $S^T$  taken from the subjective series and  $S^I/O$  from the objective series. In the indicative, various types occur depending on the relative animacy of  $S^T/S^I/O$ , including even the rare INTRANSITIVE type ( $S^T/O: S^I$ ). So much for Coast Tsimshian case. Agreement is much more restricted, being controlled only by the person feature of  $S^T$ , and limited to the past tense (NARROW ERGATIVE)(p. 68); outside the past, no verbal agreement occurs (NEUTRAL) (p. 69).<sup>12</sup> All in all Coast Tsimshian is predominantly ergative, though sometimes veering to one of the other complete types.

Swahili (5) is NEUTRAL for case and complete, in fact ACCUSATIVE, for agreement.

Spanish (6) is incomplete for case (modulo footnote 6), in fact OBJECTIVE. It is also incomplete for agreement, in fact SUBJECTIVE. All in all a clear accusative language.

Paumarí ((7)–(11), cf. Chapman & Derbyshire 1991) is complicated, as we have seen, at least for case. If we consider unmarked orders only, Paumarí is incomplete for case, in fact NARROW ERGATIVE. If we include marked orders also, Paumarí is a combination of the TRIPARTITE and the NEUTRAL types: the immediate preverbal element has different markings for each of  $S^T/S^I/O$ , but in all other positions no case-marking occurs. Case-marking for pronouns is even more restricted, affecting only O (which is always in preverbal position), an instantiation

<sup>11</sup>Our data reflect the reduced system observed by Mulder in everyday speech (Mulder 1994: 39).

<sup>12</sup>We take apparent cases of number agreement in Coast Tsimshian to instantiate the phenomenon of pluractionality (one of the “ubiquitous” ergativity traits of Queixalós 2013, cf. footnote 3).

of the OBJECTIVE type. Verbal agreement is incomplete, being controlled by  $S^T/S^I$  only, i.e. SUBJECTIVE; only if the subject is 3SG do we get a further specialization (*bi-* for  $S^T$ , zero for  $S^I$ ), making the language TRANSITIVE SUBJECTIVE for 3SG agreement (p. 287).

In Wambaya (Nordlinger 1998; cf. footnote 5), case is marked on  $S^T$  and obliques, and zero on  $S^I/O$  (p. 80); since the language is rich in case (p. 81), it is more plausible to think of the absolutive as being zero than absent. This makes Wambaya complete, in fact ERGATIVE, for case.<sup>13</sup> With pronouns, though, we do not see an  $S^T/S^I$ -distinction: in the singular all subject and object pronouns are alike (though different from oblique pronouns), hence IDENTICAL, and in the dual and plural subject pronouns differ from object and oblique pronouns, hence ACCUSATIVE (p. 126). Verbal agreement is expressed by bound pronouns on the auxiliary, and is controlled by both subjects (identically for  $S^T/S^I$ ) and objects in first/second person, hence complete and in fact ACCUSATIVE (p. 139). In the 3rd person, no object agreement shows up, and Nordlinger (1998) has an ingenious argument showing that object agreement is absent rather than zero (see footnote 5). For 3rd person agreement, then, Wambaya is incomplete, in fact SUBJECTIVE. Moreover, in 3SG there is a special agreement marker for transitive subjects, making the type more particularly TRANSITIVE SUBJECTIVE. All in all Wambaya seems clearly ergative for case of noun phrases, and accusative for case of pronouns and for agreement.

To add another example not mentioned so far, but typologically interesting and well represented in the ergativity literature (e.g. Legate 2008; Bárány 2015), Marathi (Pandharipande 1997) shows a sensitivity to the tense/aspect of the clause: outside the past tense, and ignoring oblique subject constructions, Marathi has no case-marking for  $S^T/S^I$  and case-marking by *-la* for O (under conditions)(p. 283f).<sup>14</sup> This puts the language in the accusative ballpark (i.e. ACCUSATIVE or OBJECTIVE, depending on whether we take subject case to be zero or absent). In the past tense, a 3rd person  $S^T$  is marked by *-ne*, making the system TRIPARTITE (if complete) or TRANSITIVE (if incomplete; p. 284); with first/second person subjects the language remains accusative/objective also in the past (p. 284).<sup>15</sup> Verbal

<sup>13</sup>The ergative pattern is also visible in the nouns' gender markings, which are taken from one of two series, absolutive (for  $S^I/O$ ) and non-absolutive (elsewhere).

<sup>14</sup>The object is marked by *-la*, regardless of tense/aspect, when it refers to a human or specific indefinite entity (Pandharipande 1997: 287–288).

<sup>15</sup>Here we differ from Legate (2008) and Bárány (2015), who assume zero-marked ergative case for first/second person subjects in the past tense. The Legate/Bárány analysis is supported by the observation that first/second person subjects do not trigger agreement in the past tense (Pandharipande 1997: 130, although they may in some varieties, see the references in footnote 13), which we may have to analyse as a form of analogical leveling.

agreement is triggered by both subjects and objects, though typically restricted to a single controller, according to a hierarchy that prefers subject agreement over object agreement (p. 446).<sup>16</sup> Furthermore, oblique elements (including ergative elements) never trigger agreement (p. 446). This restriction has the effect that a 3rd person  $S^T$  does not control verbal agreement in the past tense, so that object agreement resurfaces. Other than that, there is no sensitivity to transitivity, making the system ACCUSATIVE. All in all, Marathi seems very much in the accusative corner, and we assume this carries over to related languages with comparable typological features (see also Verbeke & Willems 2012).

Finally, consider the case of Nez Perce, as analysed in Deal (2010). Nez Perce has both caseless clauses (NEUTRAL) and case-marked clauses, where  $S^T$  is marked by *-(n)im*, O by *-ne*, and  $S^I$  is unmarked (p. 74–75). Deal (2010) shows that the choice between the two systems hinges on the presence of object agreement on the verb, object agreement forcing the case-marked variant. Lindenberg (2015) suggests that the logic entails that the unmarked case on  $S^I$  (in the case-marked variant) is absence of case rather than presence of zero case, since intransitive clauses by definition lack object agreement. This would make Nez Perce in the case-marked variant incomplete, in fact TRANSITIVE, for case. With pronouns, a distinction between  $S^T$  and  $S^I$  exists only in the 3rd person, 1st and 2nd person showing no subject case even in case-marked clauses (p. 78). Depending on whether case on  $S^T$  is zero or absent, the system for case of pronouns would remain transitive or be reduced to OBJECTIVE.<sup>17</sup> Verbal agreement in Nez Perce is triggered by subjects in all (i.e. caseless and case-marked) clauses, without any sensitivity to transitivity. Object agreement, on the other hand, is restricted to case-marked clauses (p. 79–80). Inevitably, agreement in caseless clauses, lacking object agreement, is of the incomplete variety, in fact SUBJECTIVE, and agreement in case-marked clauses is complete, in fact ACCUSATIVE.<sup>18</sup>

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<sup>16</sup>The restriction applies to Standard Marathi, but not to certain varieties, such as Pune Marathi and Nagpuri Marathi, where we see a combination of subject and object agreement. See Bloch (1970: 262) and Pandharipande (1997: 412). See also Magier (1983: 250) for Marwari, Verbeke & Willems (2012: 216) for Kashmiri, and Grosz & Patel-Grosz (2014) for Kutchi Gujarati.

<sup>17</sup>Deal (2010) describes it as nominative–accusative (our accusative), assuming the system to be complete, with zero marking on unmarked subjects.

<sup>18</sup>First/second person subjects and objects are not overtly marked, but Lindenberg (2015) argues that agreement with first/second person objects must be zero rather than absent, to maintain Deal's generalization that ergative case is conditioned by the presence of object agreement, given the fact that ergative subjects do occur with first/second person objects. A fortiori, then, we may assume first/second person subject agreement to be zero as well.

## 5 Some consequences

### 5.1 The ergative property

It is now clear that special behavior of the transitive clause subject  $S^T$  (i.e. the ergative property (3a)) can come about in various ways, depending on completeness and morphological realization.

If a language is complete for a grammatical phenomenon  $\gamma$ , and  $\gamma$  is realized in one way on  $S^T$  and in a different way on  $S^I/O$ , the language is complete and in fact ergative for  $\gamma$ . We saw this illustrated for case in Coast Tsimshian (2). Wambaya is also ergative in this sense, at least for case on (nonpronominal) noun phrases. Languages that are complete and ergative for agreement are also widely attested, illustrated here for Malimiut Iñupiaq (Lanz 2010):

(15) Malimiut Iñupiaq (Lanz 2010: 188)

- a. iylaq-tu-ŋa  
laugh-INTR.IND-1SG  
'I am laughing.'
- b. aŋuti-m tusa:-ŋ-a:-ŋa  
man-ERG hear-TR.IND-3SG-1SG  
'The man hears me.'

Another way in which the ergative property may arise is when the language is incomplete for  $\gamma$ , with  $S^I/O$  not participating. This is the narrow ergative type (13e). We saw this for case in Paumari unmarked word orders (where only the preverbal element  $S^T$  participates in case-marking) and for agreement in the Coast Tsimshian past tense.<sup>19</sup> This narrow ergative type is still within the ergative family (cf. (14)).

However, the ergative property may also arise in the accusative family, in particular when the language is incomplete with only subjects ( $S^T/S^I$ ) participating in  $\gamma$ , and  $\gamma$  being realized differently in  $S^T$  and  $S^I$  (transitive subjective, if  $S^T$  is more marked than  $S^I$ , cf. (13a<sub>ii</sub>)). We saw this with 3SG agreement in Paumari and Wambaya. In Paumari, O never controls agreement, which is clearly a subjective grammatical feature then, and while  $S^T/S^I$  mostly control agreement in identical fashion, there is further specialization when  $S^T$  is 3SG. Wambaya is in fact complete for agreement except in the 3rd person (see note 5), where agreement is incomplete, in fact subjective, and there too we see special treatment of  $S^T$ .

<sup>19</sup>Bobaljik (2008: 305) takes this narrow ergative agreement type to be absent from the languages of the world.

Our limited data do not show any clear cases of transitive subjective case-marking at this point, but cases where only  $S^T$  is case-marked are well-attested (e.g. in Mizo; Chhange 1989). These are typically described as ergative, and would be narrow ergative in our typology. In principle we cannot exclude that this type is in fact transitive subjective, with a marked vs. zero opposition between  $S^T$  and  $S^I$ , and O not participating. But the subjective type, very common for agreement, seems rare for case, where morphological realization, when incomplete, appears to gravitate towards O rather than  $S^T/S^I$ .

## 5.2 The absolutive property

The absolutive property (3b), like the ergative property (3a), shows up in both complete and incomplete types, but all these types stay within the ergative family (14).

Identical treatment of  $S^I$  and O is one of the characteristics of the complete ergative type (12c), which we have seen for case in Coast Tsimshian (2) and also in Wambaya (except for pronouns). For agreement the complete ergative type is illustrated in Malimiut Iñupiaq (15).

The incomplete absolutive type (13b) shows up when  $S^T$  does not participate in  $\gamma$ . This type is not represented by any of the languages discussed so far, neither for case, nor for agreement. We know of no languages that show the absolutive pattern for case-marking.<sup>20</sup> On the other hand, the absolutive pattern for agreement is well attested, e.g. in Tsez (Polinsky 2014: 344–345):

(16) Tsez (Polinsky 2014: 345)

- a. isi                      y-ay-s  
snow(II):ABS II-come-PST.EVID  
'It snowed.'
- b. uži-z-ä                      t'ek      y-is-si  
boy(I)-PL.OBL-ERG book(II) II-take-PST.EVID  
'The boys bought a book.'

Agreement here is gender/number agreement, controlled by  $S^I$  (16a) or O (16b).

Languages of the type of Marathi, discussed above, are also usually included in this category (e.g. Bobaljik 2008: 305). In these languages, agreement is normally controlled by  $S^T/S^I$ , but in the past tense, where  $S^T$  is marked with ergative case,  $S^T$  fails to control agreement, which is then controlled by O instead. In our

<sup>20</sup> As noted by an anonymous reviewer, a case in point may be initial consonant mutation in Nias, which (Brown 2001: 342–343) shows to be a GF-marking device applying to  $S^I$  and O, but not  $S^T$ .



terms, the language alternates between two incomplete types (for agreement), subjective (default) and absolutive (in the past).

However, two factors conspire to yield the absolutive pattern here: (i) morphologically case-marked noun phrases in Marathi never control agreement, and (ii) the verb must show agreement with a single controller (in most varieties, see footnote 16). That morphologically case-marked noun phrases do not control agreement is a general rule, applying not just to ergative subjects but also to oblique elements and accusative-marked objects (Pandharipande 1997: 446). That the verb must show agreement is evidenced by the appearance of default agreement in the absence of an eligible controller. Therefore, one way to explain O-controlled agreement in Marathi would be to say that O takes over when  $S^T$ , because of its ergative case, is no longer eligible, as an option preferred over the last resort default agreement. On this explanation, agreement in Marathi-type languages is complete, and the fact that O controls agreement only secondarily when  $S^T$  is not available as an agreement controller suggests an organization along the lines of accusativity.<sup>21</sup>

### 5.3 The tripartite type

In the tripartite system (12e),  $S^T$ ,  $S^I$  and O are each treated differently. We saw some examples of this above: the predicate connectives with names in Coast Tsimshian imperfective and present tense clauses are *-dit* ( $S^T$ ), *-as* ( $S^I$ ) and *-at* (O), and Paumari has different case-markers for  $S^T$  (*-a*),  $S^I$  (*-ra*) and O (zero) in immediate preverbal position. We have seen no cases of tripartite agreement systems in our limited data.

With all GFs participating in tripartite case-marking, this alignment type is complete, and it seems to combine elements of both ergative (marked  $S^T$ ) and accusative (marked O) alignment patterns. Above, we have grouped it in the indifferent family though (see (14)), the family of alignment types that treat all GFs on a par (i.e. all the same or all different).

Tripartite alignment is much rarer than accusative or ergative alignment (Dixon 1994: 40), and the cases we have seen invariably involve differential marking as

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<sup>21</sup>This leaves the Tsez type as the only clear example we have seen of agreement along absolutive lines. Agreement in Tsez is gender/number agreement, a phenomenon found across Northwest Caucasian, always triggered by the absolutive element alone. Person agreement on the other hand is very limited in Northwest Caucasian, and completely absent in Tsez, but where it exists, as in Hunzib (Van den Berg 1995), it is sensitive to a person hierarchy and may be triggered by various GFs. This suggests that the distinction between person agreement and number/gender agreement may lead to different agreement alignment patterns within a single language.

a function of a noun phrase animacy hierarchy. Consider the example of Kham as discussed in Watters (2002):

(17) Kham (Watters 2002: 66–67)

- a. la:-Ø            si-ke  
leopard-ABS die-PFV  
‘The leopard died.’
- b. no:-ye    la:-Ø            səih-ke-o  
3SG.ERG leopard-ABS kill-PFV-3SG  
‘He killed a leopard.’
- c. ŋa:-Ø    no-lai    ŋa-r:h-ke  
1SG-NOM 3SG-ACC 1SG-see-PFV  
‘I saw him.’

As can be seen,  $S^T$  receives a special case-marking in (17b), while  $S^I$  in (17a) and O in (17b) are zero-marked. However, the ergative marking is absent with  $S^T$  in (17c), and O is marked by a special accusative case in (17c), yielding what looks like an accusative pattern. The ergative and accusative patterns can also be mixed:

(18) Kham

- a. ge:-Ø    em-tə    mi:-rə-Ø            ge-ma-ra-dəi-ye  
we-NOM road-on person-PL.ABS 1PL-NEG-3PL-find-IPFV  
‘We met no people on the way.’
- b. g:h-ye    ŋa-lai    duhp-na-ke-o  
ox-ERG I-ACC butt-1SG-PFV-3SG  
‘The ox butted me.’

As Watters (2002: 69) explains, the marking of both  $S^T$  and O in Kham is sensitive to animacy, such that low animacy  $S^T$  and high animacy O require marking.<sup>22</sup> Interestingly,  $S^I$  is never marked, regardless of animacy, suggesting that Kham case-marking is more properly characterized as incomplete, involving only  $S^T$ /O,

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<sup>22</sup>Since marked and unmarked  $S^T$  and O can be freely mixed, the marking does not reflect a subject–object dependency: O is not marked because it is high animate relative to  $S^T$ , or  $S^T$  because it is low animate relative to O, but marking reflects high or low animacy relative to the expected animacy of the relevant GF. Note that the cut-off point in the animacy hierarchy is different for  $S^T$  and O, as 3rd person definite elements count as low for the subject hierarchy and as high for the object hierarchy (so they will always be marked in  $S^T$ /O position).

hence of the type we called transitive (13a).<sup>23</sup> Differential subject or object marking then decides whether the construction at hand is subjective, (17b), or objective transitive, (17c), or in fact both, as in (18b).

Animacy sensitivity seems to be invariably involved in tripartite case-marking (Zwart 2006b). In principle, tripartite alignment may be incomplete, as in Kham, or may be a hierarchy-driven adjustment of an accusative system (with special marking for S<sup>T</sup> by differential subject marking) or of an ergative system (with special marking for O by differential object marking). We leave this as an avenue for further study.

## 5.4 Case and agreement

A separate question is how case-marking and agreement control are related, if at all. Our limited data suggest that there is no straightforward connection.

One possible connection would be that completeness in case entails completeness in agreement (or vice versa). This, however, does not seem to be the case. As we have seen, Coast Tsimshian is complete for case (in various ways), but at best incomplete (in fact, narrow ergative) for agreement, and even neutral outside the past tense. Likewise, Wambaya is complete for case, but not always for agreement (accepting Nordlinger's argument that 3rd person object agreement is absent rather than zero, see footnote 5). Conversely, Nez Perce is incomplete for case in case-marked clauses (accepting Lindenbergh's argument that case on S<sup>I</sup> is absent rather than zero, see §4), but complete for agreement.

We can also ask whether a language that is incomplete for case will show the same incompleteness for agreement. Again, this does not seem to be the case. Spanish, for instance, is incomplete for case and agreement, but objective for case and subjective for agreement. Likewise, Paumari is incomplete for case in an unusual way, restricting case-marking to the immediate preverbal element, whereas agreement is incomplete in the more standard subjective alignment type.

Our data also allow us to track agreement alignment as a potential function of case alignment by differentiating between case for full noun phrases and pronouns. As we have seen, case alignment often differs between full noun phrases and pronouns, at least in the languages discussed here. It turns out, then, that in these languages agreement alignment does not typically covary with the case

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<sup>23</sup>On the analysis of Lindenbergh (2015), this applies to Nez Perce, another language described as tripartite for case, as well.

alignment of noun phrases and pronouns. For example, in Paumari the case alignment type becomes objective with pronouns, but the agreement alignment type remains subjective.

One possible connection between case and agreement alignment could be that incomplete case alignment and incomplete agreement alignment are each other's inverse. This would be the case if a language is narrow ergative for case and absolutive for agreement, or objective for case and subjective for agreement. This would require that we analyse Tsez, which has absolutive agreement, as (incomplete) narrow ergative for case, rather than (complete) ergative, an unlikely move given the rich case system of Tsez (Polinsky 2014).<sup>24</sup> Objective case and subjective agreement do go hand in hand in some cases discussed here, such as Spanish and Paumari (with object pronouns), but subjective agreement being relatively widespread, we cannot ascribe these cases to a systematic mirror image relation between incomplete case and agreement types.

In short, the data we have looked at do not allow us to set up any correspondence between case and agreement alignment.

## 5.5 Syntactic ergativity

Our discussion so far has been restricted to morphosyntactic alignment in the domains of case and agreement. When ergative alignment is observed for some syntactic process, we speak of syntactic ergativity (see Deal 2016 for a survey of the phenomena and the issues involved).

Syntactic ergativity can take various forms: ergative  $S^T$  may not participate in a particular syntactic process (19), or the elements participating in the syntactic process are tracked morphologically (e.g. on the verb) along an ergative alignment pattern (20).

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<sup>24</sup> Another case could be Marathi (and similar languages), which shows agreement controlled by  $S^I/O$  in the past tense, where  $S^T$  is ergative. However, the situation of Marathi can be analyzed differently, as discussed in the text (§4). Also, the absolutive-looking agreement pattern shows up in all past tense clauses, even when  $S^T$  is not ergative (as with first and second person pronouns, see footnote 15).

(19) West Greenlandic (Bittner 1994: 55)

- a. miiqqa-t [ — sila-mi pinnguar-tu-t ]  
 child-PL.ABS <S<sup>I</sup>> outdoors-LOC play-REL.INTR-Pl  
 ‘the children who are playing outside’
- b. miiqqa-t [ Juuna-p — paari-sa-i ]  
 child-PL.ABS Juuna-ERG <O> look.after-REL.TR-3SG.PL  
 ‘the children that Juuna is looking after’
- c. \* angut [ — aallaat tigu-sima-sa-a ]  
 man.ABS <S<sup>T</sup>> gun.ABS take-PFV-REL.TR-3SG.SG  
 intended: ‘the man who took the gun’

(20) Tongan (Otsuka 2006: 81)

- a. e fefine [ na’e — tangi ]  
 DEF woman PST <S<sup>I</sup>> cry  
 ‘the woman who cried’
- b. e fefine [ na’e fili — ‘e Sione ]  
 DEF woman PST choose <O> ERG John  
 ‘the woman who John chose’
- c. \* e fefine [ na’e fili ‘a Sione — ]  
 DEF woman PST choose ABS John <S<sup>T</sup>>  
 intended: ‘the woman who chose John’

In both West Greenlandic (19) and Tongan (20), straightforward relativization of S<sup>T</sup> is ungrammatical. In West Greenlandic, the solution is to detransitivize the clause to be relativized, by application of the antipassive:

(21) West Greenlandic (Bittner 1994: 58)

- angut [ — aallaam-mik tigu-si-sima-su-q ]  
 man.ABS <S<sup>I</sup>> gun.INS take-ANTIP-PFV-REL.INTR-SG  
 ‘the man who took the gun’

The antipassive turns a transitive clause into an intransitive clause, so that the relativized subject becomes S<sup>I</sup> instead of S<sup>T</sup>. Effectively, then, this type of syntactic ergativity is incomplete, in fact absolutive (13b).

In Tongan, the solution is to morphologically mark relativization of S<sup>T</sup> (by *ne*):

- (22) Tongan (Otsuka 2006: 81)  
 e    fefine   [ na'a ne fili      'a Sione —    ]  
 DEF woman   PST   3SG choose ABS John   <S<sup>T</sup>>  
 'the woman who chose John'

In this type, relativization is complete and in fact ergative (12c). Other languages that show morphological tracking of A'-moved elements along ergative lines include Abaza, Selayarese, and Gitksan (Deal 2016: 180–181).

From our perspective, these two types of syntactic ergativity represent two different alignment types, both within the ergative family (14), namely absolutive (affecting only S<sup>I</sup>/O), for West Greenlandic, and ergative (S<sup>T</sup> vs. S<sup>I</sup>/O), for Tongan.

## 5.6 Ergativity generalizations

It has been observed that syntactic ergativity is limited to morphologically ergative languages (Dixon 1994: 172). In other words, morphological alignments of the accusative family types (cf. (14)) do not give rise to syntactic differentiation of S<sup>T</sup> and S<sup>I</sup>. One way to explain this would be to assume that accusative alignment (of any type) is a function of syntactic derivation, merging subjects of all stripe in identical positions. Conversely, ergative alignment (of any type), while not reflecting any different syntactic derivation, must be the result of an additional, marked process, which is reflected in morphology, and possibly (though by no means necessarily) also in syntax.

From this perspective, it is interesting to note that morphological differentiation between S<sup>T</sup> and S<sup>I</sup> is not wholly absent in the accusative alignment types. In particular, the transitive subjective type (13aii), while being in the accusative family, does show transitivity sensitivity leading to marked S<sup>T</sup> (we saw this in third person agreement in Paumari and Wambaya). It would be interesting to see if this morphological differentiation has syntactic side-effects, but these questions have to be put off for now.

More generally, typological universals related to ergativity (as discussed recently in Sheehan 2014 and Deal 2015) may be evaluated anew in the context of the more refined alignment typology contemplated here. For example, Deal (2015: 668) observes that ergative case is invariably overtly marked. This follows trivially in two of the three ergative family alignment types (cf. (14)): in the absolutive type (only S<sup>I</sup>/O), S<sup>T</sup> does not participate, so no ergative case is involved, and the narrow ergative type (only S<sup>T</sup>) could not exist without ergative marking of S<sup>T</sup>. So the only type to consider is the complete ergative type (S<sup>T</sup> vs. S<sup>I</sup>/O),

but this type would reduce to the absolutive type if  $S^T$  were not overtly marked. The generalization therefore turns out to be inevitable.

We expect that a close investigation of the ergativity generalizations listed in Sheehan (2014) and Deal (2015), from the perspective of our more refined typology, may shed further light on their status, reason away apparent exceptions, and perhaps provide a more fundamental explanation. However, any further attempt in this direction would lead us beyond the scope of this article.

## 6 Ergative a dependent case?

We noted in §5.4 that no correspondence between case and agreement alignment could be set up. That conclusion is at variance with a proposal in Bobaljik (2008), who argues for a conditional relation between case-marking and eligibility for agreement control. We conclude by evaluating this argument in the context of the system contemplated here.

Bobaljik (2008: 296) acknowledges that agreement alignment is often incomplete, and proposes that incomplete agreement is sensitive to a GF-hierarchy (subject > object; cf. Moravcsik 1978), such that the higher element on the hierarchy is the preferred agreement controller.<sup>25</sup> This has the effect that subjective agreement may co-occur with ergative case alignment, a common enough situation, illustrated here by the case of Wambaya.

Beyond the GF-hierarchy governing agreement control eligibility, Bobaljik (2008) also assumes the case hierarchy in (23), where “dependent case” may be accusative or ergative (following Marantz 1991), and “unmarked case” nominative or absolutive.

(23) unmarked > dependent > lexical/oblique

The conditional relation between case-marking and eligibility for agreement control can then be formulated as in (24), which we refer to as Bobaljik’s generalization (Bobaljik 2008: 303).

(24) If in a language  $\lambda$  dependent case noun phrases control agreement, then unmarked noun phrases in  $\lambda$  must also control agreement.

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<sup>25</sup>Bobaljik’s definition: “The controller of agreement on the finite verbal complex (Infl+V) is the highest accessible NP in the domain of V” (p. 296). “Domain” refers to considerations of locality which are irrelevant to the discussion in this article. Accessibility is subject to an implicational hierarchy captured in Bobaljik’s generalization discussed below (see (24)).

Bobaljik (2008) does not discuss why dependent case-marked elements may or may not control agreement. The generalization in (24) merely states what we can expect if they do.

From our perspective, Bobaljik's generalization ranges over (complete or incomplete) alignment types, and serves to exclude the incomplete types of objective agreement (when O is accusative and controls agreement) and narrow ergative agreement (when  $S^T$  is ergative and controls agreement); in these situations (24) tells us that the unmarked case elements control agreement as well, yielding complete agreement types.<sup>26</sup>

However, objective agreement is also predicted not to occur by the GF-hierarchy (subject > object), which limits incomplete agreement to the subjective type (controlled by  $S^T/S^I$  alone). Bobaljik's generalization is redundant here. Narrow ergative agreement (controlled by  $S^T$  alone) is also consistent with the GF-hierarchy, if we allow for some transitivity sensitivity in this department. This incomplete agreement type seems uncommon, but, as we saw, it is represented in our limited data set by past tense clauses in Coast Tsimshian (Mulder 1994: 68).

It seems, then, that the explanatory value of (24) is somewhat limited. Bobaljik (2008) mentions the incomplete absolutive agreement type (controlled by  $S^I/O$ , represented by Tsez and perhaps languages of the Marathi type, like Hindi), as consistent with his generalization (24), because agreement control by absolutive case-marked elements is a situation we might expect to occur when ergative case-marked  $S^T$  fails to control agreement. However, absolutive agreement of the type found in languages like Marathi is only inconsistent with a GF-based theory of agreement control, if we choose to ignore the generalization that morphologically case-marked elements (not just ergative elements) never control agreement in these languages (cf. Pandharipande 1997: 446; Woolford 2000). If we take this generalization into account, agreement control by ergative case-marked  $S^T$  is ruled out by an independent language particular constraint, and the situation in Marathi does not argue against a GF-based theory of agreement control.<sup>27</sup>

If this is correct, we may maintain that agreement control and case are subject to different organizational principles, agreement being sensitive to grammatical function much more so than case (see also Legate 2008). This conclusion would cast doubt on the usefulness of the definition of ergative case as a dependent case

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<sup>26</sup>Strictly speaking, Bobaljik's generalization (by its conditional nature) does not predict anything about agreement control by unmarked case-marked elements when the condition is not met (i.e. when the accusative and ergative elements do not control agreement). For the implicit assumption that we expect the absolutive agreement type to show up in this situation, see the text.

<sup>27</sup>On absolutive agreement in the Tsez type of languages, see §5.2 above and footnote 21.



(Marantz 1991).<sup>28</sup> On the view of Marantz (1991), now widely shared, the difference between ergative and accusative case alignment is due to a morphological mechanism of “dependent case” assignment, targeting O in accusative languages and S<sup>T</sup> in ergative languages. Assuming a hierarchical organization of cases like (23), it then follows that grammatical functions are differently ranked in the two types of languages, as in (25).

- (25) a. accusative      S > O > other  
       b. ergative        S<sup>I</sup>/O > S<sup>T</sup> > other

An alternative to the Marantzian approach to ergativity would be to deny any meaningful grouping of ergative S<sup>T</sup> and accusative O, and to assign the status of a universal to the GF-based grouping in (25a). On this approach, the ergative would still be a morphologically marked phenomenon, but differently from the accusative. Without the S<sup>T</sup>/O grouping inherent in the dependent case premiss, we do not expect Bobaljik’s generalization to make any predictions, beyond what is already predicted by a GF-based analysis.

From a derivationalist perspective, the characterization of ergative as a dependent case strikes us as incongruous. We take dependency to be a function of syntactic hierarchy (Zwart 2004 et seq.), itself a function of the structure generating procedure Merge of Chomsky (1993). In the spirit of Epstein (1999), we assume that in any pair ( $\alpha, \delta$ ) resulting from Merge,  $\delta$  is the dependent of  $\alpha$  (the antecedent), and the dependency can be morphologically realized on any term of  $\delta$  (Zwart 2006a). Accusative case, on this view, is the morphological realization of a subject–object dependency, essentially signaling the presence of a higher (antecedent) grammatical function (Zwart 2006b), a view that goes back to Jakobson (1971 [1936]).<sup>29</sup> It is unclear how ergative case may be defined as dependent on this approach, but certainly its dependency must be different from that of the accusative case, as the ergative is itself the subject. Flipping the dependency relation such that the object becomes the antecedent for the subject would be incompatible with the definition of dependency as a function of Merge.<sup>30</sup>

<sup>28</sup>As an anonymous reviewer rightly points out, the concept of ergative as a dependent case has been put to profitable use in the literature many times since Marantz (1991), among others in Baker’s (2015) analysis of differential case-marking. As addressing these implementations is not possible in the context of this article, we restrict ourselves here to a discussion of the conceptual appeal of the dependent case hypothesis.

<sup>29</sup>To be more exact, a marker of the dependency between the subject and its sister, realized on the object as a term of the subject’s sister.

<sup>30</sup>A related question is whether ergative case should be characterized as structural or inherent. Since (if we are right) ergative case can come about in a variety of ways (see §5.1), it is unlikely that this question can be given a uniform answer, and we propose to leave it for further study.

## 7 Conclusion

In this article we have argued for a more fine-grained alignment typology, in which the canonical ergative alignment type is just one of five so-called complete types, and one of 18 types overall. We have shown that some of the incomplete types that look ergative, especially the transitive subjective type, are in fact not in the ergative family of types, involving special treatment of transitive subjects within a basically accusative alignment system.

We submit that the new alignment typology with its 18 possible types is better suited to describe the attested variation in alignment patterns than the conventional alignment typology, and provides a basis for understanding existing alignment generalizations as discussed in Sheehan (2014) and Deal (2015).

Following up on DeLancey (2004), our analysis calls into question the existence of a theoretically significant concept “ergativity”, and suggests that attempts at identifying an “ergativity parameter” as the locus of variation between an “ergative system” and an “accusative system” may well remain futile. Therefore, it is important that syntactic approaches to ergativity pick up on the amount of variation attested in alignment patterns, and rethink their analyses accordingly.

## Abbreviations

1	first person	GF	grammatical function
I	I gender	IND	indicative
II	II gender	INDEF	indefinite
3	third person	INS	instrumental
ABS	absolute	INTR	intransitive
ACC	accusative	IPFV	imperfective
ANTIP	antipassive	ITER	iterative
ASP	aspect	LOC	locative
DEF	definite	M	masculine
DEM	demonstrative	N	neuter
DESC	descriptive	NEG	negation
DET	determiner	NOM	nominative
DETR	detransitivizer	NTH	non-theme
DISTR	distributive	OBJ	object
ERG	ergative	OBL	oblique
EVID	evidential	PFV	perfective
F	feminine	PL	plural

PRS	present	SBJ	subject
PRT	preterite	SG	singular
PST	past	TH	theme
RED	reduplication	TR	transitive
REL	relative	VLZ	verbalizer

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## Chapter 3

# Rethinking Structural Case: Partitive Case in Sakha

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The Sakha language has a special partitive case used only on nonspecific direct objects in imperative sentences. This is neither a canonical structural case, nor a canonical inherent case. We show that its basic properties can be explained within a configurational case theory by assuming that partitive is unmarked case assigned to any NP within the VP complement of  $v_{IMP}$ , a special  $v$  head found only in the scope of imperative (Jussive) heads and a few semantical similar items. This theory is briefly contrasted with one in which partitive is assigned by agreement with a special  $v$ , and one in which partitive is the feature  $V$  copied onto a nearby NP.

## 1 Introduction

Within the generative program, Case theory has normally gotten started by making a sharp distinction between so-called structural cases, like nominative and accusative, and inherent or semantic cases, like locative, ablative or instrumental, syntactic theory being more integrally concerned with the structural cases. However, it is not clear that this distinction is so well-defined, or that the boundaries between the two phenomena have necessarily been drawn in the right place.

As a case in point, consider the so called partitive case in Sakha, expounded by the suffix *-tA*. A relic of the Old Turkic locative case, in Sakha this is a very specialized case, used only on some objects of verbs in imperative sentences, as in (1).



- (1) Sakha (Stachowski & Menz 1998: 421, 429)
  - a. Kiliep-te sie.  
bread-PART eat.IMP  
'Eat some bread.' or 'Eat some of the bread.'
  - b. Kinige-te atyylas.  
book-PART buy.IMP  
'Buy any book.' (Not: #'Buy some of the book.')

This partitive is certainly not on the list of normal structural cases, apparently having little in common with nominative and accusative. On the contrary, it is used in a semantically well-defined context (imperatives), where it expresses a kind of semantic notion (an indefinite having narrow scope with respect to the imperative operator). However, it is not a canonical inherent case either, in that it does not express the equivalent of a PP in English, nor is there a particular thematic role associated with it. Syntactic structure seems relevant to the partitive, in that it is found only on direct objects, not on subjects or indirect objects. Sakha's partitive is thus rather far from the prototypes for both structural case and inherent/semantic case. It could be a hint that this traditional distinction needs to be rethought, and along with it the basic principles of case assignment themselves.

In this short paper, we discuss how the major properties of partitive case in Sakha can be analyzed within a theory in which much of case assignment is configurational – determined by an NP's syntactic position with respect to other grammatical elements – not by agreement with designated functional heads (the structural case prototype) or by theta-role assignment from particular lexical heads (the inherent/semantic/lexical case prototype). In doing this, we extend our earlier theory of structural case in Sakha (Baker & Vinokurova 2010, hereafter B&V) to this very specialized case. More specifically, we propose that there is a special functional head in imperative clauses that we call  $v_{IMP}$ . This is a special flavor of the  $v$ /Voice head that is licensed semantically in imperative sentences (and a few others), and as such it is a phase head that triggers the spell out of its VP complement. What is special about  $v_{IMP}$  is that it stipulates that any NP not otherwise marked for case within the spelled-out VP gets a special unmarked case, namely partitive. On this analysis, partitive in Sakha finds a place alongside nominative, which is the unmarked case for NPs inside a spelled out TP in many languages, and genitive, which is the unmarked case for NPs inside a spelled out DP in some languages. This is similar to Baker's (2015: 140–145) analysis of partitive case in Finnish, except that partitive is only assigned in the complement of this one particular  $v$  head in Sakha, not in the VP complement of any  $v$  head, as in Finnish.



## 2 Partitive case in Sakha in context

One telling reason for saying that partitive in Sakha is a special kind of structural case is that it participates in alternations. Sakha is a differential object marking (DOM) language: definite or specific objects are marked with accusative case; nonspecific indefinite objects are unmarked for case (morphologically indistinguishable from nominative; see Vinokurova 2005, B&V). Interestingly, both of these possibilities can also be found in imperatives, alongside the partitive option in (1), each with what seems to be its usual semantic value:

(2) Sakha

- a. Kilieb-i     sie.  
bread-ACC eat.IMP  
'Eat the bread.'
- b. Kiliep sie.  
bread eat.IMP  
'Eat bread.'

So Sakha actually has a three-way rather than a two-way DOM distinction in this limited grammatical environment, with (1a), (2a), and (2b) all possible. (2a) is quite different semantically from (1a): in (2a) the object has a definite or specific reading, whereas in (1a) it has a partitive or nonspecific indefinite reading. The bare object in (2b), however, is very close in meaning to the partitive objects in (1a,b); it also has what is broadly speaking a nonspecific indefinite meaning.<sup>1</sup> We return to this below.

Sakha also has explicit partitive constructions, which it shares with other Turkic languages, including Turkish (see Kornfilt 1990; 1996 for detailed discussion of the Turkish analogs). In these constructions, the NP expressing the whole from which the part is taken bears ablative case, *not* partitive case. If a nominal head expressing the part is overt, as in (3a), it bears a normal direct object case – accusative or (in imperatives only) partitive. The nominal head of this partitive construction can also be null, giving a kind of bare partitive construction, in

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<sup>1</sup>An anonymous reviewer asks how exactly a bare NP object like the one in (2b) differs semantically or pragmatically from a partitive object like the one in (1a), given that both have narrow-scope indefinite readings. Unfortunately, we cannot give a fully helpful or insightful answer; it is hard to articulate a clear and consistent difference. One possible hint is that (1a) with partitive case seems to imply that there should be some bread left over (perhaps so that the speaker can eat some too), whereas (2b) allows the addressee to eat all the bread.

which it looks like the direct object itself has ablative case. In the spirit of Kornfilt's studies, we assume that this is a relatively straightforward variant of the construction in (3a), which happens to have a null head.

(3) Sakha

- a. Jablaka-ttan ikki-ni / ikki-te sie. (\*Jablaka-ta...)  
 apple-ABL two-ACC / two-PART eat.IMP (\*apple-PART)  
 'Eat two of the apples!'
- b. Jablaka-ttan sie!  
 apple-ABL eat.IMP  
 'Eat some of the apple/apples.'

Like (2) and unlike (1), these expressions of the object are equally possible in ordinary declarative sentences. Calling the *-tA* case marker in (1) "partitive" might now seem like a bit of a misnomer, since the case is not used in explicit partitive constructions like (3a), and since some examples with partitive case do not naturally have a partitive translation (e.g., (1b)). However, this is the term now used in Sakha grammar studies, and the case does express partitive meanings in some examples (e.g., (1a)); it also does have similarities with the Finnish partitive. Therefore, we maintain this terminology here.<sup>2</sup>

It is also worth noting that (as far as is known) the direct object of any transitive verb in Sakha can bear partitive case if the following conditions are met: if the clause is imperative, and the object permits a nonspecific indefinite reading. In this sense, partitive case is no less a structural case than overt accusative or bare accusative is. The use of this case is limited syntactically, but not lexically, in contrast with standard instances of inherent case.

### 3 Partitive case as case for NPs inside VP

With these comparisons in mind, we now build our case that partitive is an unmarked case assigned to NPs that stay inside VP in imperative clauses.

The possibility of (2a) in particular tends to point away from an alternative idea within the configurational case theory, according to which what is special about imperatives is that they have some special kind of covert subject, one with distinctive grammatical features of some kind. One might imagine a variant of a dependent case theory (Marantz 1991) in which an NP has partitive case if and

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<sup>2</sup> An older term for this case, used for example by Otto Boehtlingk in the mid 19th century, was "accusative indefinite."

only if it is c-commanded in the local domain by another NP that has these special features. But this alternative view makes it rather mysterious why accusative case on the object is also an option in imperative clauses. B&V argue in detail that accusative case in Sakha is the result of the object being locally c-commanded by an ordinary NP subject. It is far from clear, then, how c-command by the same subject could cause both accusative case on the object in (2a) and partitive case in (1).

Another objection to a view in which partitive is a special dependent case is the fact that imperatives in Sakha can have normal overt subjects as well as covert ones. Although these overt subjects have no obvious special features, the object can still be partitive. (4a) shows this with an overt NP serving as the addressee, as is possible in all varieties of English; (4b) shows it with a kind of third person imperative, where the addressee is exhorted to have a third person expressed as the subject accomplish some act, as is possible in some idiolects of English (Zanuttini 2008).

(4) Sakha

- a. Masha salamaat-ta sie.  
Masha porridge-PART eat.IMP  
'Masha (you) eat some porridge!' (command addressed to Masha)
- b. Masha salamaat-ta sie-tin.  
Masha porridge-PART eat-IMP.3SG.SBJ  
'Have Masha eat some porridge!' (command addressed to someone other than Masha)

We conclude, then, that Sakha's partitive is not a specialized type of dependent case.

The examples in (4) also suggest that it is only the direct object that can be partitive in an imperative; overt subjects are nominative, as in other clauses. This is true even if the agentive subject of the imperative is an indefinite nominal, semantically compatible with partitive, as shown in (5) (see also (12) below on the nonagentive subjects of unaccusative verbs).

(5) Sakha

- Oqo-(#to) yllaa-tin!  
child-(\*PART) sing-IMP.3SG.SBJ  
'Have a/any child sing!'

Put in structural terms, it is only an NP inside VP (that is not otherwise case marked, e.g. with dative) that can be partitive. This fits our idea that partitive is an unmarked case for NPs in a VP domain.

The idea that partitive is a case for NPs inside VP fits the observed facts in another respect as well. The interpretative properties of partitive objects suggest that they remain inside the VP, in that they get only weak indefinite readings. For example, in a negative imperative, the partitive object can only be interpreted as an existential that takes narrow scope with respect to negation (as well as with respect to the imperative operator itself).

- (6) Sakha  
 Kiliep-te sie-me.  
 bread-PART eat-IMP.NEG.2SGS  
 Only: ‘Do not eat any bread at all.’  
 [IMP [Neg [∃x bread (x) [you eat x]]]]  
 (Not: ‘Make sure there is some bread that you don’t eat.’)

This is quite different from a command with an accusative object, where the object does have (the equivalent of) wide scope with respect to negation.

- (7) Sakha  
 Kilieb-i sie-me.  
 bread-ACC eat-IMP.NEG.2SGS  
 ‘Do not eat that bread.’  
 Bread (x) [IMP [Not [you eat x]]]  
 (‘There might be other bread around which you do eat, but not THAT bread.’)

This fits well with the idea that NPs that shift out of VP and get strong readings in accordance with Diesing’s (1992) Mapping Hypothesis come into the domain of the subject and are assigned dependent accusative case in Sakha. In contrast, NPs that stay inside the VP and receive weak indefinite readings get partitive case. This also explains the fact that proper names and nominals with a demonstrative cannot be in partitive case when used as the direct object of an imperative verb in Sakha:

- (8) Sakha  
 \*Sargy-ta / \*bu kinige-te bul.  
 Sargy-PART this book-PART find.IMP  
 ‘Find Sargy/this book!’

These nominals are intrinsically definite, so they have to move out of VP and receive accusative; they never remain in the VP-internal position where partitive is assigned.

It is worth recalling in this connection that the reading of the partitive object is very similar to the reading of the bare object (see (1a) and (2b)). This is also seen by comparing (6) with (9), where the object definitely stays inside VP; the two naturally receive the same English translation, because the structures are the same in this regard.

- (9) Sakha  
 Kiliep sie-me.  
 bread eat-IMP.NEG.2SGS  
 ‘Do not eat (any) bread.’  
 [IMP [Neg [∃x bread (x) [you eat x]]]]

Although bare NPs and NPs with partitive case are very similar in meaning, there is a clear structural difference between them. Bare objects have to be strictly left-adjacent to the verb in Sakha, whereas partitive objects can be separated from the verb by an adverb or resultative phrase, as seen in (10).<sup>3</sup>

- (10) Sakha
- a. Kumaaqy-ta / \*kumaaqy xoruopka-qa ug-uma.  
 paper-PART paper case-DAT put-NEG.IMP  
 ‘Don’t put any paper(s) in the case!’
  - b. Kiliep-te / \*kiliep türgennik sie!  
 bread-PART bread quickly eat.IMP  
 ‘Eat some bread quickly!’

For this and other reasons, Baker (2014) argues in detail that bare objects in Sakha are the result of pseudo-incorporation applying between the head of the direct object and the verb. This requires strict linear adjacency in Sakha (and in other languages in which the verb does not move to T, according to Baker). In contrast, partitive objects are not pseudo-incorporated, and do not need to be next to the verb, either because a lower resultative phrase intervenes (in (10a)), or because the object has undergone short scrambling within VP over a VP adverb, as in (10b). This then gives an account of the three-way distinction among objects

<sup>3</sup>Kornfilt (1990; 1996) shows that bare ablative-partitives like (3b) also must be strictly adjacent to the verb in Turkish, like bare objects. This confirms that the so-called ablative partitives should have a different sort of analysis from objects with partitive case in Sakha.

in Sakha: objects that undergo object shift out of VP are accusative; objects that are pseudo-incorporated with the verb either do not undergo case marking at all (because they are “hidden” inside the verb) or have their case feature deleted; objects that stay in VP but do not incorporate get partitive case. These structural distinctions correspond to semantic distinctions given Diesing’s Mapping Hypothesis and the special semantics that goes with pseudo-incorporation (see Dayal 2011).

The examples in (10) also show that having partitive case on the object in Sakha is perfectly compatible with there being other material inside the VP. That is true for directional/resultative phrases like ‘in the case’, which are lower than the object in syntactic structure. It is also true for goal/recipient phrases which are higher than the object in syntactic structure, as shown in (11) (see Baker & Vinokurova 2010 on higher goal NPs with structural dative case in Sakha).<sup>4</sup> (11a) shows this for a goal intrinsically selected by the verb ‘give’, (11b) for a freely added benefactive expression.

(11) Sakha

- a. At-tar-ga      ok-kut-una      bier-din-ner.  
    horse-PL-DAT hay-2SGP-PART give-IMP-3PL.SBJ  
    ‘Have them give the horses some of your hay.’
- b. Miexe kiliep-te      atyylas.  
    me.DAT bread-PART buy.IMP  
    ‘Buy me some bread.’

This is theoretically significant for distinguishing a view in which partitive is unmarked case assigned when VP is spelled out from a Chomsky-style analysis in which partitive case is assigned to the object by a special *v* found in imperative clauses. The goal phrases in (11) intervene structurally between *v* and the theme, which should block *v* from entering into Agree with the theme. If partitive case assignment depended on Agree, it should be blocked in (11), contrary to fact. In contrast, our proposal that partitive is unmarked case for any NP inside VP that is not already case marked correctly predicts that partitive is possible in (11), since this assignment rule does not depend in any way on details about where the NP is relative to other VP-internal items.

Overall, then, it is precisely those NPs that are generated inside VP (objects as opposed to subjects) and that stay inside VP (nonspecific indefinite objects as

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<sup>4</sup>We thank an anonymous reviewer for asking about (11) and pointing out its potential theoretical significance.

opposed to specific/definite objects) that get partitive case in imperatives. Thus our core proposal that partitive is a case for NPs inside VP that are not otherwise case marked fits the facts well.

This raises the question of what happens with the theme arguments of unaccusative verbs. Like direct objects, these are generated inside VP, under standard assumptions. Hence, one might expect that unaccusative subjects could get partitive case, in contrast with unergative subjects, (5). In fact, this is impossible in Sakha, as shown in (12).

(12) Sakha

- a. Morkuop-(\*ta) üün-nün!  
carrot-(\*PART) grow-IMP.3SG.SBJ  
'Let some carrots grow.'
- b. # Oqo-to yaldy-ba-tyn.  
child-PART get.sick-NEG-IMP.3SG.SBJ  
Not OK as 'Don't let any child get sick!'  
(OK as 'Don't let his child get sick', with *-to* = 3SG.POSS)

This fact fits with our hypothesis as long as we assume that Sakha has a strong EPP feature, such that some suitable NP must move to SpecTP (or at least to Spec<sub>v<sub>IMP</sub></sub>P; see footnote 8). Since the theme is the only NP in these unaccusative structures, it must be the one to move. This takes the theme out of VP, bleeding partitive case assignment, just as object shift out of VP does. In contrast, unaccusative subjects can get partitive case in Finnish, because in that language EPP properties are absent or can be satisfied in other ways (see Baker 2015: 142 and references cited there).<sup>5</sup>

## 4 The structure of imperative clauses

The major remaining question, then, is how to relate the fact that NPs inside VP get a special partitive case in imperatives only to the overall syntax of imperative clauses. On the latter topic, we take as our starting point the theory of the syntax of imperatives in Zanuttini (2008) and Zanuttini et al. (2012), a theory with cross-linguistic aspirations which fits well with the basic facts about Sakha. On this view, imperative clauses have a special Jussive head that is not present in other

<sup>5</sup>Unaccusative predicates also allow their subjects to have the bare ablative partitive in Turkish, according to Kornfilt (1990; 1996) – another difference between the two so-called partitive constructions.

clause types. This head has intrinsic interpretable second person features that relate to the fact that imperatives are enjoined on the addressee of the utterance in a special way. The head is assumed to be high in the clausal structure, above TP and most of the rest of the functional structure of the clause. In Sakha, this fits with the fact that the imperative operator in an example like (6) necessarily has scope over negation: (6) means ‘you have the obligation not to eat bread’, not ‘you don’t have the obligation to eat bread’. Similarly, Sakha has a special future tense imperative seen in (13); here imperative has scope over the future tense.

(13) Sakha

Kinige-te atyylah-aar.

book-PART buy-FUT.IMP.2SG

‘You have an obligation (now) to buy a book in the future.’

(Not: ‘In the future, you will have an obligation to buy a book.’)

Furthermore, according to Zanuttini (2008), if T in an imperative clause has person agreement features of its own, it can license a subject distinct from the addressee; this is what we find in examples like (4b) in Sakha. However, T in imperative clauses can also lack a person agreement feature. In that case, the Jussive head can itself agree with the subject, endowing it with its intrinsic second person feature. In this way, a null second person pronoun can be licensed in the subject position of imperatives even in the absence of rich agreement, as in examples like (1), and a second person reading can be imposed on a nominal that otherwise would not have one, as in (4a). Overall, then, Zanuttini’s theory of the syntax of imperatives is a good fit for Sakha.

But there is a significant problem when it comes to the licensing of partitive case in Sakha imperatives, since the Jussive head is too high in the clause to trigger this case on the direct object in any contending theory of case assignment. Clearly Jussive should not be able to assign partitive to the object under Agree, because the subject intervenes structurally between the two. But essentially the same problem arises for our view that partitive is an unmarked case assigned at Spell out. One could stipulate that Jussive is a phase head, and that partitive case is assigned to un-case-marked NPs inside its spelled-out complement. But the complement of Jussive is (at least) TP, which also includes the subject, and partitive is not possible on the subject (see (5) and (12)). Moreover, Jussive embeds a TP that itself contains a normal *v*P structure. Since *v* is a (hard) phase head in Sakha, which spells out its VP complement but does not provide an unmarked case for NPs inside that complement, NPs inside VP that are not otherwise case-marked are forced to undergo pseudo-incorporation, showing up



as bare nominals. By the time the derivation reaches the Jussive head, then, there should be no object NP visible inside its complement to get partitive, VP already having been spelled out. Therefore, Jussive could have no direct case marking effect on the VP-internal object.

Therefore, we are led to propose that the structure of imperative clauses in Sakha is a bit more complex. We suggest that Sakha has a special flavor of *v*, called *v<sub>IMP</sub>*, which is licensed in the scope of the Jussive head, as expressed in (14).

- (14) *v<sub>IMP</sub>* is licensed only in the semantic scope of Jussive or a similar operator.

Semantically *v<sub>IMP</sub>* introduces an agent and says that that agent is obligated to perform the predicate expressed by its VP complement. Like other *vs*, it triggers the spell out of its VP complement. However, this *v* is special in that it supplies partitive case as an unmarked case for that complement. This is stated explicitly in (15).

- (15) Assign Partitive to an NP not marked for case in the domain spelled out by *v<sub>IMP</sub>*.

Then the result follows that partitive case is licensed on direct objects that remain inside VP in Sakha, but not on agentive subjects or on direct objects that move out of VP to get a strong/definite/specific reading.<sup>6</sup>

Possible independent evidence that imperatives in Sakha involve a special *v* head as well as Jussive is the fact that there seems to be interference between imperatives and the most obvious overt *v*/Voice head in the language, namely the passive morpheme *-Illn*. Passives formed with this morpheme cannot be used in the imperative; hence (16) is ungrammatical.

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<sup>6</sup>One might think that positing *v<sub>IMP</sub>* in addition to Jussive would also make possible a view in which *v<sub>IMP</sub>* assigns partitive case to the direct object under Agree. However, this view would find it difficult to explain why accusative objects are also possible in imperatives (see (2a)), since the normal accusative-assigning *v* would not be present in imperatives, by hypothesis. Our configurational account readily accommodates both: if the object stays inside VP, it gets unmarked partitive case when VP is spelled out; if it moves out of VP, it gets dependent case by being locally c-commanded by the subject (see (21)). (For another problem with this alternative, see the discussion of (11).)

- (16) Sakha  
 \*Tal-ylyn!  
 choose-PASS.IMP  
 ‘Be chosen!’ (e.g., for some honor or prize)

This contrasts with English, where passive imperatives are grammatical under certain conditions (e.g., *Be examined by a doctor!*). We can account for this if we say that  $v_{IMP}$  and  $v_{PASS}$  compete for the same  $v$  position in Sakha, and only one can be used at a time.<sup>7</sup>

Since (14) is semantic in nature, it allows for the possibility that other heads might be close enough in meaning to Jussive to semantically license a  $v_{IMP}$  projection, and hence partitive case on the object. In fact, Sakha also has certain so-called necessitive constructions, in which partitive case can be observed on the object. An example is (17).

- (17) Sakha  
 Kiliep-te    aʁal-ʁax-xa        naada.  
 bread-PART get-PROS.PTCP-DAT necessary  
 ‘It is necessary to get some bread.’ (Stachowski & Menz 1998: 429)

Our rough idea about this is that the adjective *naada* ‘necessary’ is similar enough semantically to the functional head Jussive that it too can license a  $v_{IMP}$  projection in its scope.

We also do not say precisely how close  $v_{IMP}$  must be syntactically to Jussive (or *naada*) in order to be licensed. Here we have in mind an analogy with negative polarity items (NPIs) licensed in the scope of negation: in some languages, the NPI must be in the same clause as the licensing negation, but in others the NPI can be at some distance, within an embedded clause (e.g., English: *I don’t want to eat anything.*).  $v_{IMP}$  licensing in Sakha seems to be like NPI licensing in English in this respect. Thus, all speakers allow an imperative matrix clause to license partitive inside the embedded clause in nonfinite control-like complements, as shown in (18).

<sup>7</sup>In contrast, unaccusative verbs are possible as commands: *öl-ö oʁus!* (‘die quickly!’ spoken to a bug), *yaldj-ima* (get.sick-NEG.IMP ‘Don’t get sick!’). These do not need any special  $v$  to suppress an agent argument. Apparently the theme argument can move from inside VP to the Spec $v_{IMP}$ P position in sentences like these.

- (18) Sakha  
 Kiliep-te sii-r-gin umnu-ma!  
 bread-PART eat-AOR-2SG.ACC forget-NEG.IMP  
 ‘Don’t forget to eat some bread.’

Some speakers even allow Jussive in the matrix clause to license  $v_{IMP}$  inside a fully finite complement clause, permitting partitive case on the object of the embedded clause as in (19), whereas for other speakers this is ruled out.

- (19) Sakha  
 Masha kiliep-(%te) atyylah-ya dien eren-ime.  
 Masha bread-PART buy-FUT.3SG.SBJ that hope-NEG.IMP  
 ‘Don’t hope that Masha will buy any bread.’

In contrast, nobody allows a matrix imperative to license partitive case on the subject of an embedded clause in a sentence like (20).

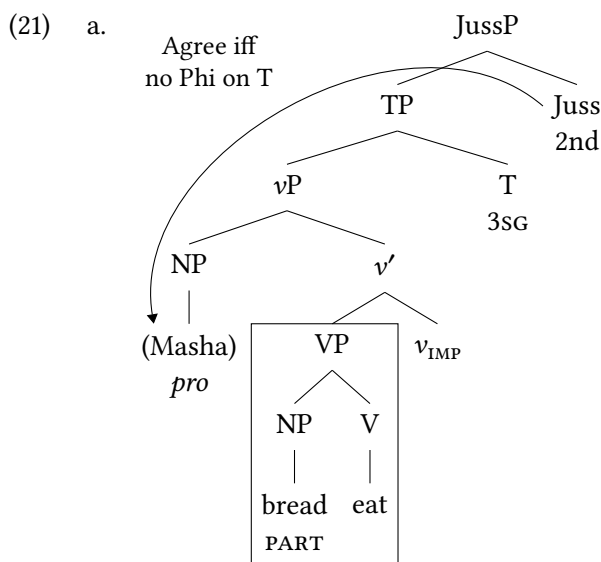
- (20) Sakha  
 Masha-ny byrdax-(\*ta) uust-uak-a dien eren-ime.  
 Masha-ACC mosquito-(\*PART) bite-FUT-3SG.SBJ that hope-NEG.IMP  
 ‘Don’t hope that a(ny) mosquito bites Masha.’

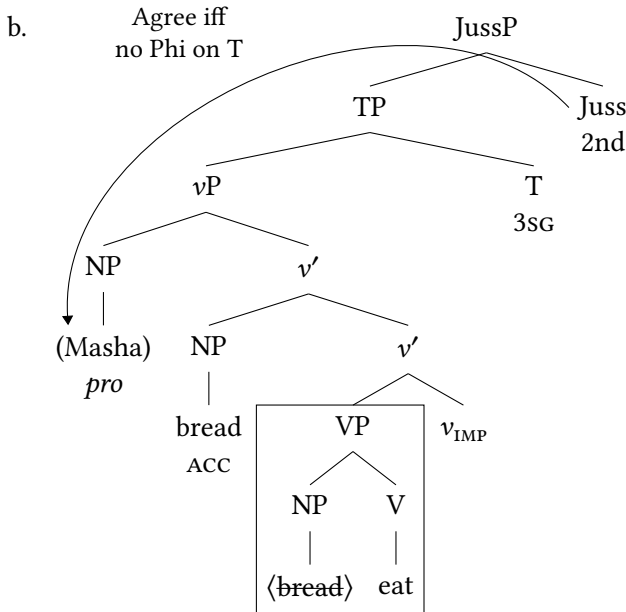
We can account for this curious pattern using the idea that Jussive doesn’t license partitive NPs directly; rather it licenses  $v_{IMP}$ , which in turn triggers the assignment of partitive case locally inside its complement. On the one hand, if Jussive in (20) licenses  $v_{IMP}$  in the embedded clause, then the embedded subject is not in the complement of this  $v_{IMP}$ , so it cannot be partitive. On the other hand, if Jussive in (20) licenses  $v_{IMP}$  in the matrix clause, then the subject is in the c-command domain of  $v_{IMP}$ , but it is already spelled out on the CP phase headed by *dien* ‘that’, so it cannot get partitive in those circumstances either.<sup>8</sup> The distribution of partitive NPs in embedded clauses can thus be accounted for using (14).

We summarize our proposal for Sakha imperatives in (21). (21a) is the structure of a simple imperative with an indefinite object, which gets partitive when the VP complement of  $v_{IMP}$  is spelled out. (21b) is the structure of an imperative

<sup>8</sup>There is one other possibility: the embedded subject could shift to the edge of the CP phase. This is possible in Sakha, resulting in accusative subjects in many kinds of clauses (Vinokurova 2005, B&V). But we assume that CP actually extraposes out of VP as well. This takes the subject at the edge of CP outside the domain of partitive case assignment within the matrix clause, so these subjects can get accusative but not partitive.

with a definite object that moves out of VP and gets accusative because it is c-commanded by the subject inside the same phase. Either construction can have a third person subject licensed by agreement with T, or a second person subject licensed by Jussive if T does not bear agreement. It is also possible for an NP inside VP to pseudo-incorporate with V, in which case it surfaces as a bare noun adjacent to the verb. This accounts for all the major versions of the imperative in Sakha.





Sakha is not the only language thought to have a special unmarked case for NPs inside VPs. One analog is Baker's (2015: 140–145) analysis of partitive case in Finnish; see also Baker (2017) for a similar analysis of the so-called accusative indefinite case in Evenki. But there is a significant theoretical difference: in Finnish, partitive case can be assigned within any VP, so partitive case has a much wider distribution, and is found in declarative clauses as well as in imperatives. We are led to say, then, that all *vs* license partitive on NPs inside their complement in Finnish, whereas only the special head  $v_{IMP}$  does so in Sakha.

This difference is theoretically interesting because it seems to point away from Pesetsky's (2013) attractive proposal that case features are not a separate kind of feature provided by Universal Grammar, but rather category features copied onto an NP from a nearby head. At first glance, Baker's (2015) theory of partitive seems similar to this: saying that partitive is an unmarked case assigned within VP could be recast as saying that partitive case is the V feature being copied onto NP inside VP. But this possible equation does not carry over so well to Sakha, given that in Sakha partitive case is not assignable in all VPs, but only in the VP complements of one particular *v*-like head. This issue for Pesetsky's view is further compounded by the fact that Sakha allows accusative as well as partitive on direct objects, so it has two distinct cases associated with dependents of VP, and they cannot both plausibly be copies of the same V feature. Of course there

may well be ways to enrich Pesetsky's theory so that it could account for the Sakha partitive – maybe even ways that are not intrinsically more complex than how we have enriched our configurational theory in (14) – but one would have to evaluate specific proposals carefully to see if they succeed in retaining what is initially attractive about Pesetsky's proposal, and whether the enriched proposal more or less converges with ours.<sup>9</sup>

In contrast, our version of the configurational approach to case assignment does have the resources to handle partitive case in Sakha – both the fact that it adds to the other possibilities for case marking direct objects in the language, rather than replacing one of them, and the fact that it is limited to one very specific type of clause. Partitive case in Sakha can thus be treated as a structural case, as long as structural case is rethought along configurational lines.

## Abbreviations

2	second person	NEG	negation
3	third person	NPI	negative polarity item
ABL	ablative	PART	partitive
ACC	accusative	PASS	passive
AOR	aorist	PL	plural
DAT	dative	POSS	possessive
DOM	differential object marking	PROS	prospective
EPP	extended projection principle	PTCP	participle
FUT	future	SBJ	subject
IMP	imperative	SG	singular

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<sup>9</sup>For example, an anonymous reviewer suggests that maybe  $v_{\text{imp}}$  transfers its category feature to V, the head of its complement, and this affects the nature of the V feature transferred to the object, with the composite  $[v_{\text{imp}} + V]$  feature on NP being realized as partitive. It goes beyond the scope of this paper to consider what consequences this richer theory of composite category features might have within Pesetsky's overall system.

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## Chapter 4

# Rethinking the nature of nominative case

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In this squib, we investigate the nature of nominative and accusative case in Greek from a cross-linguistic perspective in the light of recent discussion on the modes of case assignment, see Baker (2008; 2015), Bobaljik (2008), Zeijlstra (2012), Preminger (2014) among others. We focus on Baker's (2008; 2015) typology of Case and Agreement systems asking the question of where Greek is situated in this typology. We argue that while accusative (ACC) fits in the system, qualifying as dependent case on the basis of Baker's (2015) criteria, nominative (NOM) is more problematic. On the one hand, Greek NOM behaves like unmarked case and is clearly not assigned under agreement with T in a number of environments. On the other hand, however, agreement always goes with NOM when both are present. Crucially, the language pervasively shows long-distance chains involving a single in situ NOM subject and many T heads fully agreeing with it. This is incompatible with Baker's (2008) agreement and case typology. Building on Alexiadou & Anagnostopoulou (1998), we suggest that Greek has T with interpretable  $\phi$ -features as a by-product of V raising satisfying the EPP. This allows for the formation of long-distance chains between a single DP bearing unmarked NOM and many fully agreeing Ts. Turning to the question of why agreement always goes with NOM in Greek, this is compatible with the view that agreement is sensitive to unmarked case argued for by Bobaljik (2008), Preminger (2014), Baker (2015) and others. We adopt this proposal and argue that the analysis of Greek NOM case in connection to agreement requires a separation of interpretability from valuation (Pesetsky & Torrego 2007). Finally, we address the implications of our proposal for the theory of pro and compare our analysis to the Agree theory of pro proposed by Roberts (2010a,b) and Holmberg (2010).



## 1 Introduction

As is well known, there are two influential views on *Case assignment*: under view (1), all structural Case is assigned by functional heads via Agreement (Chomsky 2001). Under view (2), structural Case is assigned by the principles of dependent case assignment (Marantz 1991 and many others building on him).

On the nominative under Agree perspective, an NP has nominative case (NOM) if and only if it is assigned that case by a T-like functional head that enters into Agree with it, see (1) from Baker (2015), but cf. Sigurðsson (2000), who argues for a *vP* based approach.

- (1) Overt NP X has nominative case if and only if exactly one verbal form in the clause containing X agrees with it.

On Case assignment under the principles of dependent case, the situation is different. Marantz (1991) argues that the distribution of morphological case is determined at PF, subject to the case realization hierarchy in (2):

- (2) Case realization disjunctive hierarchy:  
(i) lexically governed case, (ii) “dependent” case (accusative and ergative),  
(iii) unmarked case (environment-sensitive), (iv) default case

A lot of later literature has adopted the view that case distribution is subject to (2), without necessarily also adhering to the view that case realization is determined at PF (see e.g. Preminger 2014; Baker 2015 who argue that (2) applies in syntax). In this system, structural accusative and ergative is “dependent case” subject to the definition in (3), from Baker (2015: 74):<sup>1</sup>

- (3) a. If NP<sub>1</sub> c-commands NP<sub>2</sub> and both are in the same domain, value NP<sub>1</sub>’s case as ergative.  
b. If NP<sub>1</sub> c-commands NP<sub>2</sub> and both are in the same domain, value NP<sub>2</sub>’s case as accusative.  
c. If NP has no other case feature, value its case as nominative/absolutive.

Nominative/absolutive is unmarked/default in the verbal domain, while genitive is unmarked/default in the nominal domain.

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<sup>1</sup>The domain is taken to involve two NPs within the same TP. See Schäfer (2012) for arguments that it involves NPs within the same *vP*.

Baker (2015) puts forth a typology of Case assignment, according to which, case is not always assigned by Agree, rather some structural Case is assigned on the basis of the principles of dependent case. From this “mixed case” perspective, agreement (Agree) can assign case or agreement is independent of case (see also Baker 2008 on the relationship between case and agreement, and the discussion below).<sup>2</sup>

On the basis of the criteria discussed in Baker (2008; 2015), it is not immediately evident what the status of nominative is in Greek, while it is clear that accusative is dependent case. In this squib, we will address the following questions:

- (i) What is the status of nominative and accusative in Greek, and how does it pattern with or differ from other languages?
- (ii) If nominative is unmarked in the language and hence dissociated from Agree, as evidenced from long-distance dependencies, among other properties, then why does agreement only go with nominative and never with some other case or category?

The squib is structured as follows: in §§2 and 3, we present Baker's criteria to determine the two modes of Case assignment, Agree vs. dependent case. In §5, we apply these criteria to Greek. In §5, we address the issue of parametric variation with respect to nominative case assignment.

## 2 Principles of Case assignment

## 2.1 Case under Agree

Baker (2015: 29f.) provides evidence from Sakha that nominative is assigned under Agree. On this view, agreement and nominative are two sides of the same coin, as proposed in Chomsky (2001). The following environments make a clear case for NOM under Agree assignment in Sakha. First, as shown in (4), we find an overt nominative subject when the verb bears agreement, but not otherwise.

- (4) Sakha (Baker 2015: 29)
- a. Masha aqa-ta kinige-ni atyylas-ta.  
Masha father-3SG.POSS.NOM book-ACC buy-PST.3SG.SBJ  
'Masha's father bought the book.'

<sup>2</sup>There is a third option, namely that nominative (and perhaps also ergative/ accusative and perhaps also dative, depending on the language) “activates” a DP for agreement, i.e. agreement comes after case (Bobaljik 2008), we will come back to this.

- b. Uol uonna kyys kuorak-ka bar-dy-lar.  
 boy and girl town-DAT go-PST-3PL.SBJ  
 ‘The boy and the girl went to the town.’

As Baker points out, there are clause types in which agreement with the subject is disrupted. This is the case in relative clauses in Sakha, which are formed by using one of the participial forms available in the language preceding a head noun. Importantly, the participle cannot Agree with the subject, as shown in (5).

- (5) Sakha (Baker 2015: 30)  
 \*Masha cej ih-er-e caakky  
 Masha tea drink-AOR-3SG cup  
 ‘a cup that Masha drinks tea from’

In order to construct a grammatical variant of (5), according to Baker, one option is that the head noun of the relative clause (not the participle) agrees with the subject of the relative clause, as in (6).

- (6) Sakha (Baker 2015: 30)  
 Masha cej ih-er caakky-ta  
 Masha-GEN tea drink-AOR cup-3SG.POSS  
 ‘a cup that Masha drinks tea from’

In this case, however, the subject inside the relative clause bears genitive and not nominative case morphology. Note that in Sakha genitive case is syncretic with nominative (both are null) except after a possessive agreement suffix as in (7).

- (7) Sakha (Baker 2015: 30)  
 [ Masha aqa-ty-*n* ] atyylas-pyt at-a  
 Masha father-3SG.POSS-GEN buy-PTCP horse-3SG.POSS  
 ‘the horse that Masha’s father bought’ Baker (2015: 30)

Baker concludes that the contrast between (4) and (6) suggests that if a different head agrees with the subject in Sakha, then the case of the subject is distinct as well. In (4), it is the verb that agrees with the subject, and the subject bears nominative. In (6), it is the head of the relative clause that agrees with the subject, and the subject bears genitive.

The second possibility is that there is no overt agreement on either the participle or on the head noun, and the subject of the clause is phonologically null, see (8):

- (8) Sakha (Baker 2015: 30)  
 cej ih-er        caakky  
 tea drink-AOR cup  
 ‘a cup that one drinks tea from’

This suggests that an agreement-bearing head in a relative clause structure is not necessary in Sakha.

What seems to be, however, impossible is to have an overt NP in nominative case as the subject of the relative clause, in the absence of any overt agreement, as in (9), a fact indicating that there can be no nominative in the absence of agreement in this language:

- (9) Sakha (Baker 2015: 30)  
 \*Masha cej ih-er        caakky.  
 Masha tea drink-AOR cup  
 ‘a cup that Masha drinks tea from’

A further correlation between nominative and agreement emerges when we look at clauses that do not have a nominative subject. As Baker points out, the theme argument of a passive verb in Sakha may be nominative or accusative. If it is nominative, (10a), the passive verb must Agree with it; if it is not nominative, (10b), then the passive verb cannot agree with it:

- (10) Sakha (Baker 2015: 32)  
 a. Sonun-nar aaq-ylyn-ny-lar.  
    news-PL   read-PASS-PST-3PL.SBJ  
    ‘The news was read.’  
 b. Sonun-nar-y aaq-ylyn-na.  
    news-PL-ACC read-PASS-PST.3SG.SBJ  
    ‘The news was read.’

Baker takes these facts to suggest that NOM is assigned under Agree.<sup>3</sup>

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<sup>3</sup>As pointed out by an anonymous reviewer, Levin & Preminger (2015) argue that these facts are equally consistent with the view that nominative is the unmarked case in the language, and that agreement targets only NPs with nominative case; We will come back to the issue of agreement targeting NOM DPs.

### 3 Case assigned by different means

Baker (2015: 112f.) presents evidence that if one NP is c-commanded by another NP in the same clause, it is accusative in Sakha. This is straightforwardly the case when both NPs are in the same domain, i.e. within the same TP:

- (11) Sakha (Baker 2015: 112)  
Erel **kinige-ni** atyylas-ta.  
Erel book-ACC buy-PST.3SG.SBJ  
'Erel bought the book.'

But if an NP is c-commanded by another NP in a higher clause in Sakha, it is not necessarily accusative. For example, the matrix subject does not trigger accusative case on the subject of its CP complement, as shown in (12). This is exactly what is expected, if CP is a phase in Chomsky's (2001) sense:

- (12) Sakha (Baker 2015: 113)  
Min [ sarsyn **ehigi-(\*ni)** kel-iex-xit        dien ] ihit-ti-m.  
I.NOM tomorrow you-(\*ACC) come-FUT-2PL.SBJ that hear-PST-1SG.SBJ  
'I heard that tomorrow you will come.'

Importantly, in Sakha, the subject of an embedded clause can have accusative case under certain conditions, as shown in (13), where the NP has moved to the left edge of the embedded CP:

- (13) Sakha (Baker 2015: 114)  
Min [ **ehigi-ni** [ бүгүн kyaj-yax-xyt        dien ]] erem-mit-im.  
I        you-ACC today win-FUT-3PL.SBJ that hope-PTCP-1SG.SBJ  
'I hoped that you would win today.'

In (13), it is the presence of another NP in the matrix clause that determines the case of the embedded subject. Evidence that the embedded subject has moved to the left edge of the CP in (13) comes from adverb placement: if lower clause adverbs precede rather than follow it, then the lower subject must be nominative, suggesting that it has not moved to the left edge, and hence cannot bear accusative.

- (14) Sakha (Baker 2015: 115)

Min [ sarsyn ehigi-(\*ni) kel-iex-xit dien ] ihit-ti-m.  
 I.NOM tomorrow you-(\*ACC) come-FUT-2PL.SBJ that hear-PST-1SG.SBJ  
 ‘I heard that tomorrow you will come.’

This is a so-called edge effect, which is expected if the domains for dependent case assignment are phases in the sense of Chomsky (2001).

Moreover, Baker (2015) demonstrates that the one-to-one mapping of nominative and agreement collapses if we look at a number of environments in a different set of languages. For instance, in Oromo, there are clauses with more person-number-gender agreement than nominative subjects. This is the case in periphrastic tenses consisting of a past or imperfective main verb and an auxiliary. Here *both verbs* Agree with the subject in  $\phi$ -features, including person, but presumably cannot both assign the subject nominative case.

- (15) Oromo (Baker 2015: 99)

- a. Isaa-f xanni-t-é tur-t-e.  
 him-DAT give-3SG.SBJ-PST was-3SG.SBJ-PST  
 ‘You HAVE given it to him.’  
 b. Joollée-n beelaw-t-é hin-jír-t-u.  
 Children-MNOM get.hungry-F-PST NEG-exist-F-DEP  
 ‘The children haven’t gotten hungry.’

Similarly, in Ingush multiple heads Agree with the same absolutive argument in the periphrastic progressive (Baker 2015: 71–72) and also, like Tsez (Polinsky & Potsdam 2001), the language tolerates long-distance agreement, where the matrix verb agrees with an NP inside an embedded clause):

- (16) Ingush (Nichols 2011: 263)

Txy naana-z maasha b-ezhh-ar.  
 our.GEN mother-ERG homespun.B B-make.CVB.SIM B-PROG.PST  
 ‘Our mother was making homespun (when I came in).’

- (17) Ingush (Nichols 2011: 551, 550)

- a. Muusaa [ zhwalii waaxar ] qer.  
 Musa.ABS dog.ABS bark.VN fear  
 ‘Musa is afraid the dog will bark.’

- b. Waishet cec-j-ealar [ Muusaa-z baq' aalaragh ].  
 Aisha.ABS surprise-J-LV.PST Musa-ERG truth.ABS say.VN.LAT  
 'Aisha was surprised that Musa told the truth.'

A related argument comes from the observation that Case assignment in infinitival clauses works exactly as in finite ones in Burushaski, exemplified below, but also in Shipibo, Chukchi, Greenlandic Inuit, Tamil:

(18) Burushaski (Baker 2015: 44)

- a. Já-a [ ún ní-as-e ] r rái é-t-c-abaa.  
 1SG-ERG 2SG.ABS go-INF-OBL to want 3SG.OBJ-do-NPST-1SG.PRS  
 'I want you to go.'
- b. Gús-e [ hir-e in mu-del-as-e ] r rái  
 woman-ERG man-ERG 3SG.ABS 3.F.OBJ-hit-INF-OBL to want  
 a-é-t-c-ubo.  
 NEG-3SG.OBJ-do-NPST-3.F.SBJ.PRS  
 'The woman doesn't want the man to hit her.'

If T does not assign case to NP in the course of agreeing with it, then the nominative case presumably comes from elsewhere.

Baker's proposal is that languages of this type have unmarked/default nominative or unmarked absolutive. Specifically, he links this to a parameter discussed in Baker (2008: 155, (2)):

(19) *The Case-Dependency of Agreement Parameter*

F agrees with DP/NP only if F values the case feature of DP/NP or vice versa.

Combined with the directionality Parameter in (20) (his (1)), Baker (2008) derives a four-way typology of the agreement properties of Tense:

(20) *The Direction of Agreement Parameter*

F agrees with DP/NP only if DP/NP asymmetrically c-commands F.

This predicts certain language types, which can be described as follows, according to Baker (2008): First, there are many Bantu languages that systematically obey (20) but not (19), [No CDAP, Yes DAP]. As a result, the finite verb agrees with whatever precedes it, e.g. locatives or fronted objects:



(21) Kinande (Baker 2008: 158)

- a. Omo-mulongo mw-a-hik-a            (?o)-mu-kali.  
LOC.18-village.3 18SM-TNS-arrive-FV AUG-1-woman  
'At the village arrived a woman.'
- b. Oko-mesa kw-a-hir-aw-a            ehilanga.  
LOC.17-table 17SM-TNS-put-PASS-FV peanuts.19  
'On the table were put peanuts.'

Second, many Indo-European languages systematically obey (19) but not (20), [Yes CDAP, No DAP]. As a result, the finite verb only agrees with nominative DPs regardless of their position (preverbal or postverbal)].

Third, there are languages such as Turkish where both (19) and (20) are set positively, [Yes CDAP, Yes DAP]. As a result, the finite verb only agrees with nominative DPs, but only in SOV orders, not in inverted OSV orders which lack agreement].

Finally, Burushaski (an isolate ergative language spoken in the Himalayas) is argued to instantiate the fourth option, [No CDAP, No DAP]. This group of languages have the following properties: nominative and ergative subjects trigger the same form of agreement, unlike e.g. Hindi where verbs Agree only with nominative subjects, and this is independent of word order, i.e. agreement is always with the thematic subject and never e.g. with the fronted object in inverted OSV orders.

In the next section, we turn to our investigation of Case assignment in Greek from the perspective of the above-sketched typology. We will show that accusative is dependent case and nominative is unmarked case, i.e. not assigned under Agree with T, according to Baker's criteria. Nevertheless, agreement always goes with nominative arguments and never with non-nominative ones, unlike e.g. Bantu languages and like many Indo-European languages. We will then explore how we can account for this.

## 4 Case assignment in Greek

### 4.1 Accusative as dependent case in Greek

In Greek, the subject of an embedded clause can have ACC under certain conditions (Iatridou 1993; Kotzoglou & Papangeli 2007). In (22a), the subject of the embedded clause is assigned ACC when it occurs at the edge of the subjunctive. However, it is licensed by the negation in the subordinate clause, which provides

evidence that this is an ECM and not an object control construction. As shown in (22b), object control constructions do not allow negative polarity items (NPIs) licensed by negation in the embedded clause. Crucially, the adnominal modifier in the embedded clause bears nominative obligatorily.<sup>4</sup>

(22) Greek

- a. Bika mesa ke me ekpliksi idha kanenan na min  
 entered.I in and with surprise saw.I nobody.ACC SBJV NEG  
 dulevi monos tu. Oli ixan xoristi se omades.  
 work.3SG alone his.NOM. All had separated into teams.  
 ‘I entered and I saw to my surprise that nobody was working alone.  
 They had all separated into teams.’
- b. \*Dietaksa kanenan na min figi apo edo  
 ordered nobody.ACC SBJV NEG leave.3SG from here  
 ‘I ordered that nobody leaves here.’

As in the other relevant languages discussed by Baker, the subject must move at least to the edge of the CP and optionally also higher (presumably to the Spec,vP of the matrix clause) in order for it to be assigned accusative case. The relevant facts of ACC vs. NOM distribution in Greek ECM constructions are illustrated in (23). As Kotzoglou & Papangeli (2007) point out, NOM DP-subjects of the embedded predicates cannot surface on the left of matrix adverbial material. On the contrary, this is possible with ACC-marked DPs, which may either precede matrix adverbials or follow them. When they precede matrix adverbials, embedded ACC subjects have presumably raised to the matrix clause, while when they follow adverbials they remain at the edge of the embedded subjunctive. In both positions, they can be assigned ACC case. This type of ACC assignment is very local: ACC subjects are not allowed to surface below the edge of the subjunctive, in a position following the embedded verb (arguably their vP internal base position), where NOM subjects are possible.

(23) Greek

- o Petros perimene {\*i Sofia / ti Sofia} me laxtara  
 the Peter.NOM expected.3SG the Sofia.NOM the Sofia.ACC with desire  
 {i Sofia / tin Sofia} na dhechti {i Sofia / \*tin  
 the Sofia.NOM the Sofia.ACC SBJV accept-3SG the Sofia.NOM the

<sup>4</sup>Mark Baker (personal communication) points out that a situation where the ECM subject receives ACC and the embedded modifier receives NOM, as in (22), does not arise in Sakha, as far as he knows.

Sofia}     tin protasi     ghamu  
 Sofia.ACC the proposal.ACC wedding.GEN  
 ‘It is with desire that Peter expected Sofia to accept the wedding  
 proposal.’ (*matrix reading of PP*)

Similarly, in constructions involving secondary predication, where the subject and the predicate must Agree in Greek, we see that no matter what the case of the subject is (NOM or ACC), the embedded predicate always bears nominative (data from Kotzoglou & Papangeli 2007):

- (24) Greek (Kotzoglou & Papangeli 2007)
- a. perimena    o    Janis        na    ine arostos    / \*arosto  
    expected.1sg the John.NOM SBJV be    sick.NOM    \*sick.ACC  
    ‘I expected John to be sick.’
  - b. perimena    to    Jani        na    ine arostos    / \*arosto  
    expected.1sg the John.ACC SBJV be    sick.NOM    sick.ACC  
    ‘I expected John to be sick.’

This suggests that accusative is dependent case in Greek and, moreover, that *dependent case can be assigned on top of a case assigned lower*, inside the embedded clause, which is always nominative in Greek. As Baker notes, there is cross-linguistic variation as to whether multiple cases can be realized or not.

A particularly clear instance of case stacking, discussed in Baker (2015), is seen in Cuzco Quechua, where an NP can get genitive case as the subject of a nominalized clause (i.e., as possessor of an NP), but then move up into a higher clause and get accusative case by being c-commanded by the subject on top of its genitive case.

- (25) Cuzco Quechua (Baker 2015: 116)
- a. Mariyacha muna-n    [ Xwancha-q platanu ranti-na-n-ta ].  
    Maria        want-3.SBJ Juan-GEN banana buy-NMLZ-3.POSS-ACC  
    ‘Maria wants Juan to buy bananas.’
  - b. Mariyacha Xwancha-q-ta muna-n    [ platanu ranti-na-n-ta ].  
    Maria        Juan-GEN-ACC want-3.SBJ banana buy-NMLZ-3.POSS-ACC  
    ‘Maria wants Juan to buy bananas.’

As we see in (25b), both the embedded and the matrix case are realized, which is expected from dependent case theory. In Greek, accusative case can be assigned on top of nominative, but only the higher case can be realized in case stacking configurations, unlike the situation in Cuzco Quechua.

Baker (2015) states the relevant morpho-syntactic parameter as follows:

- (26) The case feature associated with nominal X can have a single value (Shipibo, *Greek* ...) or it can have a set of values (Quechua, Korean, some Australian languages).

Our conclusion then is that accusative in Greek is dependent case assigned in opposition to a higher argument at the CP-phase level.<sup>5</sup> We turn to nominative next.

## 4.2 Nominative case in Greek

There is strong evidence that nominative is not assigned under Agree with finite T in Greek. Specifically, nominative can be assigned in the absence of finite T, as seen by the fact that it can appear in tenseless subjunctives in a number of cases.

A first piece of evidence comes from Greek raising constructions (Alexiadou & Anagnostopoulou 1999), shown in (27). In (27), we observe the absence of morphological and semantic Tense in the embedded clause, as it is not possible to vary or modify the embedded verb by a temporal adverb with independent reference, as shown in (27a) and (27b), respectively:

- (27) Greek
- a. \*O Janis arhizi na kolibise.  
John begins SBJV swim.3SG  
\*‘John begins to have swum.’
  - b. \*O Janis arhizi simera na kolibai avrio.  
John begins today SBJV swim.3SG tomorrow  
\*‘John begins today to swim tomorrow.’

In these contexts, the nominative can appear in the embedded clause, in spite of the absence of T. In this type of construction, similar to the languages discussed in §2, we have two verbs that Agree with one nominative obligatorily, a long-distance agreement (LDA) phenomenon, see Alexiadou et al. (2012) for detailed argumentation and arguments that this is not a covert raising construction but genuine LDA:

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<sup>5</sup>See Anagnostopoulou & Sevdali (2016) for evidence that Modern Greek genitive/dative is also dependent case, assigned in opposition to a lower argument at the vP level.

(28) Greek (AAIM 2012: (36))

Stamatisan / \*Stamatise [ na malonun i daskali tus mathites ]  
 stopped.3PL stopped.3SG SBJV scold.3PL the teachers the students

‘The teachers stopped scolding the students.’

In these constructions, the subject resides in the embedded clause, but it agrees both with the matrix and the embedded predicate obligatorily. Evidence that the subject is truly embedded is provided by scope facts. The subject in the embedded clause must take low scope (29a); on the other hand, moved subjects must take wide scope (29b):

(29) Greek (AAIM 2012: (41), (63))

a. *stop > only*; \**only > stop*

Stamatise na perni mono i Maria kakus vathmus  
 stopped SBJV take only the Mary bad grades

‘It stopped being the case that only Maria got bad grades.’

b. \**stop > only*; *only > stop*

Mono i Maria stamatise na perni kakus vathmus.  
 Only the Mary stopped SBJV take bad grades

‘Only Mary stopped getting bad grades.’

Hence, these constructions violate (1), repeated here.

- (1) Overt NP X has nominative case if and only if *exactly one verbal form* in the clause containing X agrees with it.

The above facts lead to the conclusion that there is no one-to-one correspondence between nominative case and verbal agreement (a single nominative and many full agreements can co-occur) and that nominative is realized in environments where Agree with a nominative assigning head does not take place (in the ECM, Raising and LDA constructions with embedded T lacking semantic and morphological tense discussed above). These phenomena are reminiscent of the ones attested in Burushaski, Tamil, Ingush, Tsez, which have been analyzed by Baker in terms of unmarked nominative (see §3).

Further evidence for unmarked nominative in Greek is drawn from a series of environments where nominative surfaces in the absence of agreement. For example:

(i) Nominative assigned in the absence of agreement; Greek free-adjunct constructions including *-ing* forms (Tsimpli 2000 and many others call them “gerunds”) entirely lack subject agreement, but their subjects bear nominative case:

(30) Greek

fevgondas i Maria ... eklise ti porta.  
leaving the Mary.NOM closed.3SG the door.ACC  
'As Mary was leaving, she closed the door.'

(ii) Nominative is the case on NPs that appear in HTLD, ellipsis etc., Schütze (2001):

(31) Greek

- a. O Janis, ton ematha kala ola afta ta hronia.  
the John.NOM him I learned well all these years  
'As for John, I got to know him very well after all these years.'
- b. Pios theli na erthi? Ego / \*emena  
who wants to come I Me  
'Who wants to come? Me.'

## 5 Nominative Case and parametric variation

Our conclusion leads to the following question: if nominative is unmarked, then this means that Greek is a CDAP:no language like Bantu or Burushaski. But then why does the inflected verb in Greek only Agree with nominative NPs and never with anything else? Recall that Bantu languages (which are, in addition, DAP-Yes languages) show agreement between the finite verb and whatever precedes it (locatives, objects etc.). On the other hand, Burushaski (which is, in addition, a DAP-No language) shows agreement with the thematic subject regardless of the case of the subject (ergative or nominative) and regardless of where the thematic subject is placed.

Note that, as is well-known, the nominative NP does not need to be dislocated to Spec,TP in Greek, i.e. Greek clearly qualifies as a DAP-No language (Alexiadou & Anagnostopoulou 1998, i.a.):

(32) Greek

- a. O Janis / ta pedia agorase / agorasan to  
the John.NOM the children.NOM bought.3SG bought.3PL the  
vivlio  
book.ACC  
'John/the children bought the book.'

- b. agorase / agorasan o Janis / ta pedia to  
 bought.3SG bought.3PL the John.NOM the children.NOM the  
 vivlio  
 book.ACC  
 ‘John/the children bought the book.’

Crucially, verbal agreement is always with the nominative argument and never with e.g. a higher locative or dative argument. Anagnostopoulou (1999) provides evidence that dative experiencers in Greek have subject status with respect to some subjecthood criteria. For instance, the fact that they act as binders for anaphors can be viewed as one argument for their subjecthood; nevertheless, verbal agreement in this case is with the nominative and not with the dative argument:

- (33) Ton pedion tus aresi o eaftos tus  
 The children.DAT CL.DAT like.3SG the self.NOM theirs  
 ‘The children like themselves.’

Note, furthermore, that there are not even person restrictions in this kind of quirky subject constructions in Greek, unlike e.g. Icelandic, where the verb is not allowed to Agree with a nominative object if this is first or second person (Anagnostopoulou 2003; 2005 for Greek, cf. Sigurðsson 1989; Taraldsen 1995, i.a. for Icelandic):

- (34) a. Greek  
 Tis aresume / aresete / areso / aresis (emis / esis / ego /  
 her like.1PL like.2PL like.1SG like.2SG we you.PL I  
 esi)  
 you.SG  
 b. Icelandic  
 \*Henni leiddumst við  
 She.DAT was bored.by.1PL us.NOM  
 ‘She was bored by us.’

Similarly, in LDA constructions under raising predicates with an experiencer argument agreement in person with the nominative argument is possible:

- (35) Greek  
 Me apelise epidi den tu fenomun na dulevo (ego) kala  
 me fired.3SG because NEG him seemed.1SG SBJV work.1SG I well  
 ‘He fired me because I seemed to him to not be doing a good job.’

(36) Icelandic

- a. Mér höfðu fundist þær vera gáfaðar  
Me.DAT had found they.NOM be intelligent  
'I had found them intelligent'
- b. \*Þeim höfum alltaf fundist við vinna vel  
Them.DAT have always found we.NOM work well  
'They have always thought that we work well.'

Thus, even though we have evidence from LDA, Raising, and ECM that Greek behaves like a CDAP:no language, we also have evidence that inflected verbs agree (fully) with nominative arguments, just as in many Indo-European languages which Baker (2015) analyzes as Agree and Baker (2008) analyses as CDAP:yes languages.

The question then is what is the nature of the relevant parameter that can account for the distribution of nominative case with respect to multiple agreement in Greek in long-distance agreement constructions of the type discussed above. We would like to entertain the hypothesis that the availability of such chains relates to the full pro drop status of Modern Greek. Suppose that full pro-drop languages have [+interpretable]  $\phi$ -features on T, according to the hypothesis in (37) (see Holmberg 2005 who rejects it, Barbosa 2009 who argues for a version of it, cf. Alexiadou & Anagnostopoulou 1998):

- (37) The set of  $\phi$ -features in T (Agr) is interpretable in null-subject languages (NSLs), and *pro* is therefore redundant; Agr is a referential, definite pronoun, albeit a pronoun phonologically expressed as an affix. As such, Agr is also assigned a subject theta-role, possibly by virtue of heading a chain whose foot is in  $vP$ , receiving the relevant theta-role.

It would follow from (37) that T does not need to enter Agree in order to license its  $\phi$ -features, and hence that NOM Case will not be assigned as a result of Agree with the  $\phi$ -features of T. Thus, in such a theory, the  $\phi$ -features of the lower T in LDA configurations like (27)–(29) are not deleted by entering Agree with NOM arguments, and can thus form an LDA chain with the  $\phi$ -features of the higher T:

- (38) NSLs have T with interpretable  $\phi$ -features which are not deleted after checking, thus being able to form long-distance chains via Agree (cf. Ura 1994).



Tsakali et al. (2017; 2019)<sup>6</sup> and Alexiadou & Anagnostopoulou (2019) provide further discussion of such LDA chains in Greek, which are schematically represented in (39), as well as a discussion of the conditions under which such chains are disrupted:

- (39) [  $T\varphi_k$  [TP/CP  $T\varphi_k$  DP $\varphi_k$  ]]

Crucially for present purposes, overt subjects are expected to receive unmarked NOM in NSLs and not NOM assigned by Agree in such a theory. In other words, the prediction of hypothesis (37) is the unmarked status of nominative in NSLs.

This prediction seems to be borne out in Greek and at least in Romanian, among other NSLs. Romanian like Greek has LDA (AAIM 2012): as shown in (40), the *in situ* DP subject obligatorily agrees with both the matrix and the lower verb in person and number, just like Greek:

- (40) Romanian  
 Au încetat / \*A încetat să-i certe profesorii pe  
 stopped.3PL stopped.3SG SBJV-CL.3PL.ACC scold.3PL the teachers the  
 elevi.  
 students  
 ‘The teachers stopped scolding the students.’

*In situ* subjects take narrow scope with respect to raising verb and matrix negation, as shown in (41) (compare to (29) above):<sup>7</sup>

- (41) Romanian  
 a. *only* > *stop*  
 Numai Maria a încetat să ia note slabe.  
 only Mary stopped SBJV get grades weak.  
 ‘It is only Maria who stopped getting bad grades.’  
 b. *stop* > *only*  
 A încetat să ia numai Maria note slabe.  
 stopped SBJV get only Mary grades weak  
 ‘It stopped being the case that only Mary got bad grades.’

<sup>6</sup>Tsakali et al. argue that apparent backward control configurations also involve LDA chains of the type depicted in (39).

<sup>7</sup>Note that the same judgements hold in Romanian for the infinitival Raising constructions. We would like to point out here that with ‘seem’ Romanian only has the *seem* > *only* reading, irrespectively of the surface position of the subject, i.e. before the raising verb or in the embedded clause.

Like Greek, Romanian allows nominative *in gerunds*:

- (42) Romanian (Alboiu 2009)  
 fiind tu / \*tine gata  
 be-GER 2SG.NOM 2SG.ACC ready

If we accept the above reasoning, it seems that at least some NSLs have unmarked nominative.

But what is it that ensures that the  $\phi$ -features of T always track/co-vary with NOM in NSLs? Recall that Greek (and Romanian) is not like a CDAP:nom language. Typical CDAP:nom languages dissociate agreement from nominative in particular cases, for instance, Bantu languages show agreement between the finite verb and whatever precedes it (locatives, objects etc.), while Burushaski T agrees indiscriminately with both ergative and absolutive subjects. Greek instantiates the type of language, which Baker (2008) explicitly states should not exist: “No agreement with obliques; multiple agreement OK” (Baker 2008: 223, (113d)). Multiple agreement in Greek and Romanian suggests that (i) NOM is not assigned under Agree and (ii) agreement on T is not valued by Nom, which straightforwardly follows from (37) above. Nevertheless, agreement can never trace genitive DP indirect objects (IOs) or PPs but only NOM DPs.

We can account for this puzzle, if we hypothesize that only DPs bearing unmarked case (i.e. nominative case) are accessible for phi-agreement (Bobaljik 2008, Preminger 2014, Baker 2015) in Greek. Under this hypothesis, even though the  $\phi$ -features on T do not need to enter Agree with a DP (see (37) above) and even though NOM does not need to be licensed by Agree, when both agreement and a DP bearing NOM are present, agreement always targets DPs bearing NOM and not e.g. DPs bearing oblique/quirky GEN. Naturally, this raises two further questions: (a) What does “phi-agreement” mean, if this is not the reflex of Agree? What is the relationship between overt agreement and Agree? (b) What happens in pro-drop configurations where no overt DP bearing NOM is present?

We are not going to fully address these questions here, but we would like to suggest that the need for a separation of Agree from agreement in order to describe the state of affairs in Greek reflects the need for a separation of interpretability from valuation, argued for in Pesetsky & Torrego (2007) on independent grounds.

Suppose that the  $\phi$ -features on T are [+interpretable], thus not requiring Agree to be licensed, as stated in (37), but at the same time they are unvalued and need to receive a value. One way of receiving a value is via an agreement operation copying the  $\phi$ -features of a DP onto T. Under the hypothesis that only DPs bearing NOM are accessible for agreement in Greek, this will force agreement between

NOM and the lower T in configurations like (39). Once its  $\phi$ -features are valued, the lower T in (39) will further value the  $\phi$ -features of the matrix T by copying its features onto the higher T through the formation of an agreement chain with it. On this view, Greek has two key properties. On the one hand, agreement always goes with a NOM DP, similarly to e.g. English and Sakha. This is due to the fact that in all three languages, only NOM DPs are accessible for agreement. On the other hand, agreement and NOM are not in a one-to-one relationship, unlike Sakha and English. Greek behaves similarly to Oromo, Ingush and Tsez in showing multiple fully inflected for person and number verbal heads agreeing with a single NOM DP (LDA). This is due to the fact that T in pro-drop Greek has [+interpretable]  $\phi$ -features which do not have to be licensed via Agree with a NOM DP, and, concomitantly, NOM is unmarked case and therefore possible also in environments lacking agreement (for instance, gerunds).

The final issue to address concerns question b) raised above, namely, how to analyze agreement in pro-drop configurations where no overt DP is present. We already said that we adopt (37) according to which, Agr on T is [+ interpretable], phonologically expressed as an affix. As such, Agr is also assigned a subject theta-role, by virtue of heading a chain whose foot is in  $\nu$ P (we could call it pro), receiving the relevant theta-role. The question is what values the features of Agr in the absence of an overt DP bearing NOM. We believe that in these cases, valuation happens via a covert Topic operator situated in the CP-periphery of the clause, along the lines of proposals put forth in Frascarelli (2007), Frascarelli & Hinterhölzl (2007), Miyagawa (2017) and others.

This view on pro is very close to ideas in Holmberg (2010) and Roberts (2010a,b). Holmberg (2010) and Roberts (2010a,b) take NSLs to have a D feature T, see also Alexiadou & Anagnostopoulou (1998). They assume that null pronouns are simply  $\phi$ Ps, i.e. they are defective pronouns in the system of Cardinaletti & Starke (1999). When T probes a  $\phi$ P subject, its unvalued  $\phi$ -features are valued by the subject. This results in the union of the  $\phi$ -features of T and the subject, which in turn yields a definite pronoun. Roberts and Holmberg take incorporation of a  $\phi$ P in T to be a direct effect of Agree. In particular, finite T has a set of unvalued  $\phi$ -features, and probes for a category with matching valued features. The defective subject pronoun has the required valued  $\phi$ -features, and therefore values T's unvalued  $\phi$ -features. T values the subject's unvalued case feature. In this situation, according to Roberts (2010c), the probe and the goal form a chain, the  $\phi$ P is not pronounced, but as the chain includes [D], which is valued by the topic, the result is a definite null subject construction. The chain is pronounced in form of an affix on the verb. Specifically, in Holmberg's system the index-sharing relationship between the null pronoun and the null Topic crucially involves T: the values

the uD-feature of T, where the valuation consists of uD copying the referential index of the .

The difference between null pronouns and lexical DPs or D-pronouns is that they value T's uD-feature. However, in this case, T and the lexical subject DP, while they share  $\varphi$ -feature values as a result of Agree, they do not form a chain, and consequently the lexical subject is spelled out and pronounced. In our analysis, though valuation is necessary, the additional layer of [+interpretable] features leads to a situation, according to which NOM Case will not be assigned as a result of Agree with the  $\varphi$ -features of T, and many fully agreeing Ts are possible.

## 6 Conclusion and open questions

In this squib, we investigated the nature of nominative and accusative case in Greek. We argued that while accusative qualifies as dependent case on the basis of Baker's (2015) criteria, nominative is problematic: while Greek Nominative behaves like unmarked case and is clearly not assigned under agreement in T in a number of environments, unlike English, agreement always goes with NOM when both are present, like English. An important characteristic of Greek not shared by English is that it pervasively shows long-distance chains involving a single in situ NOM subject and many T heads fully agreeing with it. We suggested that Greek has T with interpretable  $\varphi$ -features as a by-product of V raising satisfying the extended projection principle (EPP). This allows for the formation of long-distance chains between a single DP bearing unmarked NOM and many fully agreeing Ts. Turning to the question of why agreement always goes with NOM in Greek, we adopted the view that agreement is sensitive to unmarked case and argued that the analysis of Greek nominative case in connection to agreement requires a separation of interpretability from valuation, as in Pesetsky & Torrego (2007).

Several issues arise from our proposal. First, an empirical question is whether it is possible to find evidence from LDA configurations under multiple agreement pointing to the same conclusion for other pro-drop languages as well. The first languages to look at would be pro-drop languages that have lost infinitives and have replaced them with inflected clauses similar to Greek subjunctives, or pro-drop languages with inflected infinitives: several languages of the Balkan Sprachbund and European Portuguese might be candidate languages to look at.

Second, in a system where nominative and absolutive can either be assigned via Agree or be unmarked cases (see Levin & Preminger 2015 for arguments against this dissociation), the more general question that arises is what determ-

ines which case will be unmarked and/or default in a language and what determines nominative/absolutive case assignment under Agree. For instance, in English (but also Norwegian), accusative is the default Case and NOM is assigned via Agree, see Schütze (2001); McFadden (2004).<sup>8</sup> A possible way of relating this particular distribution of cases would be to propose that because nominative is assigned via Agree in English and Norwegian, another case must take over the role of default case. Because of this, these languages have default accusative and not default nominative case. On the other hand, in a language like Greek where nominative is the unmarked case, default and unmarked case will have the same realization in the clausal domain, since nominative always surfaces on NPs that do not enter case competition.

## Abbreviations

1	first person	GER	gerund
2	second person	INF	infinitive
3	third person	IO	indirect object
ABS	absolutive	J	gender agreement marker
ACC	accusative	LAT	lative
AOR	aorist	LDA	long-distance agreement
AUG	augment	LOC	locative
B	gender agreement marker	LV	light verb
CDAP	case-dependency of agreement parameter	MNOM	marked nominative
CL	clitic	NEG	negation
CVB	converb	NMLZ	nominalizer/nominalization
DAP	direction of agreement parameter	NOM	nominative
DAT	dative	NPI	negative polarity item
DEP	dependent	NPST	non-past
ECM	Exceptional Case Marking	NSL	null-subject language
EPP	extended projection principle	OBJ	object
ERG	ergative	OBL	oblique
F	feminine	PASS	passive
FUT	future	PL	plural
FV	final vowel	POSS	possessive
GEN	genitive	PROG	progressive
		PRS	present
		PST	past

<sup>8</sup>Thanks to Terje Lohndal for raising this question.

PTCP	participle	SIM	simultaneous
SBJ	subject	SM	subject marker
SBJV	subjunctive	TNS	tense
SG	singular	VN	verbal noun

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## Chapter 5

# Case and agreement in Brazilian Portuguese: Between Bantu and Romance

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This chapter presents some syntactic peculiarities of Brazilian Portuguese which differentiate it from European Portuguese and, from a typological point of view, put it apart in the Romance and even in the Indo-European domain. We argue that this is due to the influence of the African languages (mostly from the Bantu subgroup) that were taken to Brazil by the slave trade during three centuries. We propose that this change affected T(ense), more exactly T's EPP condition, which ceased to be  $\phi$ -dependent, with the consequence that Spec TP became an A-bar position. On the basis of the criteria proposed by Sheehan & van der Wal (2018), we discuss the status of syntactic Case in Brazilian Portuguese and depart from a previous analysis that argued that, in this language, DPs could enter the derivation without a case feature. In the analysis proposed in this chapter, Case and EPP nicely combine to account for the facts considered.

## 1 Introduction

In this paper, we argue that Brazilian Portuguese has undergone a typological change involving agreement and Case, under the influence of the African languages (mostly from Bantu subgroup) that were taken to Brazil by the slave trade. We propose that this change affected T(ense), more exactly T's EPP condition,



which ceased to be  $\phi$ -dependent, with the consequence that SpecTP became an A-bar position in Brazilian Portuguese.

The paper is organized as follows. In §2, we present some syntactic peculiarities that make Brazilian Portuguese a typologically odd language. In §3, we introduce the issue of Bantu influence on Portuguese during the period in which millions of Africans were taken to Brazil by the slave trade. We show that some of the syntactic properties that distinguish Brazilian Portuguese from the other Romance languages are also found in Bantu languages. In §4, we discuss the proper analysis of Brazilian Portuguese syntax with respect to agreement and Case, presenting the previous proposal of Avelar & Galves (2011) and the discussion of *Vergnaud licensing effects* developed by Sheehan & van der Wal (2018). In §§5 and 6, we present a proposal alternative to Avelar and Galves', showing some advantages and consequences for the treatment of Case and agreement in Brazilian Portuguese. In §7, we conclude the chapter addressing some general questions about the analysis proposed.<sup>1</sup>

## 2 Brazilian Portuguese: A typologically odd language

Since the pioneering work by Pontes (1987), it has been commonly accepted that Brazilian Portuguese exhibits properties of a topic-oriented syntax. The more prominent property linked with this status is the so-called *topic-subject construction*, exemplified in (i) below. In addition to this construction, Brazilian Portuguese presents other particularities involving the subject position, agreement variation and pronouns, which are also exemplified below.

**(i) Topic-verb agreement** Brazilian Portuguese (henceforth BP), in contrast with European Portuguese (henceforth EP), allows for non-canonical agreement between the verb and a pre-verbal phrase that is not the logical subject, but is generally interpreted as the topic of the sentence (cf. Duarte & Kato 2008; Avelar & Galves 2011; Toniette 2013; Munhoz & Naves 2012; Nunes 2017). At least two subtypes of non-canonical agreement can be distinguished: agreement with non-

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<sup>1</sup>Since this paper proposes both a comparative and a diachronic approach, we mean by European Portuguese both the language brought by the Portuguese colonizers in the 16th century and the language still spoken in Portugal. In the traditional periodization of Portuguese (see Castro 2006: 73 for a survey), the former is called *Classical Portuguese* and refers to the period included between the first half of the 16th century and the end of the 18th century. Although the grammar of Classical Portuguese and the grammar of Modern European Portuguese are different in many aspects, they are similar concerning the phenomena considered in this chapter. They can therefore, for our purposes, be grouped under the term "European Portuguese".

argumental locative constituents, as in (1), and agreement with non-argumental possessive constituents, as in (2).

(1) Brazilian Portuguese

As ruas do centro não tão passando carro.  
 the.PL streets of-the downtown not are passing car  
 ‘No cars are passing through downtown.’

(2) Brazilian Portuguese

Aquelas crianças já estão nascendo dente.  
 those children already are born tooth  
 ‘The teeth of those children are already growing in.’

**(ii) Prepositional subjects** Another BP construction that is unusual in Romance is found in (3a), in which the first phrase is a PP, immediately followed by a verb in the third person singular (Avelar & Cyrino 2008). Such sentences are interpreted like the (b) example, in which the pre-verbal phrase is prepositionless.

(3) Brazilian Portuguese

- a. Na minha escola aceita cartão de crédito.  
 in-the my school accept.3SG credit card
- b. A minha escola aceita cartão de crédito.  
 the my school accept.3SG credit card  
 ‘My school accepts credit cards.’

**(iii) Hyper-raising constructions** In contrast with EP and other Romance languages, hyper-raising constructions, exemplified in (4a) below, are grammatical in BP (cf. Nunes & Martins 2010). Note that within the embedded clause, the subject position can be occupied either by an empty category *ec* or by the full pronoun *elas* ‘they’, both coindexed with the phrase *as crianças* ‘the children’ in the matrix subject position. In the sentences without raising, presented in (4b,c), the relevant phrase can be realized in an embedded left-peripheral position (whereas a coindexed full pronoun is in the embedded subject position), as in (4b), or in the embedded subject position, as in (4c).

(4) Brazilian Portuguese

- a. As crianças<sub>i</sub> parecem [ que (ec<sub>i</sub>) / (elas<sub>i</sub>) estão chorando ].  
the children seem.3PL that they are crying
- b. Parece que [ as crianças<sub>i</sub>, elas<sub>i</sub> estão chorando ].  
seem.3SG that the children they are crying
- c. Parece [ que as crianças estão chorando ].  
seem.3SG that the children are crying  
'It seems that the children are crying.'

There are cases in which the hyper-raised phrase is subextracted from the constituent in the embedded subject position, as *esses carros* 'these cars' in (5a) below. Following the pattern in (4b) above, this same constituent can be realized in an embedded left-peripheral position, as in (5b). We will return to such cases in §3.

- (5) a. Esses carros<sub>i</sub> tão parecendo que [ o pneu t<sub>i</sub> ] não foi trocado.  
these cars are seeming that the tyre not was replaced
- b. Tá parecendo que esses carros<sub>i</sub>, [ o pneu t<sub>i</sub> ] não foi trocado.  
is seeming that these cars the tyre not was replaced  
'It seems that the tyres of these cars were never replaced.'  
literally: 'These cars are seeming that the tyres were never replaced.'

(iv) **Variation in subject–verb agreement** Another important feature of BP is that subject–verb agreement is variable, as illustrated by the contrast between examples (a) and (b) below.

- (6) a. As criança(s) **brincavam** na varanda.  
the.PL children played.3PL in-the veranda
- b. As criança(s) **brincava** na varanda.  
the.PL children played.3SG in-the veranda  
'The children played on the veranda.'

(v) **Morphological uniformity in nominative and non-nominative positions**

Finally, a last oddity of BP with respect to EP and other Romance languages is that there is a morphological uniformity between pronouns in nominative and non-nominative positions. We illustrate this fact below with the second person singular pronoun *você* 'you' (cf. (7)). It must be noted that there is variation in object position between the nominative form *você* (8a) and the accusative form *te* (8b).

- (7) Brazilian Portuguese  
Você foi visto na escola.  
you.NOM was seen in-the school  
'You were seen in the school'
- (8) Brazilian Portuguese  
a. A Maria viu você na escola.  
the Maria saw you.NOM in-the school  
b. A Maria te viu na escola.  
the Maria you.ACC saw in-the school  
'Mary saw you in the school.'

### 3 Grammars in contact: Portuguese and African languages in Brazil

Taking into account the relevant properties of BP, one question that arises is how the changes exemplified in previous section were triggered. This particular issue can be addressed within a broader debate, which has to do with the question of whether BP properties emerged from a natural drift of the language or if they result from changes induced by inter-linguistic contacts. Issues of this nature have led to a polarization of hypotheses about the origins of BP peculiarities. However, this polarization does not seem to take place when the discussion focuses on the patterns of locative inversion and possessor raising: since the clausal patterns exemplified in (1) and (2) are unusual in Romance, we see no reason to explore the hypothesis that we are faced with a change caused by a natural drift. As we intend to show, there are strong reasons to believe that such patterns result from changes triggered by linguistic contact involving Portuguese and African speakers of Bantu languages.<sup>2</sup>

From a socio-historical perspective, the first point concerns the number of native speakers of African languages brought to Brazil. Historical-demographic surveys show that between the seventeenth and nineteenth centuries, most of

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<sup>2</sup>The hypothesis that African languages played a crucial role in the emergence of a new variety in Brazil has been recently discussed in different frameworks (cf. for instance Negrão & Viotti 2011). It is outside the scope of the present paper to present and discuss those analyses, and the theories of contact they rely on. For a survey and a discussion of the issues raised in connection to this debate, we refer the interested reader to Avelar & Galves (2014).

the population in different Brazilian regions was formed by Africans and Afro-descendants. Mussa (1991: 163) suggests that the contingent of Africans and Afro-descendants in the seventeenth century represented half of the population, as we can see in Table 1. Even suffering a decrease in the following centuries, the percentage of those groups remained relatively high (between 30% and 40%) until the mid-nineteenth century, when the so-called *mestiços* (mixed-race) came to be the most numerous part of the population.

Table 1: Population groups in Brazilian territory from 1583 to 1890 (adapted from Mussa 1991: 163)

	1583–1600	1601–1700	1701–1800	1801–1850	1851–1890
Africans	20%	30%	20%	12%	2%
Afro-descendants	-	20%	21%	19%	13%
Mestiços	-	10%	19%	34%	42%
Euro-descendants	-	5%	10%	17%	24%
Europeans	30%	25%	22%	14%	17%
Integrated Natives	50%	10%	8%	4%	2%

From a linguistic perspective, the main aspect is the fact that sentences with locative agreement, such as that exemplified in (1), are widespread in Bantu languages, which also exhibit properties related to “orientation to the discourse” (Morimoto 2006). Such sentences, exemplified in (9)–(11) below with data from different Bantu languages, have been considered a specific type of locative inversion (Salzmann 2004), in which a constituent interpreted as a place or direction agrees with the verb, instead of the argumental subject<sup>3</sup>. As pointed out by Baker (2008), clausal patterns of this type are not found in Indo-European languages, but are common in Niger-Congo languages, including those of the Bantu group.<sup>4,5</sup>

<sup>3</sup>In the examples of Bantu sentences, the numerical characters introduced in the glosses represent noun classes or agreement markers on the verb.

<sup>4</sup>It is important to emphasize that, according to Baker (2008), the properties we are considering here are not exclusive to Bantu languages, but extend to all Niger-Congo languages, which constituted the overwhelming majority of the African languages brought to Brazil by the slave trade. There is therefore no issue regarding the question of whether Bantu languages were or were not more important than other African languages with respect to the emergence of Brazilian Portuguese.

<sup>5</sup>Melo (2014) contradicts the Bantu influence arguing that genitive inversion constructions came from a change undergone by fronted genitive constructions which are possible in EP with dative resumptive clitics. This however does not undermine our analysis, which focuses on the agreement between the moved genitive phrase and the verb, possible in both in BP and in Bantu languages and impossible in EP.



- (9) Kinande (Baker 2003: 119)  
**Omo**-mulongo **mw**-a-hik-a (ʔo-)mu-kali  
**LOC.18**-village **18.SM-TNS**-arrive-FV (AUG)-CL1-woman.1  
 ‘At the village arrived a woman.’
- (10) Otjiherero (Marten 2006: 98)  
**mò**-ngàndá **mw**-á-hití òvá-ndú  
**18-9**.house **18.SM-PST**-enter 2-people  
 ‘Into the house/home entered (the) guests.’
- (11) Kimbundu (Avelar & Galves 2016: 244)  
**Mu** njibela **muala** ni kitadi?  
**LOC.18** pocket **LOC.18**.be with money  
 ‘There is money in the pocket?’

It is important to note that Kimbundu is included among the languages that have the relevant locative inversion pattern (cf. 11). In the literature on slavery in Brazil, Kimbundu is referred to as the language spoken by most of the slaves brought to the Brazilian territory. The *Grammatica Elementar do Kimbundo ou Língua de Angola* (Chatelain 1888–1889) mentions the fact that Kimbundu allows locative agreement, noting that “when, by inversion, the locative precedes the verb, the verbal inflection agrees with it [...]. Conversely, the logical subject loses all influence on the verb, no matter to which class the subject belongs [...]” (Chatelain 1888–1889: 89).

With respect to possessor raising sentences exemplified in (2), analyses of such clausal pattern in Bantu languages are not as frequent as the ones about locative inversion, but possessor raising sentences similar to the ones found in BP are also detected in Bantu languages, as in the examples below.

- (12) Chichewa (Simango 2007: 23)  
 Mavuto a-na-f-a maso  
 Mavuto **SM-PST**-die-FV eyes  
 ‘Mavuto became blind’, literally ‘Mavuto died eyes’
- (13) Swahili (Keach & Rochemont 1992: 83)  
 mtoto a-li-funik-wa miguu  
 1child 1-PST-cover-PASS 4.legs  
 ‘The child’s legs were covered’, literally ‘The child was covered the legs’

Another similarity between BP and Bantu languages concerns the morphological uniformity observed in Case marking. In the previous section, we mentioned the fact that in BP, nominative pronouns can be used in non-nominative positions (cf. examples in (7) and (8)). This possibility can be analyzed as reminiscent of a property widely observed in Bantu languages. As noted by Creissels (2000: 233), “in the majority of African languages, both subjects and objects are unmarked for case, that is they do not exhibit any marking (affix, adposition or prosodic contour) distinguishing noun phrases in subject and object function from noun phrases quoted in isolation. This is in particular true of the overwhelming majority of Niger-Congo languages”. About Kimbundu in particular, Padre Dias’ grammar points out that “personal pronouns don’t have declinations, nor the variety of cases as Latin pronouns do. They are used in the nominative and in other cases without varying” (Dias 2006 [1697]: 8).

Another property that BP shares with Bantu languages is the hyper-raising constructions, exemplified in (14) below with a sentence from Lubukusu. According to Carstens, “hyper-raising appears to be quite widespread in Bantu”, whereas “IE [Indo-European] languages systematically prohibit raising out of any but an infinitival clause”.

- (14) Lubukusu (Carstens 2011: 725)  
Chisaang’i chi-lolekhana chi-kona  
10.animal 10.SM-seem 10.SM-sleep.PRS  
‘The animals seem to be sleeping.’

The comparison between the syntactic specificities of BP presented in §2, and the Bantu patterns illustrated in (9)–(14), strongly suggest that the changes undergone by Portuguese in Brazil were, to a great extent, induced by contact with African languages. This is coherent with the demographic data presented above, which show that Africans and Afro-descendants corresponded to 60% of the population from the beginning of the 17th century up to the middle of the 19th. However, it must be stressed that the proportion of European and white Brazilians was never less than 30%, which explains why, contrary to what was argued by Guy (1981), a Portuguese-based creole did not emerge in Brazil, except in very marginal cases (Lucchesi 2009: 70).

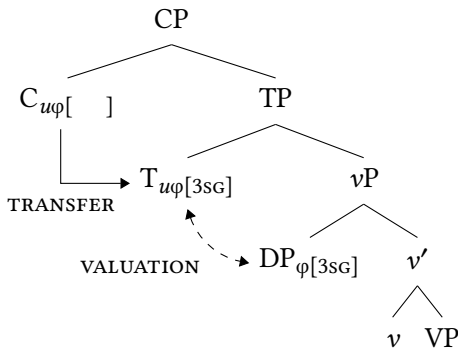
## 4 Deriving the grammatical properties of BP

### 4.1 $\varphi$ -independent EPP

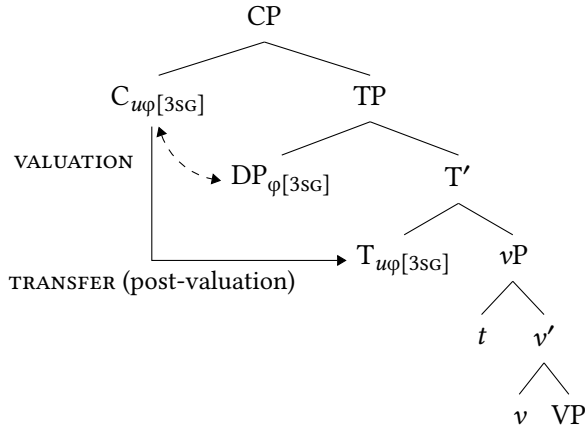
In this section, we will present a formal proposal to account for the BP facts listed in §2, taking into consideration Avelar & Galves' (2011; 2016) analyses based on Chomsky's (2008) *On Phases*. We will also analyze BP properties from Sheehan & van der Wal's (2018) discussion on effects of *Vergnaud licensing* involving structural Case in Bantu languages (cf. §4.2.2). Exploring such discussion, we will propose an alternative analysis for BP, in order to account for some aspects not captured by Avelar & Galves (2011; 2016) (cf. §5).

Avelar & Galves (2011; 2016) derive the instances of topic–verb agreement in BP from two abstract properties. First, they argue that EPP in BP is  $\varphi$ -independent, in the sense of Holmberg (2010). Exploring Chomsky's (2008) framework, Avelar and Galves argue that in BP, in contrast with EP and other Romance languages, SpecTP is created as soon as T is projected, independently of the valuation of T's  $\varphi$ -features, which are inherited from C. In EP, by contrast, SpecTP is created only after C is connected into the structure, and T inherits  $\varphi$ -features from C. The representations in (15a) and (15b) below show the point of the derivation in which C is connected to TP, and  $\varphi$ -features are transferred from C to T, respectively in EP and BP. Note that, in BP, but not in EP, the position of SpecTP is already created at this point and filled by the external argument DP moved from SpecvP.

(15) a. European Portuguese



b. Brazilian Portuguese



Adopting Chomsky's (2008) proposal that A-positions are created by the action of  $\phi$ -features, we conclude that, since SpecTP in BP can be created without the action of such features, it works as an A-bar position in this language. Assuming that only uniform movements (A-to-A and A'-to-A' positions) are possible, as proposed in Chomsky (2008), this explains why non-argumental DPs can agree with T's  $\phi$ -features in BP, but not in EP: since SpecTP is an A-bar position in BP and can be created without the action of a  $\phi$ -feature probe, non-argumental DPs can occupy this position in BP and agree with the  $\phi$ -features of C–T domain.

This analysis accounts for not only the constructions with topic–verb agreement in BP (and its ungrammaticality in EP) presented in (1) and (2), but also the hyper-raising sentences exemplified previously in (4) and (5). Let us consider the one presented in (5), reproduced below:

(16) Brazilian Portuguese

- a. Esses carros<sub>i</sub> tão parecendo que [ o pneu t<sub>i</sub> ] não foi trocado.  
these cars are seeming that the tyre not was replaced
- b. Tá parecendo que esses carros<sub>i</sub>, [ o pneu t<sub>i</sub> ] não foi trocado.  
is seeming that these cars the tyre not was replaced  
'It seems that the tyres of these cars were never replaced.', literally  
'These cars are seeming that the tyres were never replaced.'

Our analysis straightforwardly derives the claim by Nunes & Martins (2010) that in BP instances of hyper-raising, DPs can be moved from SpecTopP or SpecTP in the embedded clause to SpecTP in the matrix clause, as represented in (17).

This is possible because, due to the fact that SpecTP is an A-bar position in BP, the movement from the embedded SpecTopP (or SpecTP) to the matrix SpecTP is uniform (A'-to-A' movement).

- (17) [TP [DP [T' parecem ... [CP que [TopP t<sub>i</sub> Top [TP [DP o pneu t<sub>j</sub> ]<sub>j</sub> [T' não foi trocado t<sub>j</sub> ]]]]]]]]

Another property that distinguishes BP from EP as well as from the other Romance languages and English has to do with the fact that *tough sentences* like (18) have two possible interpretations. Interpretation (a), by which *João* is the object of *agradar* 'please', is the only one allowed in languages like English and EP. By contrast, interpretation (b), with *João* being interpreted as the subject of *agradar*, is also available in BP (Galves 1987).

- (18) Brazilian Portuguese  
 O João é difícil de agradar.  
 the João is tough of please  
 a. 'It is tough to please João.'  
 b. 'It is tough for João to please somebody.'

Interpretation (b) of (18) derives from the possibility of the embedded subject position to raise to the matrix subject position passing through the embedded Spec-C, since this movement is from an A'-to-A', as represented in (20).<sup>6</sup>

- (19) [CP [T [T' T ... [CP t<sub>i</sub> [C' de [TP [<sub>VP</sub> t<sub>i</sub> agradar ]]]]]]]]

## 4.2 Case in Brazilian Portuguese

### 4.2.1 A Caseless approach

Furthermore, in order to account for the optionality of subject agreement and Case marking on pronouns (cf. (ii) and (iii) in §2), Avelar & Galves (2011; 2016) propose that in BP, DPs can be inserted in the derivation without a Case [K] feature.<sup>7</sup> In this condition, pronouns are realized in their default form, and the

<sup>6</sup>We leave unexplained the possibility of the a.-interpretation in all languages. The classical analysis involves a null operator in Comp that is not easily transposable in the current model (cf. Moreno 2014 for more details on tough-constructions in BP).

<sup>7</sup>For other approach dealing with abstract Case in BP sentences with topic-subject agreement, see Nunes (2017).

verbal inflection does not agree, being spelled-out as the morphologically unmarked morpheme of third person singular. Note that this property is independently required to license the post-verbal DP in sentences like (1) and (2), in which there is a unique source of Case for two DPs.

The interaction of the two relevant properties ( $\phi$ -independence of T's EPP and caseless DPs) explains another difference between BP and EP. In infinitival clauses introduced by the preposition *para* 'for', as exemplified in (20), the lexical subject can only be morphologically marked as nominative in EP, while it can be either nominative or dative in BP.

- (20) a. BP: ok – EP: ok  
 Ele fez isso para **eu** ficar feliz.  
 he did that for 1SG.NOM stay happy  
 b. BP: ok – EP: \*  
 Ele fez isso para **mim** ficar feliz.  
 he did that for 1SG.DAT stay happy  
 'He did that for me to be happy'

Within Avelar and Galves' analyses, this contrast can be accounted for by the condition of  $\phi$ -(in)dependence of T's EPP feature in connection with the status of the pronouns with respect to Case. The derivation of the sentences in (20a,b) is shown in (21a,b), respectively, where the preposition *para* 'for' is the head of the CP projection. Given that T's EPP is  $\phi$ -independent in BP, the first person pronoun occupies SpecTP before C is merged. Assuming that the pronoun can be [+K] or [-K], the variation can be explained as follows. When 1sg is [+K], the  $\phi$ -features of the preposition agree with the pronoun, whose Case is valued as oblique and spelled-out as *mim* 'me', the oblique form of 1sg. When the pronoun is [-K], the preposition cannot agree with the pronoun, which is therefore spelled-out as the default form identical to the nominative *eu* 'I'.

- (21) a. [<sub>CP</sub> pra [<sub>TP</sub> 1SG<sub>[OBL]</sub> (= mim) [<sub>T'</sub> T [<sub>v-VP</sub> t ficar feliz ]]]]  
 b. [<sub>CP</sub> pra [<sub>TP</sub> 1SG (= eu) [<sub>T'</sub> T [<sub>v-VP</sub> t ficar feliz ]]]]

The derivation of the sentence in EP is represented in (22). In this language, SpecTP is projected only after C enters the derivation. The  $\phi$ -features inherited from C by T detect the pronoun in SpecvP. In this situation, given that Case is assigned by T and not by C, the pronoun is necessarily valued as nominative.

- (22) [<sub>CP</sub> para [<sub>TP</sub> [<sub>v-VP</sub> 1SG<sub>[NOM]</sub> (= eu) ficar feliz ]]]

In the next section, we revise Avelar & Galves' (2011; 2016) approach based on Sheehan & van der Wal's (2018) discussion of the *Vergnaud licensing* effects.

#### 4.2.2 Problematicizing the Caseless approach

Sheehan & van der Wal (2018) propose grammatical criteria for attesting the existence of abstract Case in languages, which they call *Vergnaud licensing*. The motivation of Sheehan and van der Wal's discussion comes from particular properties of Bantu languages, normally described as a set of languages without Case effects. The characterization of Bantu as a subgroup of caseless languages arises empirical issues to theoretical models in which abstract Case is analyzed as a universal feature involved in different grammatical operations, as movement and agreement. As we show below, BP is positive for several of the properties that, according to the authors, evidence the relevance of abstract Case in a given language. This result imposes a challenge for Avelar & Galves; Avelar & Galves's (2011; 2016) analysis, in which the Case feature is presented as optional on BP DPs.

According to Sheehan & van der Wal (2018), the validity of *Vergnaud licensing* (abstract Case system) in a given language can be attested by the attribution of a positive value (YES) to the following properties: ungrammaticality of infinitival clauses with subjects; agreement with subjects; Activity Condition, as proposed in Chomsky (2000; 2001); obligatory preposition in passive agents; grammatical functional-based asymmetry; distinctive pronominal morphology; absence of subject anaphors; and Case assigners for complements of nouns.

Taking BP into consideration, we find the following situation with respect to *Vergnaud licensing*:

**(i) Non-finite clauses: YES** Although to a lesser extent than EP, BP does display restrictions on the occurrence of nominal phrases in subject position of infinitival clauses. Out of the three contexts listed by Sheehan & van der Wal (2018), two clearly exclude lexical subjects:

(23) Complements of raising verbs, Brazilian Portuguese

\*Parece [ o João comer panquecas ]  
seems the João eat pancakes

(24) Complements of control verbs, Brazilian Portuguese

\*Nós esperamos [ o João comer panquecas ]  
we wait.1PL the João eat pancakes

The third context allows for lexical subjects, but this is due to the fact that it is a context in which personal/inflected infinitive is licensed both in EP and in BP.

- (25) Sentential subjects without a complementizer  
 [ O João comer panquecas ] seria bom  
 the João eat pancakes would.be good  
 ‘It would be good for João to eat pancakes.’

(ii) **Agreement with subjects: YES/NO** As we saw above (cf. examples in (6)), subject–verb agreement is variable in BP. In Avelar & Galves (2011; 2016), this fact was taken as a piece of evidence that in this language, DPs can enter the derivation without Case-feature. Below we shall propose an alternative explanation for such a variation.

(iii) **Activity: NO** Examples of hyper-raising presented in §1 (examples (4)–(5)) show that BP allows for movement from the subject position of a tensed clause to another subject position (see Nunes & Martins 2010). Such a movement violates the *Activity Condition* of Chomsky (2000; 2001), which prevents movement from a position in which Case has already been valued. This property can be analyzed as one of the main pieces of evidence that *Vergnaud licensing* is not active in a given language.

(iv) **Passive agents: YES** In BP, like in EP, a preposition is obligatory to license the agent of a passive sentence.

- (26) Brazilian Portuguese  
 A Maria foi atropelada \*(por) um motorista bêbado.  
 the Mary was run.over by a driver drunk  
 ‘Mary was run over by a drunk driver’

(v) **Grammatical function-based asymmetry: NO** Beyond the absence of subject–object asymmetry in long WH-extraction typical of pro-drop languages, BP displays the symmetry exemplified in (18), repeated in (27) below, in contrast with EP, other Romance languages, and English.



- (27) Brazilian Portuguese  
 O João é difícil de agradar.  
 the João is tough of please  
 a. 'It is tough to please João'  
 b. 'It is tough for João to please somebody.'

**(vi) Morphology: YES/NO** As we saw previously in (7) and (8), one of the peculiarities of BP is that the same pronoun can be used in subject and object position, in contrast with EP, where only case-marked clitic pronouns can occur in the latter. In the case of the third person pronoun, this yielded the disappearance of the clitic pronoun *o/a* 'him/her, it', which is replaced either by the tonic pronoun *ele/ela* 'he/she' or by a null object. In second person, clitics and tonic pronouns co-exist, producing what is likely to be a stable variation (Galves 2019).

**(vii) Subject anaphors: YES** As other Romance languages, BP has an anaphoric clitic *se* that cannot occur in subject position of a subordinate clause.

- (28) Brazilian Portuguese\*O João acha que se é inteligente  
 the João think that himself is intelligent

**(viii) assigners: YES** Prepositions are obligatory to introduce nominal complements, as shown in (29) and (30).<sup>8</sup>

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<sup>8</sup>However, some BP dialects license double object constructions (Scher 1996; Lucchesi & Mello 2009, among others):

- (i) Brazilian Portuguese  
 Dei o pai um presente  
 gave the father a gift  
 'I gave a gift to my father'

BP double object constructions are different from English double object constructions in that both orders involving direct and indirect objects (DO–IO and IO–DO) are possible. This can be interpreted as evidence that in such BP dialects, both DPs are licensed independently of their position in the structure, simply because no Case marking is required. Unfortunately, such dialects are not fully described. It is therefore not possible to check whether this property is correlated with others in such a way that it could be argued that they do not instantiate *Vergnaud licensing*.

- (29) Brazilian Portuguese  
 \*O João tem medo \*(de) fantasmas  
 the João has fear of ghosts  
 ‘João fears ghosts’
- (30) Brazilian Portuguese  
 o amor \*(de) João \*(por) Maria  
 the love of João by Maria  
 ‘João fears ghosts’

(ix) **assignees: YES** The last test proposed by Sheehan & van der Wal concerns how DPs and CPs are licensed. If DPs require Case and clauses do not, we expect a contrast between the conditions of their licensing. BP requires prepositions to introduce nominal complements, which suggests that it obeys *Vergnaud licensing*.

### 4.3 Partial conclusions

We have brought empirical evidence that contact with African languages, mainly from the Bantu subgroup, played an important role on the development of syntactic features that distinguishes BP not only from EP, but also from other Romance and Indo-European languages. We have seen that Portuguese was learned by millions of Africans taken to Brazil by the slave traffic, and that some morpho-syntactic properties of BP are found in several Bantu languages. From a purely grammatical point of view, we have proposed, following our previous claims, that a central property of Brazilian syntax is that T’s EPP is independent of C, which means that, as soon as T is projected in the derivation, it attracts some phrase from inside *vP/VP*. The  $\phi$ -independence of the position created by T’s EPP makes this position an A-bar position, and this has a crucial role in the possibility of subsequent movements to other A-bar positions, namely in the phenomenon known as hyper-raising.

The application of the tests proposed by Sheehan & van der Wal (2018) leads us to conclude that abstract Case is, in great part, active in BP. As we will show below, the fact that two criteria do not attend the detection of *Vergnaud licensing* in BP – *activity* and *grammatical function-based asymmetry* – does not have to do with effects of abstract Case marking, but with particularities involving the status of SpecTP as an A-bar position.

Further evidence of the effect of Case requirements is given by a remarkable exception in the parallelism with some Bantu languages like Kirundi with respect to the agreement phenomenon observed in §2. In Kirundi, the direct object of a transitive verb can occur in preverbal position and agree with the verb, in presence of the external argument in post-verbal position, as illustrated in (31) below. In BP, as shown in (32), this is impossible.

- (31) Kirundi (Carstens 2011: 723)  
 Ibitabo bi-á-ra-somye Johani  
 8.book 8.SM-PST-read.PFV John  
 ‘John (not Peter) has read (the) books’

- (32) Brazilian Portuguese  
 \*os livros leram o João  
 the.PL book.PL read.3PL the John  
 intended: ‘John read the books.’

A natural explanation for the agrammaticality of (32) is that in BP, abstract Case is active, and the DP *o João* has no way to get its Case feature valued once another phrase in SpecTP agrees with T, blocking the agreement between T’s  $\phi$ -features and the external argument in SpecvP.

However, BP departs from other Romance languages with respect to the licensing of pronouns (cf. *v* in §2) and displays some properties that are incompatible with the theory of Case as it currently stands (cf. (iii) in §2). In the next section, we propose an alternative analysis to Avelar & Galves (2011; 2016), assuming *Vergnaud licensing*, but deriving BP particularities from another aspect linked with SpecTP’s properties.

## 5 An alternative proposal

In order to account for the properties of *Vergnaud licensing* in BP, we will explore the proposal of Avelar & Galves (2011; 2016), presented in §4.1, in particular regarding the creation of SpecTP before the connection of C into the structure. The main difference with the previous analysis is that all DPs in BP will be analyzed as having a Case feature.

We will combine Chomsky (2008)’s framework with the proposal of Pesetsky & Torrego (2004) about the nature of the Case feature. We assume, in particular, that nominative Case is an uninterpretable version of T(ense) feature on DPs. We will also assume that the agreement relation via probe–goal does not

result in *feature deletion*, but in *feature sharing*, which means that when a probe detects a relevant goal, both occurrences of the feature involved in the relation become two instantiations of a single feature. This means that, when a feature A probes a feature B, A and B become a single occurrence of the same feature (or two instantiations of a single feature). A consequence of this assumption is that an unvalued feature can probe another unvalued feature and become two instantiations of an unvalued single feature. If one of the instantiations is valued, another instantiation is automatically valued too.

Turning back to the sentences exemplified in (33) below, the derivation goes in the following way: before DP2 *as crianças* ‘the children’ is moved to SpecTP, its unvalued Case feature agrees via probe–goal with the unvalued Case feature of DP1 *o dentinho* ‘the tooth’, as illustrated in (34). The result is the sharing of the unvalued Case feature  $uK$  between DP1 and DP2. The index [Y] appearing in both instances of  $uK$  indicates feature sharing. Case agreement involving DP1 and DP2 is possible because, if we assume that D is the head with  $uK$ , the head of DP1 must c-command the head of DP2 in some derivational point, which creates the condition for any D1’s feature to probe DP2.

- (33) Brazilian Portuguese  
 As crianças nasceram o dentinho.  
 the children born the tooth.little  
 ‘Children’s teeth were born.’

- (34) [DP1 o dentinho [ $uK$ [Y]] [ $uK$ [Y]]

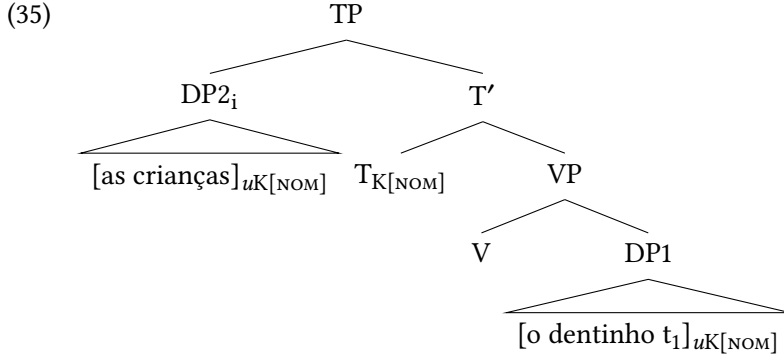
When T enters the derivation, DP2 is attracted by T’s EPP and is internal-merged as SpecTP,<sup>9</sup> as represented in (35). From this position, DP2 Case feature

<sup>9</sup>If we consider that DP2 is connected into an escape hatch position within DP1 (cf. Avelar 2006), both DP1 and DP2 are available to satisfy T’s EPP. This implies that DP1 could be attracted to SpecTP instead of DP2. In this case, the whole DP1 (including DP2) would be moved to SpecTP, resulting in the sentence in (i) below, which is grammatical in Brazilian and European Portuguese.

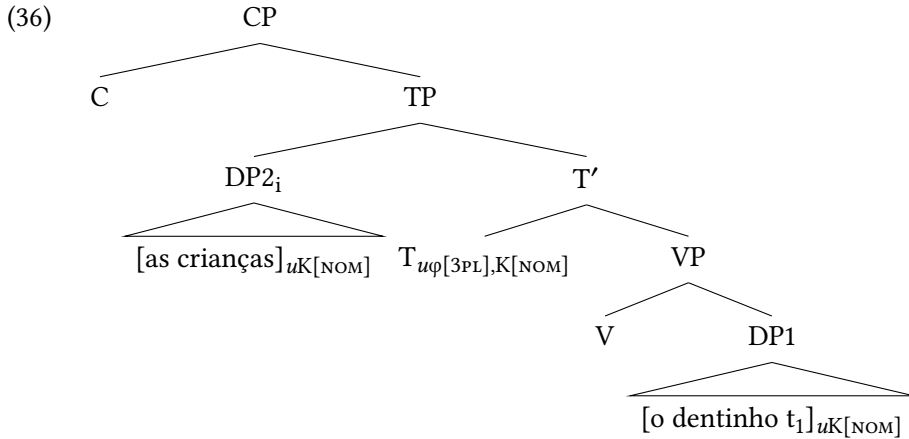
- (i) Brazilian Portuguese  
 O dentinho das crianças nasceu.  
 the tooth-little.SG of-the.PL children born.PAST.3sg  
 ‘The children’s tooth was born.’

According to Avelar (2006), the preposition *de* ‘of’ introducing DP2 in this situation is a dissociated morpheme, which means that its insertion does not occur during the narrow syntactic derivation, but post-syntactically, in the morphological component (cf. also Raposo 2002). If that analysis is on the right track, the relevant question is why the preposition is obligatory if DP2 is spelled-out inside DP1, taking into account that the preposition is not necessary to satisfy casual requirements. We leave this tricky question for further research.

probes its c-command domain, and detect the valued interpretable Case feature of T (in fact, an interpretable valued Tense feature, as proposed by Pesetsky & Torrego 2004). As a result of feature sharing, the Case features in DP1 and DP2 become instances of the same valued Case feature of T (i.e., nominative).



C is then merged with TP, as in (36) below, and its unvalued  $\varphi$ -features probe DP2's valued  $\varphi$ -features. As a consequence, T inherits C's  $\varphi$ -features already valued, as represented below.



Note that this derivation is also possible in cases in which DP2 is not a modifier of DP1, but a locative adverbial adjunct modifying VP, as previously exemplified in (1), reproduced in (37a) below. In such sentences, DP2 *as ruas do centro* 'down-town streets' is initially adjoined to VP and, from this position, c-commands and can probe DP1 *carro* 'carro' before it moves to SpecTP.

- (37) a. *As ruas do centro não tão passando carro.*  
 b. [TP T [VP [DP2 *as ruas do centro* ]uK[Y] [VP [V' V [DP1 *carro* ]uK[Y] ]]]]

A prediction of this analysis is that also in EP, DP2 and DP1 can share a Case feature, which implies that in sentences with possessor raising like (33), DP2 can be moved from inside DP1 without a preposition, as in BP. But, in contrast with BP, DP2 cannot be internal-merged as SpecTP in EP, which explains why DP2 does not agree with T's  $\phi$ -feature in the European variety. This fact is captured by our proposal, since SpecTP in EP can only be created after T inherits the unvalued  $\phi$ -features from C: in this configuration, what determines the creation of SpecTP is a probe triggered by C–T's unvalued  $\phi$ -features, which means that SpecTP is a typical A-position in EP; as DP1 is locally closer to T than DP2 to satisfy  $\phi$ -feature requirements, only the former can be detected by the probe and internal-merged as SpecTP. However, the prepositionless DP2 can be moved to a topic position in EP (given that such movement does not involve locality conditions determined by  $\phi$ -feature requirements), as well as in BP, as in (38) below (cf. Costa 2010 and Avelar & Galves 2011).

(38) BP: ok – EP: ok

- a. As crianças, nasceu o dentinho.  
the children born.3SG the tooth
- b. [<sub>TopP</sub> [<sub>DP</sub> as crianças ]<sub>i</sub> Top [<sub>TP</sub> pro<sub>EXPL</sub> T [<sub>VP</sub> nasceu [<sub>DP</sub> o dentinho t<sub>i</sub> ]]]]  
'About the children, their teeth are born.'

With regard to hyper-raising constructions, Avelar & Galves' (2011; 2016) explanation is preserved in this new proposal: since SpecTP is an A-bar position in BP, movement from a position within the embedded clause (SpecTP, SpecTopP or SpecCP) to the matrix SpecTP is always licensed. Even though we consider that the uninterpretable instances of Case feature are deleted during or at the end of the embedded clause phase, all DPs from the embedded clause are, in BP, available to be moved to the matrix T and probed by C–T's  $\phi$ -features (since it occupies an escape hatch position in the lower phase). Note that not only external argument DPs can be raised from embedded clauses, but also internal arguments, as in (39), and even non-argumental phrases (cf. (5)).

(39) Brazilian Portuguese

- Esses livros<sub>i</sub> parecem que a biblioteca ainda não catalogou t<sub>i</sub>.  
these books seem.3PL that the library yet not catalogued.3SG  
'It seems that the library haven't catalogued these books yet.'

## 6 Prepositional locative subjects, pronominal morphology and active-passive alternation

Avelar & Galves (2011; 2016) do not consider the case of (3), reproduced in (40) below, in which the verb is preceded by a locative PP.

- (40) Brazilian Portuguese  
 Na minha escola aceita cartão de crédito.  
 in-the my school accept.3SG credit card  
 ‘My school accepts credit cards.’  
 ‘One accepts credit cards in my school.’

Avelar & Cyrino (2008) give arguments that this locative PP behaves like a subject, which led the authors to assume that it occupies SpecTP. According to Avelar (2006), some instances of locative PPs in BP can be analyzed as projections of an adverbial pronoun, which can be phonologically null or be spelled-out as an adverbial demonstrative like *aqui* ‘here’ or *aí/ali/lá* ‘here’, as in the bracketed phrase in (41). Since these adverbs have a (pro)nominal nature, locative PPs are, in fact, nominal constituents in BP sentences exemplified in (40) above. Then, such PPs are projections of a null adverbial pronoun with an unvalued Case feature. In order to distinguish a nominal locative PP from a true PP, we will call it LocP, whose head is the null locative adverbial pronoun (pro<sub>Loc</sub>).

- (41) [ (Aqui / Aí / Ali / Lá) na minha escola ] aceita cartão de crédito  
 here there in-the my school accepts credit card

Assuming that this analysis is on the right track, a logical step forward is the claim that, in sentences like (41), no null subject is present in the TP layer. It is likely to be the case that no null subject is present at all. This means that the external argument of the verb is completely absent from the derivation, and no *v*P is projected. LocP is initially adjoined to SpecVP, as a locative modifier constituent. If this is true, the Case feature of LocP, present in the null adverbial pronoun, can probe the unvalued Case feature of the DP *cartão de crédito* ‘credit card’, which results in feature sharing. LocP is then moved to T and probes the valued Case feature of T. As a consequence, both LocP in SpecTP and the DP in complement position are marked as nominative by Case-agreement with T.

- (42) a. [<sub>VP</sub> [<sub>LocP</sub> pro<sub>Loc</sub> na minha escola ]<sub>uK[Y]</sub> [<sub>VP</sub> V [<sub>DP</sub> cartão de crédito]<sub>uK[Y]</sub> ]]

- b. [TP [LocP  $pro_{LOC}$  na minha escola ]<sub>uK[NOM]</sub> [T' T<sub>uK[NOM]</sub> [VP t [VP V [DP cartão de crédito]<sub>uK[NOM]</sub>

Evidence that the post-verbal DP receives nominative Case is found in the contrast between (43) and (44) below. In (43), the DP *o hospital* is the external argument of the verb *tratar* ‘to treat’, and bears the nominative case. The second person pronoun *você* ‘you’ is the internal argument of the verb and its Case is valued as accusative. In this case, the second person pronoun can be realized as a clitic, with the form *te*, as in ((43)b). The *você/te* variation, however, is not possible in (44), in which the LocP *no hospital* occupies SpecTP, as in the analysis for the sentence in (41) and (42) above. The agrammaticality of ((44)b) is what our analysis predicts if the post-verbal DP is nominative in this construction: only *você* is compatible with nominative Case, since the clitic pronoun *te* is either accusative or dative.

(43) Brazilian Portuguese

- a. O hospital trata você bem.  
the hospital treats you well  
b. O hospital te trata bem.  
the hospital you.ACC treats well  
‘Hospitals take care of you well.’

(44) Brazilian Portuguese

- a. No hospital trata você bem.  
in-the hospital treats you well  
b. \*No hospital te trata bem.  
in-the hospital you.ACC treats well  
‘In hospitals one takes care of you well’

Things are different if the verb bears a plural mark, as in (45), which yields a referentially indeterminate interpretation for the subject: in this case, the variation between *você* and *te* is again possible. This is because there is a null external argument (an indefinite third plural person *pro*) that bears nominative Case, and the pronoun in complement position is accusative.

(45) Brazilian Portuguese

- a. No hospital tratam você bem.  
in-the hospital treat.3PL you well



- b. No hospital te tratam bem.  
 in-the hospital you.ACC treat.3PL well  
 'In hospital, they treat you well.'

The proposed analysis explains the difference in the interpretation of the third person singular and plural with no phonologically explicit subject. We straightforwardly derive it from the fact that only when the verb has plural number does a null subject really occur.<sup>10</sup> Sentences like ((44)a) have no null subject, and they are in fact a kind of ergative sentences, in which the projected argument in complement position bears nominative Case. If this argument remains post-verbal, an extra position is available in SpecTP. It can be occupied by a LocP/PP like in ((44)a), or by the verbal complement, like in (46) below. In the latter, also impossible in EP, the verbal complement *a revista* 'the journal' is attracted to SpecTP, where it Case-agrees with T, as represented in (47).

- (46) Brazilian Portuguese  
 A revista xerocou.  
 the journal photocopied.3SG  
 'The journal was photocopied.'

- (47) [CP C [TP [DP a revista ]<sub>φ[3SG]/K[NOM]</sub> [T' T<sub>φ[3SG]/K[NOM]</sub> [VP V t ]]]]

The hypothesis that no external argument is projected in (44) and (46) is reinforced by the fact that no adverbial phrase semantically associated with an agentive argument can be inserted in this kind of sentences (cf. Galves 2000):

- (48) Brazilian Portuguese#A revista xerocou com cuidado / para  
 the journal photocopied.3SG with care to  
 ganhar tempo.  
 gain time

Finally, we have to account for the variation in morphological agreement between the verb and its subject (cf. iv in §2), which was linked with the presence or absence of Case feature on DPs in the former analysis (cf. §4.1). In the present analysis, the possibility of no agreement on the verb is no longer imputable to the absence of Case-feature on the subject DP. An alternative analysis comes from the parallelism that can be done between the nominative–dative alternation

<sup>10</sup>In generic sentences with no pre-verbal DP or PP, like *Não usa mais saia* 'One no longer wears skirts.', we suggest that SpecTP is occupied by a null locative expletive, equivalent to English 'there'.

attested in pronominal subjects of embedded infinitival sentences (cf. (21)) and the alternation involving agreement and no-agreement in tensed sentences.

Regarding embedded infinitival clauses, as exemplified in (49) below, the analysis proposed in this paper yields two different derivations according to whether non-finite Tense has or not a Case feature. This is a possibility in BP as well as in EP, since both varieties license inflected infinitives (Raposo 1987; Modesto 2016). Like in tensed sentences, T's EPP of infinitival sentences attracts the external argument to SpecTP. There are then two possibilities in BP, according to whether T has Case or not. If T has Case, as represented in (51a), DP in SpecTP probes it, and is marked as nominative. If T does not have Case, as in (50b), DP in SpecTP can receive dative Case from the preposition *para* 'for', and then be spelled-out as the oblique pronoun *mim* 'me'.<sup>11</sup> Both derivations can be derived from the basic assumption of our analysis, i.e. the fact that DPs are moved to SpecTP before the merge of C into the structure.<sup>12,13</sup>

(49) Brazilian Portuguese

Ele fez isso pra mim / eu ficar feliz.  
He did that for me I to.stay happy  
'He did that to make me happy'

- (50) a. [CP pra<sub>K[DAT]</sub> [TP [ 1SG = **eu** ]<sub>K[NOM]</sub> [T' T<sub>φ[1SG],K[NOM]</sub> [VP ficar feliz ]]]]  
b. [CP pra<sub>K[DAT]</sub> [TP [ 1SG = **mim** ]<sub>K[DAT]</sub> [T' T [VP ficar feliz ]]]]

Regarding the variation in subject–verb agreement in finite sentences, we can explore two possibilities involved in the C–To–T transfer of features. In our proposal, since SpecTP is already created when C is connected into TP, φ-features can be transferred valued to T in BP. The two possibilities are then the following: (i) C transfers its valued φ-features to T, or (ii) C retains its φ-features. The situation in (i) produces sentences in which the morphological mark of agreement is on the verb, as in (51). In the second situation, C cannot be morphologically

<sup>11</sup>It is not clear for us how the pronoun in SpecTP receives its dative Case from the preposition *para* 'for' within Pesetsky & Torrego's (2004) proposal. A possible analysis is that dative Case is transferred from the preposition (which may be in C) to non-inflected T, and then be probed by the pronoun. A full account of this question is outside the scope of this paper.

<sup>12</sup>This assertion is not true in the case of null subjects as we discuss below.

<sup>13</sup>In EP, the pronominal external argument is probed by T and internal-merged to SpecTP only after T receives φ-features from C. In non-inflected/impersonal infinitival clauses, C does not have φ-features to be inherited by T, and the pronoun cannot be moved to SpecTP. As a consequence, the pronoun cannot probe T's Case feature and does not receive nominative Case, which yields an ungrammatical sentence.

inflected in BP, and the verb is spelled-out with the default mark of third singular person – cf. (52).<sup>14</sup>

(51) Brazilian Portuguese

- a. As crianças dormiram.  
the.PL children slept.3PL  
'The children slept.'
- b. [CP C [TP [DP as crianças ]<sub>φ[3PL]</sub> [T' T<sub>φ[3PL]</sub> [v-VP ... ]]]]

(52) Brazilian Portuguese

- a. As crianças dormiu.  
the.PL children slept.3SG  
'The children slept.'
- b. [CP C<sub>φ[3PL]</sub> [TP [DP as crianças ]<sub>φ[3PL]</sub> [T' T [v-VP ... ]]]]

The other property of BP explained by the absence of Case in the former analysis was the morphological invariance of personal pronouns. This can be independently accounted for by the morphological reorganization of the pronominal paradigm due to language contact (cf. §3), which includes, among other things, the loss of the third person clitic, and the variation between second person clitic

<sup>14</sup>But if the subject is the first singular person pronoun *eu* 'I', agreement marking is obligatory in some tenses of indicative mode (Present, Future and Perfect). One possible hypothesis is that the obligatory agreement does not result from the syntactic C-To-T transfer, but from a morphological adjustment triggered by the presence of the first-person pronoun in the immediately preverbal position. A piece of evidence in favor of this hypothesis is the fact that, when the pronoun is phonologically null, agreement is no longer necessary in many conversational contexts. For instance, a question like *Você fez o café?* 'Did you make coffee?' can be answered as in (ii), with the verb inflected in the third singular person if the subject pronoun is null. If the pronoun is inserted, the agreement is obligatory, as in (iii).

- (i) Eu falo / \*fala.  
I speak.1SG speak.3SG  
'I speak.'
- (ii) Fez / Fiz.  
made.3SG made.1SG  
'Yes, I made it.'
- (iii) Eu (\*fez) / fiz.  
I made.3SG made.1SG  
'Yes, I made it.'

and its non-clitic counterpart. In particular, a consequence of the loss of the accusative clitic is that accusative non-clitic pronouns emerge in the paradigm. Third person pronoun *ele* ‘he’ and second person pronoun *você* ‘you’ can therefore be either nominative or accusative. A full account of this question is outside the scope of this paper.

## 7 Concluding remarks

The analysis proposed here departs from our previous accounts of Brazilian morphosyntax in what concerns Case. In Avelar & Galves (2011; 2016), we argued that DPs could enter the derivation with or without a Case feature. This accounted for the free variation between agreement and non-agreement with subjects, on the one hand, and between tonic pronouns and clitics on the other hand. It also accounted for the fact that sentences with topic–verb agreement, like the ones in (1) and (2), seem to have only one source of Case for two DPs. Moreover, this was likely to be a nice claim from the contact effects with African languages since it has been argued that syntactic Case in Bantu languages is not active (cf. Diercks 2012). We gave this hypothesis up for two main reasons. On the one hand, we are forced to acknowledge the fact that BP displays many of the morphosyntactic properties classically associated with abstract Case (or *Vergnaud licensing* in Sheehan & van der Wal’s (2018) proposal). On the other hand, recent papers convincingly argued that not all Bantu languages lack the effects of syntactic case (cf. van der Wal 2015 and references therein), which makes Avelar & Galves’s (2011) proposal for BP less attractive from a diachronic point of view.

One of the advantages of the new approach is also that Case and EPP nicely combine to account for the facts, while they were rather disconnected in the previous analysis. Assuming feature sharing as in Pesetsky & Torrego’s (2004) proposal, we derive the constructions with topic–verb agreement from the way Case and  $\phi$ -features interact with the ability of T in BP to enter in nominative-Case-valuing with both the pre-verbal DP that c-commands it and the post-verbal DP c-commanded by it. This nicely solves the question of one Case source for two DPs. As for the other facts that the lack of Case was intended to account for, it is worth coming back to the connection between Case and hyper-raising. One of the tests proposed by Sheehan & van der Wal (2018) involves hyper-raising, since it is largely assumed in minimalist approaches that only DPs with valued Case-feature are frozen in place. The existence of hyper-raising has been therefore considered as an empirical argument against the relevance of syntactic Case in languages in which it is observed (for Bantu languages, see Diercks 2012). It is

therefore important to stress that our claim that Case is active in BP grammar has no consequences on our analysis of hyper-raising, which we continue to derive from the  $\varphi$ -independence of T's EPP and the A-bar status of SpecTP position in this Portuguese variety.

Some facts recently discussed in the literature about Bantu languages seem to support this analysis. Van der Wal (2015: 127), for instance, claims that some Bantu languages like Makhuwa and Matengo display many phenomena showing that their grammar activate abstract case. In those languages, for instance, the verb agrees with its post-verbal subject in locative inversion, behaving therefore like Indo-European languages with respect to Baker's (2008) Agreement parameter, i.e., evidencing sensitiveness to nominative Case. Still, such languages have hyper-raising (hyper-agreement, in van der Wal's terms). The comparison between Bantu languages in which the verb agrees with the post-verbal subject and Bantu languages in which the verb agrees with the pre-verbal locative phrase, leads one to question Baker's (2008) claim that the Agreement Parameter is a macro-parameter that distinguishes large families of languages. On the basis of this data, and if our analysis can be extended to Bantu languages, it rather looks like a morphological micro-parameter involving the way in which the  $\varphi$ -features are transferred in the C–T domain, in the spirit of Ouali (2008).<sup>15</sup> We have claimed that in BP,  $\varphi$ -features are already valued when they are transferred to T. One could suggest that, in some languages, C is blind to the constituent in SpecTP and transfers unvalued  $\varphi$ -features to T. In this case, agreement is established with the post-verbal subject.

Finally, we have proposed that part of the debated question of Case parametrization has to be put at the level of the morphological realization of Case. This is not new, as we know that languages differ with respect to the presence vs. absence of morphological Case-marking on DPs. BP is a language in which there is intra-linguistic variation inside the pronominal paradigm, possibly due to its history of contact.

## Abbreviations

1	first person	DAT	dative
3	third person	DO	direct object
ACC	accusative	EP	European Portuguese
BP	Brazilian Portuguese	EPP	extended projection principle

<sup>15</sup>For an implementation of Ouali's ideas to explain aspects of Brazilian syntax, see Toniette (2013).

EXPL	expletive	PFV	perfective
FV	final vowel	PL	plural
IO	indirect object	PRS	present
LOC	locative	PST	past
NOM	nominative	SG	singular
OBL	oblique	SM	subject marker
PASS	passive	TNS	tense

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## Chapter 6

# Case mismatches and match fixing cases

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Matching and mismatching are names for a fairly wide variety of phenomena in the grammar of many, perhaps most, languages. Given the fact that inflection is a crucial element in (mis-)matching phenomena, the overall attention that these phenomena have attracted has been fairly poor. The present article attempts to tackle one specific aspect of (mis-)matching phenomena that we may suspect could be a key to a broader set of facts in this domain. Specifically, the article examines the relationship between case matching and case attraction. The former is frequently found in the syntax of free relative clauses, while the second is often a characteristic of relative clauses headed by pronominal elements. As there are good reasons to consider these two sets of phenomena to be closely related, an attempt will be made here to show that matching and attraction are indeed two sides of the same coin. The crucial argument will be to pursue the analysis of headed and headless relative clauses in terms of what has come to be called “grafting”.

## 1 Case matching and case attraction in relative clauses

This article<sup>1</sup> will address certain phenomena concerning morphological case in a number of relative clause constructions, in particular case (non-)attraction and

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<sup>1</sup>Parts of this article were presented at the “*Insufficient strength to defend its case: Case attraction and related phenomena*” at the University of Wrocław in September 2015. Thanks are due to the audience for interesting discussion. In particular I would like to thank Joanna Błaszczak and Philomen Probert for having invited me to this conference which gave me a chance to clarify my thoughts on attraction and matching. Thanks are also due to two anonymous reviewers. The more general background for these issues is the antithesis of two very general forces that manifest themselves in many ways and in many aspects of the physical world: attraction and repulsion, see Van Riemsdijk (2019).



case (mis-)matching.<sup>2</sup> The main puzzle that I would like to discuss is the question of how many positions are involved. In case attraction we are dealing with a head of the relative clause and the *wh*-phrase in the Spec,CP of the relative clause: two separate positions. In free relatives (FRs), however, it seems as if in some cases at least there is just a single position in which a case is realized that the matrix environment and the relative clause environment fight about determining.

Starting with case attraction, let us look at some examples from Ancient Greek.<sup>3</sup>

- (1) a. *pro tōn kakōn ha oida*  
           instead-of<sup>GEN</sup> the evils<sub>GEN</sub> which<sub>ACC</sub> I-know<sup>ACC</sup>  
           ‘instead of the evils which I know’  
       b. *pro<sup>GEN</sup> tōn kakōn<sub>GEN</sub> hōn<sub>GEN</sub> oida<sup>ACC</sup>*

In (1a) the head of the relative clause has the genitive case imposed by the preposition in the matrix while the relative pronoun has the accusative case imposed by the embedded verb ‘know’. In (1b) however, the case of the relative pronoun has been changed from accusative to genitive, the case of the head. This is called case attraction.

(2) Greek

- a. ... *ekpiein sun toutois hous malista phileis*  
           to-drink with<sup>DAT</sup> those<sub>DAT</sub> whom<sub>ACC</sub> best you-love<sup>ACC</sup>  
           ‘to drink with those whom you love best’  
       b. ... *ekpiein sun<sup>DAT</sup> hois<sub>DAT</sub> malista phileis<sup>ACC</sup>*

(2a) is a headed relative clause in which the head is in the dative case according to the requirements by the matrix preposition while the relative pronoun appears in the accusative case thereby fulfilling the case requirements of the verb in the relative clause. (2b) is the corresponding FR. As there is only one single relative pronoun, that is, only one position to express case morphology, a conflict arises

<sup>2</sup>There are similar issues in many other domains of grammar. To give just one example, in various constructions involving coordination we find both matching requirements and mismatches. For a discussion of such phenomena in Right Node Raising constructions, for example, see Larson (2012). In the present article I use the term *case (mis-)matching* to refer to case conflicts independently of whether they occur in a single position or in two (usually adjacent or close) positions. To distinguish the two, I use *case attraction* (two positions interacting) and *case superimposition* (two different cases that fight for a single position).

<sup>3</sup>The examples given here are adapted from Hirschbühler (1976) and were cited in Groos & van Riemsdijk (1981). I use superscripts to indicate the case imposed by the item in question and subscripts to indicate the actual case borne by the element in question.

between the dative required by the matrix and the accusative imposed by the relative clause: a case mismatch. In some languages this would lead to a conflict that cannot be resolved. In such languages an example like (2a) could not be expressed by means of a FR. In Ancient Greek, however, the conflict is resolved by means of a kind of radical form of case attraction which we might call case superimposition. In (2b) the matrix dative supersedes the embedded accusative.

The question as to whether a case conflict in a given language results in ungrammaticality or whether it can be resolved by case attraction (or superimposition) is a complicated one. For Ancient Greek, Hirschbühler (1976) proposed a case hierarchy:<sup>4</sup>

- (3) NOM > ACC > DAT > GEN

This hierarchy goes from least oblique to most oblique. And the corresponding principle is as in (4).

- (4) In situations of case superimposition the more oblique case wins.

This will correctly predict that in (2b) it is the dative that wins and suppresses the accusative.

German may well be the language for which this issue has been studied in the greatest detail.<sup>5</sup> There is considerable variation in the judgments ranging from those who allow very few case mismatches to those who allow virtually all of them.<sup>6</sup>

This is not, however, the question that I mean to discuss in this paper. Instead, the issue I want to address here is what it means to say that “in the FR there is only one position to realize case”. Take the following examples of FRs in Standard High German.<sup>7</sup>

- (5) German

- a. Wen<sub>ACC</sub> du einlädst<sup>ACC</sup> wird auch kommen<sup>NOM</sup>.  
     who-ACC you invite      will also come  
     ‘Whoever you invite is sure to come too.’

<sup>4</sup>See also Harbert (1983) for extensive discussion, including Gothic.

<sup>5</sup>See among many others Vogel (2001).

<sup>6</sup>This is just scratching the surface. As an anonymous reviewer points out, Polish does not resolve case mismatches. To circumvent ineffability problems, however, Polish makes extensive use of so-called “light headed relatives”, that is, relative clauses with a pronominal head. See Citko (2004). Furthermore, it appears that in modern Greek the matrix case always wins, cf. Daskalaki (2011) and Spyropoulos (2007).

<sup>7</sup>These examples are from Vogel (Vogel, 2001) examples (22a,b) on page 15.

- b. \* Sie zerstört<sup>ACC</sup>, wer<sub>NOM</sub> ihr begegnet<sup>NOM</sup>.  
 she destroys who-NOM her-DAT meets  
 ‘She destroys whoever meets her.’

At first sight, there is a relative clause without a head and a relative pronoun in the relative clause. So, ostensibly, there is only one pronoun that has a slot for case morphology. Suppose, however, that FRs do have a head just like headed relatives but that the head is silent.<sup>8</sup> In that case we could say that there are two slots for case morphology, but at spell-out there is only one in which case can be overtly expressed.

As I will suggest at the end of §3, there is only one syntactic position which is “shared” by the relative clause and the matrix clause. An anonymous reviewer remarks that from a semantic point of view the FR-pronoun is not a shared argument: the argument of the relative predicate is the FR-pronoun but the argument of the matrix predicate is the FR as a whole. Notice, however, that on a raising analysis of relative clauses the head of the relative clause is similarly shared between the relative clause and the matrix clause. Space prevents a more extensive discussion here.

## 2 One position for case or two?

While there are language particular differences in the case hierarchies and the way they determine case attraction and case superimposition, the similarities are nevertheless considerable. And the fact that they affect both attraction and superimposition strongly suggests that the structures to which they apply should be sufficiently similar in order to allow for the generalization to be expressed. It follows, apparently, that the silent head analysis of FRs should be preferred as the adoption of that analysis implies the presence of two positions in both constructions: case attraction and case superimposition. Simplifying, the structure of (5a) would be roughly like (6).

- (6) [<sub>DP</sub> [  $\emptyset$  ]<sub>NOM</sub> ] [<sub>CP</sub> [<sub>Spec,CP</sub> [<sub>WhP</sub> [<sub>Wh</sub> wen ]<sub>ACC</sub> ]<sub>i</sub> du einlädst t<sub>i</sub> ] wird auch kommen]

The nominative case feature on the silent head and the accusative case feature on the relative pronoun now have to fight about which one of them can be realized on the only available host, the relative pronoun *wen*. In case attraction situations,

<sup>8</sup>This was the analysis proposed in Groos & van Riemsdijk (1981).

which are now structurally identical except that the head is lexically realized, not silent, each case feature can be realized on its host, but nevertheless the two case features may “feel the necessity to create a closer bond between them”, resulting in a copy of one of the two case features being superimposed on the other one. And that is case attraction.

Unfortunately the situation is somewhat more complicated than that. I have argued (cf. Van Riemsdijk (2006a))<sup>9</sup> that FRs should be treated in terms of what I call *grafting*. Let me first introduce the notion of “graft” and then show how FRs could be analysed in terms of graft structures.

There are ample arguments for grafts (cf. Van Riemsdijk 2000). A more “authoritative” view is presented in Van Riemsdijk (2006b). As an illustration of simple cases, consider a DP like (7):

- (7) a far from simple matter

It is quite easy to see that assigning a structure to such a DP is, indeed, a far from simple matter. Clearly we have a head noun ‘matter’. To the left there is an attributive AP. But there are two adjectives: ‘far’ and ‘simple’. Assuming that ‘from simple’ is a PP, that PP is presumably a complement of ‘far’. That is, we might assume that the structure of that PP in (7) is equivalent to that of (8).

- (8) far from the airport

But this leads immediately to a serious problem in that (9) is ungrammatical:

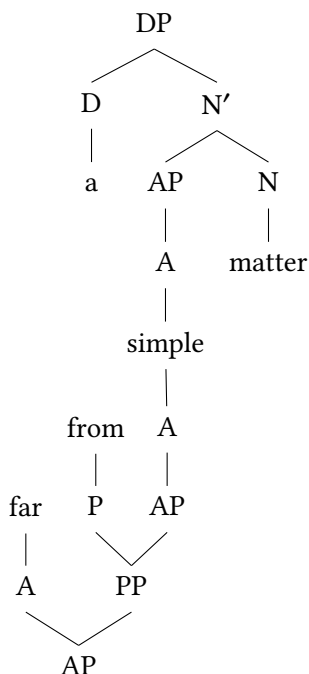
- (9) \*a far from the airport hotel

The reason is quite straightforward. The head of the AP, ‘far’, is not left adjacent to the head noun ‘hotel’. That they must be adjacent has been argued in Emonds (1985; 1976), Williams (1982), Van Riemsdijk (1993), Biberauer et al. (2014). As (7) is grammatical, we are led to assume that ‘simple’ is the head. This assumption also makes sense semantically in that the meaning of (7) is something like ‘a not really simple matter’, where ‘not really’ is a modifier of the head ‘simple’.<sup>10</sup> In short, we have a paradox, if we want to express the structure of (7) taking all these considerations into account. The notion of graft (which I have argued is simply a special case of merge, cf. Van Riemsdijk (2006b)) offers a solution:

<sup>9</sup>See this chapter for an ample overview of the relevant literature. An updated version of this chapter has appeared in Van Riemsdijk (2017).

<sup>10</sup>Note also, that, as an anonymous reviewer observes, in (7) the postnominal position for the AP is ungrammatical: *\*a matter far from simple* while in (9) the postnominal position of the AP makes the phrase grammatical: *a hotel far from the airport*.

(10) A simple graft



Cases like (7) alone would not suffice to justify this type of approach. But there is considerable evidence (cf. Van Riemsdijk 2001; 2006a,b,c; 2010) for grafts from a number of constructions including Free Relatives (FRs) and particularly a special type of FR called Transparent Free Relatives (TFRs).

On this view, FRs will be analysed along the following lines:

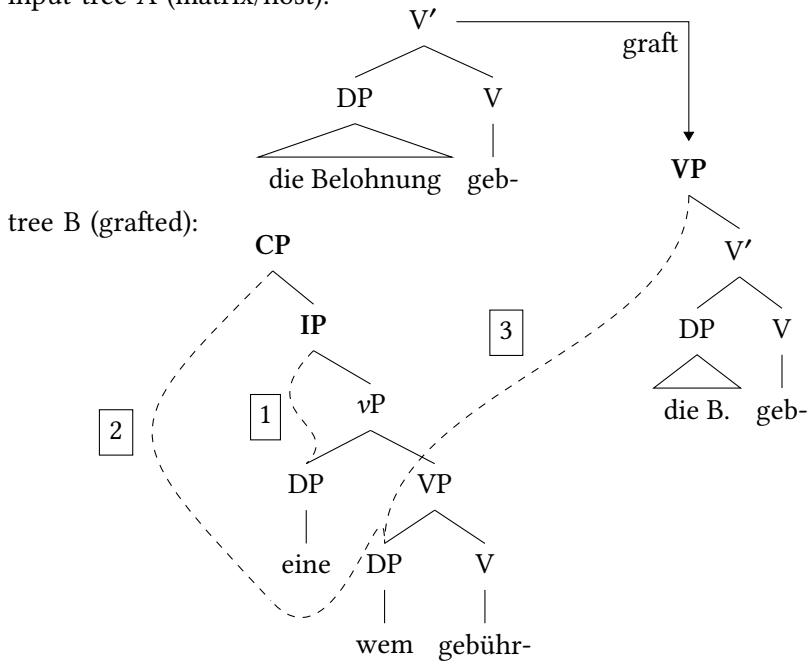
(11) German

- a. Ich gebe<sup>DAT</sup> die Belohnung wem<sub>DAT</sub> eine gebührt<sup>DAT</sup>.  
I give the reward to-whom one deserves  
'I give the reward to who deserves one.'
- b. Ich gebe<sup>DAT</sup> die Bel. \*wer<sub>NOM</sub>/\*wem<sub>DAT</sub> eine verdient<sup>NOM</sup>.  
I give the reward who/whom one deserves
- c. \*Wem<sub>DAT</sub> /\*wer<sub>NOM</sub> eine Belohnung gebührt<sup>DAT</sup> bekommt<sup>NOM</sup> eine.  
whom who a reward deserves receives one

(11a), which incidentally illustrates the case matching effect, would roughly be assigned the following structure under a graft approach:



- (12) FR analysis by grafting  
input tree A (matrix/host):



The strongest arguments for a graft/multi-dominance approach come from TFRs. Below I will summarize some of the major properties of TFRs to show what these arguments are.<sup>11</sup>

- FRs are definite or free choice universal as in (13) – TFRs are typically indefinite, cf. (14), that is, it is the Predicate Nominal (PN) that determines the indefiniteness of the TFR, not the *wh*-word.

- (13) I eat what is on the table.

- (14) a. I ate what they euphemistically referred to as a steak.  
b. There is what I suspect is a meteorite on the front lawn.

- (English) number agreement: *what* determines singular agreement inside and out in the FR (15a), but it is the predicate nominal (PN) that determines the actual agreement in the TFR (15b,c).

<sup>11</sup>Some of these observations are due to Wilder (1998) and some are my own, see Van Riemsdijk (2001; 2006a,b).

- (15) a. What pleases/\*please me most adorns/\*adorn the living room wall.  
 b. What \*seems/seem to be some meteorites \*was/were lying there.  
 c. What seems/\*seem to be a meteorite was/\*were lying there.
- Adjectival agreement in Dutch is present in attributive adjectives but not in predicative adjectives. The predicative adjective (PA) in a TFR inflects like an adjective when the TFR is adnominal. That is, the PA is the shared element.
- (16) Dutch  
 een wat ik zou noemen eenvoudig-\*(e) oplossing  
 a what I would call simple solution
- Idiom chunks: the PN in the TFR can complete a matrix idiom.
- (17) a. The headway they made was impressive.  
 b. They didn't make what can reasonably be considered headway.
- Bound anaphors in the PN of the TFR can be bound by a matrix antecedent, showing again that the PN is the shared element.
- (18) a. They live in what is often referred to as each other's backyard.  
 b. She was what can only be interpreted as proud of herself.
- (19) a. Bush<sub>i</sub> would never acknowledge what Cheney<sub>j</sub> refers to as [each other's]<sub>i+j</sub> mistakes.  
 b. John<sub>i</sub> hates to discuss what Mary<sub>j</sub> calls [each other's]<sub>i+j</sub> sexual deficiencies.
- Case matching is required on the PN. The examples are from German.
- (20) German  
 a. Er hat was man einen<sub>ACC</sub> Halunken nennt<sup>ACC</sup> festgenommen<sup>ACC</sup>.  
 he has what one a scoundrel calls apprehended  
 'He has apprehended what they call a scoundrel.'

- b. \* Er ist was man einen<sub>ACC</sub> / einem<sub>DAT</sub> Halunken nennt<sup>ACC</sup> auf den  
 he is what one a / a scoundrel calls on the  
 Leim gegangen<sup>DAT</sup>.  
 glue gone  
 'He has been hoodwinked by what they call a scoundrel.'

In (20a) the case requirements by the matrix clause and by the TFR are identical, they match. But note that the shared element that has to satisfy the double case requirement is the PN, not the *wh*-word. This is shown by (20b) where the case requirements on the PN do not match. Note also that case syncretism, which can resolve case mismatches in FRs as in (21) also does so in TFRs, cf. (22) below:

(21) German

- a. \* Wen<sub>ACC</sub> du liebst<sup>ACC</sup> ist<sup>NOM</sup> ein Halunke.  
 whom you love is a scoundrel  
 b. Was<sub>NOM/ACC</sub> du liebst<sup>ACC</sup> ist<sup>NOM</sup> Pasta.  
 what you love is pasta

The *wh*-word *wen* in (21a) can only be an accusative, hence we have a case-mismatch which causes ungrammaticality. But in (21b) the *wh*-word *was* is syncretic in that it can be both a nominative and an accusative. Thereby the mismatch is avoided. Perhaps the most convincing indication that in TFRs it is the PN that is the shared element between the matrix clause and the (transparent) free relative is the fact that the PN shows syncretic behavior just like the *wh*-word in FRs.<sup>12</sup>

(22) German

- a. Was viele einen<sub>ACC</sub> geilen<sub>ACC</sub> Wagen nennen<sup>ACC</sup> wird oft  
 what many a sexy car call is frequently  
 gekauft<sup>NOM</sup>.  
 bought  
 b. \* Was viele ein<sub>NOM</sub> geiler<sub>NOM</sub> Wagen nennen<sup>ACC</sup> wird oft gekauft<sup>NOM</sup>.  
 c. Was viele ein<sub>NOM/ACC</sub> geiles<sub>NOM</sub> Auto nennen<sup>ACC</sup> wird oft  
 gekauft<sup>NOM</sup>.

<sup>12</sup>(22a) is an example of a case mismatch in which the accusative wins over the nominative. This is considered more or less grammatical by many speakers of German, see Vogel (2001) for discussion.

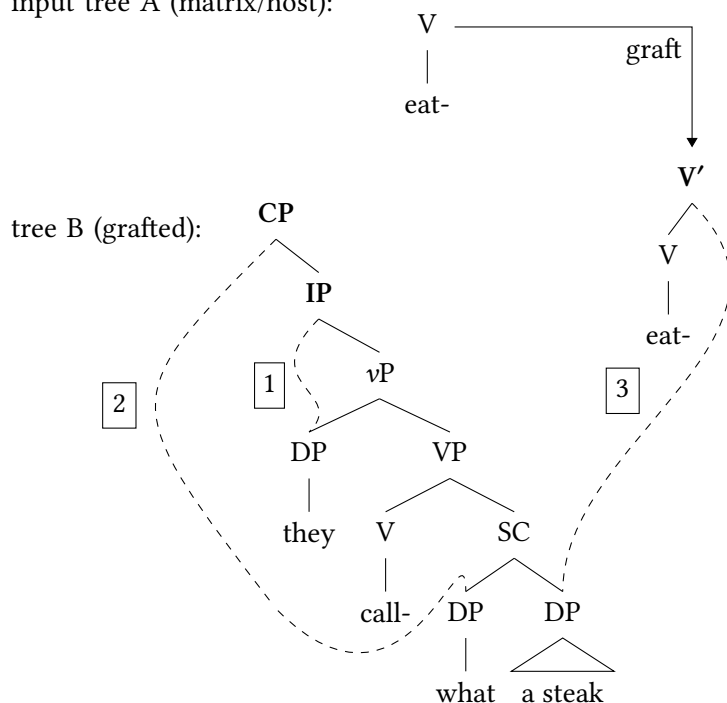
The important fact here is that, while *Wagen* and *Auto* are synonymous, *Wagen* is a masculine noun while *Auto* is neuter. In the paradigm for masculine nouns the nominative and the accusative are distinct, but in the paradigm for neuter nouns they are not, in other words there is syncretism in the case morphology. Accordingly the case mismatch in (22b) causes ungrammaticality, but in (22c) the mismatch is avoided by syncretism.

The important thing about TFRs, then, is that it is perfectly evident that it is the PN/PA of the TFR that acts as the shared element, i.e. the element that is also part of the matrix clause. There does not appear to be an obvious way to posit a second position alongside the PN which could be used as the locus for a second case morpheme as in example (6) above.

A graft approach directly expresses the notion that the PN (or the PA) is simultaneously part of the TFR and of the matrix structure. By way of illustration, here is a simplified graft derivation of a simple TFR:

(23) I ate what they called a steak.

(24) TFR analysis by grafting  
input tree A (matrix/host):



At this point we can draw three interim conclusions:

**Interim conclusion 1** Matching effects (and mismatches) in FRs and TFRs must be dealt with in terms of a single position, that is, the shared element.

**Interim conclusion 2** Case attraction as well as its absence is a process that occurs between two positions.

**Interim conclusion 3** The phenomena of (mis-)matching and case (non-)attraction are sufficiently similar to regard a theory in which we need two separate treatments as a failure, hence we must study ways in which we can interpret both phenomena as two sides of the same coin. We might call this THE THEORETICIAN'S DILEMMA.

### 3 Can we have our cake and eat it too?

There is a simple and straightforward way to solve the theoretician's dilemma. We have been tacitly assuming that grafting applies to maximal projections, to phrases. This is not only a simplification, but it is, in fact, wrong. First, as I have argued in Van Riemsdijk (2006b) grafting is not an exotic new enrichment of the power of the theory but simply an instance of merge. Indeed, a stipulation would be necessary to prevent merge from applying to, for example, the adjective *simple* with the noun *matter* in (10). But observe that limiting grafting to maximal phrases would also require a stipulation that is unwarranted both from a theoretical perspective and for empirical reasons.

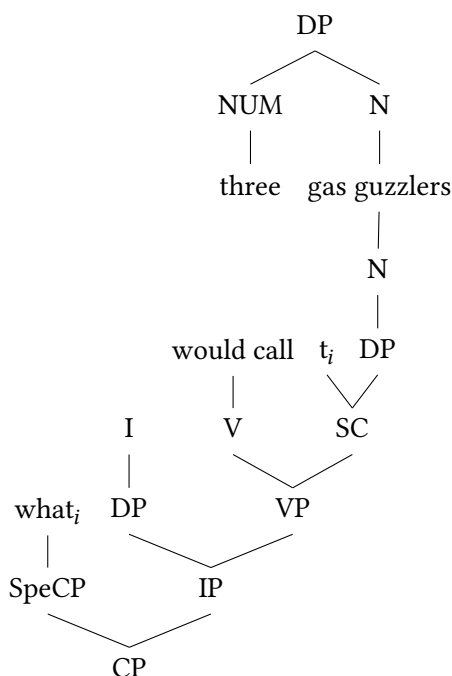
This does not alter the fact that grafting is a powerful mechanism. There are two reasons why this is unavoidable. First, I believe grafting is unavoidable if we are to present cogent analyses for constructions like FRs and TFRs (and many others such as Horn-amalgams, cf. Van Riemsdijk (2006c)). There are many other cogent reasons for making merge the central operation in syntax. As I have argued (Van Riemsdijk, 2006b) grafting is an inevitable consequence of the introduction of merge. What seems to be realized much less is that the adoption of merge inexorably initiates a new program to search for powerful limitations of the descriptive power in much the same way that the introduction of transformations in the 60s defined a program to restrict them severely. If the program to restrict merge turns out to be as fruitful as the program to restrict transformations, generative syntax may look forward to a very bright future indeed. As for grafting, a very modest attempt at restricting its power is presented in Van Riemsdijk (2010).

Returning now to the "theoretician's dilemma", consider the fact, for example, that a TFR can be inserted in the middle of a DP as in:

- (25) John has three what I would call gas guzzlers in his garage.

In this example the shared element is the compound *gas guzzler*. Inside the matrix DP (*three gas guzzlers*) the compound is not a complete DP but, presumably, just N. In the TFR, however, the PN is a complete DP. A very simplified tree structure for (25) shows this:

- (26) ‘Attributive’ TFRs



In our discussion about “one position or two”, what we are talking about is positions in which the case features (or their ultimate spellout) are located. And when we talk about case attraction and case (mis-)matching, these positions are usually characterized as “K” (for Kase, to avoid confusion between the ordinary word case and the grammatical term case). Before showing how this would work for TFRs with matching or mismatching case such as those in (22), let us look at a simple case which shows that this is typical and necessary for grafts involving inflectional morphology.

Recall the third argument for a grafting analysis of TFRs presented above, cf. example (16). In Dutch attributive adjectives are inflected. The rule is very simple.

The adjectival inflection (AI) marker is always *-ə* (spelled ‘-e’) unless the head noun is indefinite neuter singular, as in (27e):<sup>13</sup>

## (27) Dutch

- |   |                     |
|---|---------------------|
| a. een groot-*(e) woning<br>(a large apartment)       | indef. masc. sing.  |
| b. twee groot-*(e) woningen<br>(two large apartments) | indef. masc. pl.    |
| c. de groot-*(e) woning<br>(the large apartment)      | def. masc. sing.    |
| d. de groot-*(e) woningen<br>(the large apartments)   | def. masc. pl.      |
| e. <b>een groot-(*e) huis</b><br>(a large house)      | indef. neuter sing. |
| f. twee groot-*(e) huizen<br>(two large houses)       | indef. neuter pl.   |
| g. het groot-*(e) huis<br>(the large house)           | def. neuter sing.   |
| h. de groot-*(e) huizen<br>(the large houses)         | def. neuter pl.     |

Example (16), repeated here as (28), can now be represented quite simply as (29), where the AIs remain outside the shared adjective which is grafted.<sup>14</sup>

## (28) Dutch

- |  |
|--|
| een wat ik zou noemen eenvoudig-*(e) oplossing |
| a what I would call simple solution            |

<sup>13</sup>I have left out adjectives with non-count nouns. It should also be pointed out that in Dutch spelling an adjective like *groot* when suffixed by *-e* is spelled with a single ‘o’ (because the syllable is open). For more detailed discussion, see Broekhuis (2013: 11–13).

<sup>14</sup>Not unexpectedly the same TFR with a neuter noun is perfectly grammatical as neither the matrix nor the TFR requires a *-e* ending: *een wat ik zou noemen groot huis*.

(29) Mismatch avoidance with attributive adjectives



We see that what looked like a morphological mismatch is resolved in structure (29) as we have two separate positions. A conflict is avoided because one of the two AI positions is empty.<sup>15</sup> With this in hand, we can address the issue of case (mis-)matches, for example in TFRs.

Take example (22b), repeated here as (30).

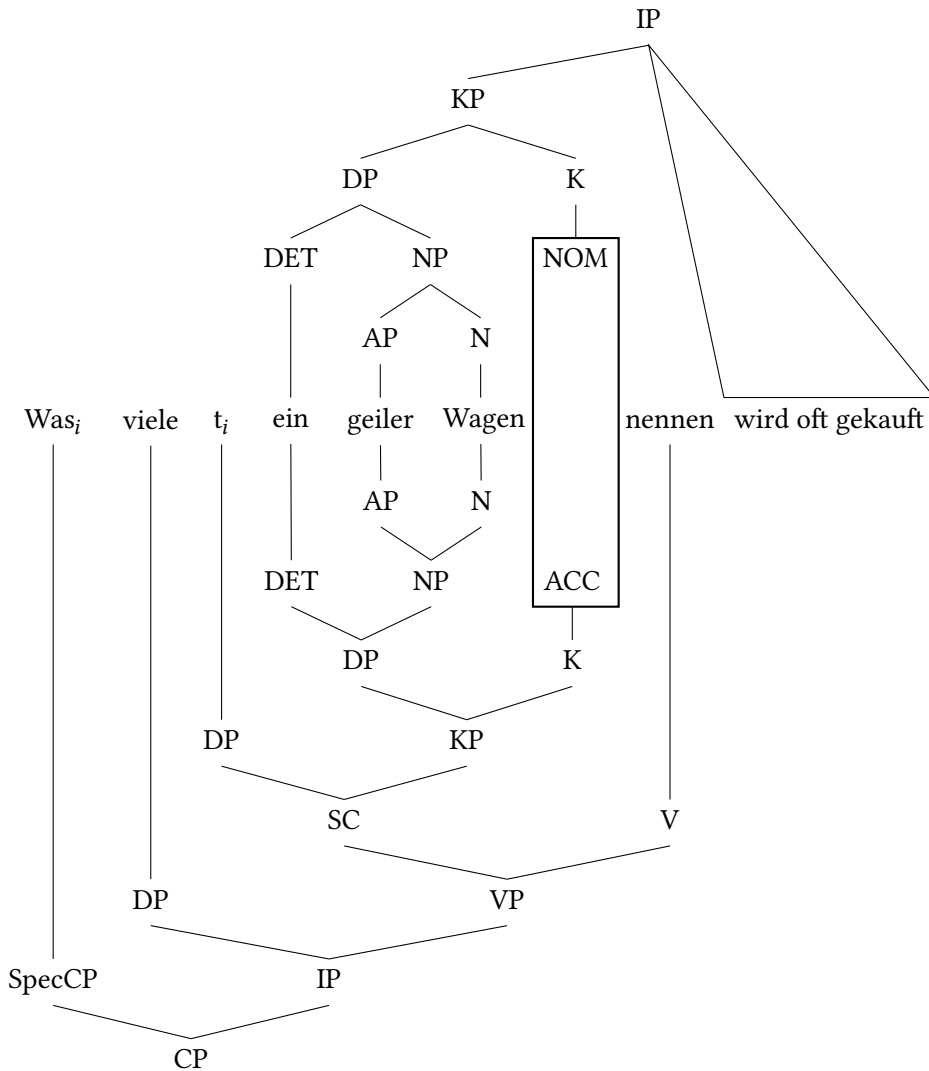
<sup>15</sup>For discussion of other cases involving agglutinative morphology and also an extension to the issue of how the theta criterion can be maintained in grafting structures, see Van Riemsdijk (2010).



- (30) German\*Was viele ein<sub>NOM</sub> geiler<sub>NOM</sub> Wagen nennen<sup>ACC</sup> wird oft  
 what many a sexy car call is often  
 gekauft<sup>NOM</sup>.  
 bought  
 ‘What many would call a sexy car is frequently bought.’

The structure for such a TFR would be roughly as in (31).

- (31) Case mismatch with TFR



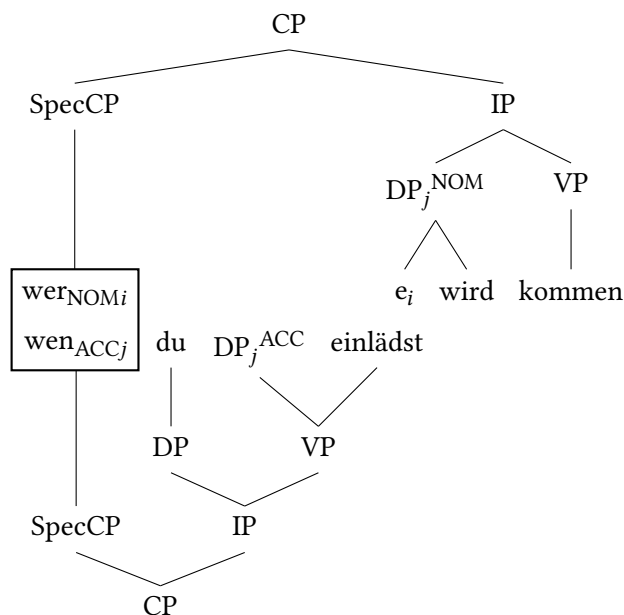
The case mismatch can now be localized in the box, where NOM and ACC are in conflict with each other. In this example the matrix case NOM has won, which results in ungrammaticality. If the TFR case ACC wins, as in (22a) there is still a conflict, but according to the case hierarchy ACC supersedes NOM. And indeed, this example is perfect for some varieties of German and definitely much better than (22b) for all speakers.<sup>16</sup>

This solution closes the circle in that case (mis-)matching in FRs can be treated in a completely parallel way. Take the example (5a) above, repeated here as (32). (33) is a very simplified tree depicting the relevant structure.

(32) German

Wen<sub>ACC</sub> du einlädst<sup>ACC</sup> wird kommen<sup>NOM</sup>.  
 who-ACC you invite will come

(33) Case mismatch resolved by superimposition



This is a typical example of a case mismatch that is, however, accepted by many speakers of German. As there is only one position in which a wh-word can be spelled out, the mismatch must be resolved. It is resolved in the rectangle

<sup>16</sup>See also example (5) above and footnote 6.

in that the accusative wins over the nominative, as predicted by the Case Hierarchy. In very strict versions of German, which do not accept this mismatch, the battle has no winner and the derivation crashes as both *wh*-words cannot be spelled out simultaneously.<sup>17</sup>

## 4 Conclusion

We started out with a puzzle. Case attraction and case (mis-)matching in normal and transparent free relatives are sufficiently similar to aim for a unified treatment of both. But case attraction involves an interaction between two positions while case (mis-)matches seemingly involve only one position, at least if, as I have argued, they are accounted for in terms of grafting. What I hope to have shown is that there are good independent reasons for adopting analyses in terms of sub-phrasal grafts which allow us to have two tree positions for the matching or conflicting morphological elements, but only a single spell-out position. Thereby we are an important step closer to a unified theory of attraction and (mis)matching.

## Abbreviations

ACC	accusative	NOM	nominative
AI	adjectival inflection	PA	predicative adjective
DAT	dative	PN	predicate nominal
FR	free relative	TFR	Transparent Free Relative
GEN	genitive		

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<sup>17</sup>The question arises as to whether the resolution of case conflicts that ultimately determines the spell-out takes place in narrow syntax or post-syntactically, as an anonymous reviewer asks. The answer has to be that this must be a matter of post-syntactic spell-out. The most convincing considerations arguing for this view have to do with the way that syncretism helps resolve case conflicts. Space prevents me from going into the details here however.

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## Chapter 7

# Case and agreement in possessive noun phrases in mainly English, Swedish, and Finnish

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The paper is based on a set of observations about the prenominal possessive construction in English, Swedish, Finnish, and Hungarian. These include the fact that coordination of possessive pronouns is degraded in English (??*your and my home*), but not in the other languages and that the adnominal pronoun construction (APC) *we children* cannot have a genitive pronoun in English or Swedish (\**our children home*) but can do in Finnish. On the other hand Finnish and Hungarian do not show possessive agreement when the possessor is an APC. These observations can be explained if the possessive construction has the structure [Poss [<sub>NP</sub> DP N]], where Poss hosts a set of unvalued  $\phi$ -features valued by the possessor DP. In English and Swedish, Poss is spelled out as a genitive pronoun (*my, her, our*, etc.). In Finnish and Hungarian it is spelled out as a possessive agreement suffix. In all the languages this is the case only when the possessor DP is a bare pronoun: Poss does not agree with a lexical DP. This is couched in a version of the theory of agreement and incorporation in Roberts (2010a,b).

## 1 Introduction

This paper is based on mainly two observations about possessive noun phrases in English, Swedish, and Finnish. The first one is that coordination of possessive pronouns is degraded in English, for most combinations, but perfectly well formed in Swedish and Finnish.



- (1) a. English  
 ??  
       my and your friends  
 b. Swedish  
       mina och dina vänner  
       my   and your friends  
 c. Finnish  
       minun ja   sinun ystävä  
       my       and your friends

The second observation concerns the adnominal pronoun construction (APC: *you children*, *we linguists*). Ever since Postal (1969) it has been widely accepted that the adnominal pronoun is a determiner taking the lexical noun as its complement, and ever since Abney (1987) it has been widely accepted that the determiner is the head of the argument noun phrase. As the head, the pronoun in the APC will reflect the case assigned to the DP; it is *we children* if the DP is subject, *us children* if the DP is object.<sup>1</sup> However when the APC is a possessor, the pronoun does not have Genitive (possessive) case, in English. The APC rather behaves as a lexical DP possessor, constructed (somewhat marginally) with the possessive clitic *-s*.

- (2) a. \* your children opinions  
       b. ? you children's opinions

In Swedish, too, the possessive pronoun cannot have Genitive case.

- (3) Swedish  
       \*era           barn       åsikter  
       you.PL.POSS children opinions

But in Finnish the APC can occur as a possessor with Genitive case.

- (4) Finnish  
       teidän lapsien mielipiteet  
       you.GEN children.GEN opinions  
       'you children's opinions'

---

<sup>1</sup>This is the Standard English rule. There is variation in English regarding nominative vs. accusative in various contexts. See below footnote 2 and discussion of (8).



With some qualification, this is also possible in Hungarian. Another relevant observation is that the possessive construction in (4) does not admit possessor agreement on the noun, while this is optional or obligatory, depending on the variety of Finnish, with a bare possessive pronoun.

(5) Finnish

- a. teidän mielipitee-nne  
you.GEN opinions-2PL  
'your.PL opinions'
- b. teidän lapsien mielipitee (\*-nne)  
you.GEN children.GEN opinions -2PL  
'you children's opinions'

These observations will be made sense of with the help of the theory of agreement and incorporation articulated in Roberts (2010a,b). The possessive pronouns in English and Swedish are possessive determiner (Poss) heads derived by Agree between Poss and an NP-internal possessor argument in a structure [<sub>POSS/DP</sub> Poss NP]; this is how they are Case-licensed. If the possessor is lexical, Poss does not agree with it, but is spelled out as the invariant clitic *-s*. The possessor in Finnish is assigned Genitive case in the NP. If the possessor is a pronoun, it undergoes Agree with Poss in the structure [<sub>POSS/DP</sub> Poss NP], spelled out as an agreement suffix on the possessee noun. If the possessor is lexical, Poss does not agree with it. The APC, in spite of being headed by a pronoun, does not trigger agreement. In this way the reason why (2a) and (3) are ill-formed is the same reason why the possessive agreement suffix is ill formed in Finnish (5b): they feature illicit agreement. The reason why (5b) is well-formed in Finnish without the possessive agreement suffix, unlike (2a) and (3), is that the possessor DP can get Genitive case independently. The situation in Hungarian will be touched upon briefly; it is similar, though not identical with the situation in Finnish.

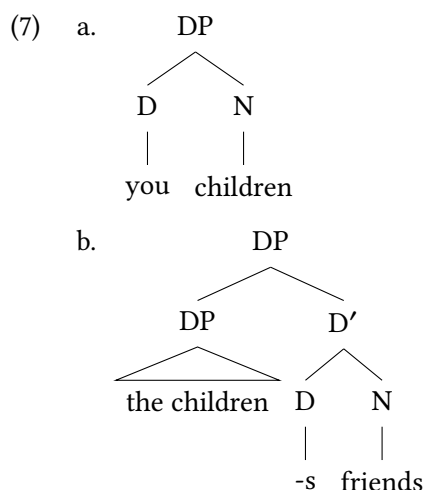
## 2 The adnominal pronoun construction as possessor

The following terminology will be used: A nominal construction with a possessor and a possessee will be called *possessive construction* or just *possessive*. The argument with the possessor role will be called *possessor* or *possessor DP* (ignoring the issue whether nominal arguments are necessarily DPs in all languages, including Finnish, a language without articles). If it is a pronoun it will be called *possessor pronoun*.

Ever since Postal (1969) the adnominal pronoun construction (APC), exemplified in (6), has played a crucial role in the theory of noun phrase structure.

- (6) a. We children should be taken more seriously.  
b. They look down on us children.

Postal (1969) used the APC to argue that pronouns are determiners taking a lexical NP as complement, where the lexical NP may be pronounced/spelled out or not. In Abney (1987) this became part of the argumentation for the DP-hypothesis. The structure of the APC would be (7a), under this hypothesis (here simplified; see Höhn 2017 for a more detailed analysis), while the structure of a DP with a lexical possessor DP would be (7b).



As can be seen in (6a,b), the pronoun in the APC overtly shows the case assigned to the DP; nominative in (6a), accusative in (6b).<sup>2</sup> In English the nominative–accusative distinction is visible only on pronouns. English also has a Genitive or possessive case visible on pronouns, as in *my book*, *our friends*, etc. It is visible only on pronouns if we take the clitic *-s* in (7b) to be a possessive marker of sorts but not a spell-out of Genitive case. The possessor pronoun cannot, however, be constructed as the head of an APC.

- (8) a. \* Our children opinions should be taken seriously.

<sup>2</sup>The following is an expression in a Facebook message written by a native English speaker: (This was) “a good plug for we skipraiders”. This would be a case where the accusative case assigned by the preposition does not trickle down to the head of the APC.

- b. ? We/us children's opinions should be taken seriously.
- c. We/us children, our opinions should be taken seriously.

(8a) is virtually unparseable. (8b) may be somewhat marginal but is very clearly preferable to (8a), either with nominative or default pronominal accusative on the pronoun; there appears to be some variation among speakers which option they prefer. Another clearly well-formed alternative is (8c), with a left-dislocated APC combined with a possessor pronoun.

The same holds true of Swedish. (9a,b) shows that Swedish has the APC, with case visible on the pronoun.

(9) Swedish

- a. Vi barn      borde    tas            mera på allvar.  
we children should take.PASS more on serious  
'We children should be taken more seriously.'
- b. Dom ser    ner      på oss barn.  
they look down on us children  
'They look down on us children.'

(10a,b) show that the possessor pronoun cannot be constructed as an APC.<sup>3</sup>

(10) Swedish

- a. \* Våra barn      åsikter    tas            inte på allvar.  
our children opinions take.PASS not on serious
- b. ?? Vi barns      åsikter    tas            inte på allvar.  
we children's opinions take.PASS not on serious  
'We children's opinions are not taken seriously.'
- c. Vi barn,      våra åsikter    tas            inte på allvar.  
we children our opinions take.PASS not on serious  
'We children, our opinions are not taken seriously.'

Standard Swedish has the possessive construction in (7b) with lexical possessors, essentially just like English (see Delsing 1998; Julien 2005; virtually the only difference is that the possessive clitic *-s* is not spelled with an apostrophe

<sup>3</sup>(10b) seems even more marginal than (8b). There is no obvious explanation for this, in terms of the theory expounded here. It is also not confirmed by a proper comparative investigation, so I leave it aside here.

in Swedish).<sup>4</sup> (10b) would be an instance of that construction. It may be highly marginal, but is still preferable to (10a), which is word salad. (10c), with a left-dislocated APC, is a perfectly well-formed alternative.<sup>5</sup>

This is not a universally the case, though. Finnish has the APC, as shown in (11).

(11) Finnish

- a. Me lapset voimme tulla mukaan.  
we.NOM children.NOM can.1PL come along  
'We children can come along.'
- b. Ne eivät ota meitä lapsia vakavasti.  
they.NOM not.3PL take we.PART children.PART seriously  
'They don't take us children seriously.'

The Finnish APC, like any other noun phrase, has morphological case on the head noun and on specifiers and modifiers, in this case on the pronominal determiner. In (11a) the case is nominative, the case of the subject of finite clauses. The case on the APC in (11b) is partitive, one of the object cases in Finnish. The possessor case in Finnish is Genitive. In possessives with a pronominal possessor, Standard Finnish has possessor agreement in the noun phrase, realized as a suffix on the noun; see (12a,b). The pronoun has Genitive case and can be null except in the third person (see Brattico & Huhmarniemi 2015). With a lexical possessor, as in (12c), there is no agreement (the third person suffix is neutral for number).

(12) Finnish

- a. (Meidän) mielipiteitä-mme ei oteta vakavasti.  
we.GEN opinions.PART-1PL not take.PASS seriously  
'Our opinions are not taken seriously.'

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<sup>4</sup>There is much dialectal variation in Swedish, and Mainland Scandinavian generally, regarding the possessive construction (Holmberg & Sandström 1996; Delsing 1998; Julien 2005).

<sup>5</sup>The APC does not form a constituent together with the possessive pronoun in this case; (i) is ill formed.

(i) Swedish

- \*Dom skrattar åt vi/oss barn våra åsikter.  
they laugh at we/us children our opinions

- b. Heidän mielipiteitä-nsä ei oteta vakavasti.  
 their.GEN opinions.PART-3 not take.PASS seriously  
 ‘Their opinions are not taken seriously.’
- c. Lapsien mielipiteitä(\*-nsä) ei oteta vakavasti.  
 children.GEN opinions-3 not take.PASS seriously  
 ‘(The) children’s opinions are not taken seriously.’

(13) shows that the APC can be a possessor, with Genitive marked on both the pronominal D and the NP. It also shows that the possessee head noun does not show possessor agreement, in that case (thanks to Balázs Surányi for drawing my attention to this interesting and intriguing fact). The APC possessor behaves like a lexical possessor, in spite of being headed by a pronoun.

- (13) Finnish  
 Meidän lapsien mielipiteitä(\*-mme) ei oteta vakavasti.  
 we.GEN children.GEN opinions-PART.1PL not take.PASS seriously  
 ‘We children, our opinions are not taken seriously.’

In colloquial Finnish (13) can alternatively mean ‘our children’s opinions are not taken seriously’. This is because colloquial Finnish does not make consistent use of the possessor agreement suffix. The Genitive pronoun can be interpreted as the determiner of an APC, but can also be interpreted as a possessor of the following noun, ‘our children’s opinions’. In Standard Finnish, where possessor agreement is obligatory, the meaning of ‘our children’s opinions’ would be expressed as in (14):

- (14) Finnish  
 meidän lapsie-mme mielipiteitä  
 we.GEN children-1PL opinions  
 ‘our children’s opinions’

What is interesting in the present context, though, is the comparison of Standard Finnish (12a), (12c) and (13): The APC possessor does not trigger agreement, behaving in that sense like a lexical possessor, in spite of having a pronoun as head. It is not the case that the APC would not trigger agreement as determined by its pronominal head in other contexts, as in *We children are upset* or the Finnish example (11a); see Höhn (2017).

Even with a lexical possessor there is agreement on the noun if the possessor is outside the possessive construction. As argued by Brattico & Huhmarniemi

(2015), this is because the possessor binds a null pronoun within the possessive construction which triggers agreement. The APC possessor also triggers agreement on the noun under these conditions, for the same reason, I assume; see (15a,b).

(15) Finnish

- a. Lapset<sub>i</sub> kaipaavat [<sub>DP</sub> pro<sub>i</sub> ystäviä-nsä ]  
children miss-3PL friends-3PL  
'The children miss their friends.'
- b. Me lapset<sub>i</sub> kaipaamme [<sub>DP</sub> pro<sub>i</sub> ystäviä-mme ]  
we children miss-1PL friends-1PL  
'We children miss our friends.'

Consider Hungarian. This language is well known for having two possessive noun phrase constructions (Szabolcsi 1983; 1994). Both are constructed with a definite article. In one, the possessor is marked nominative and follows the definite article, in the other, the possessor is marked dative and precedes the definite article. In both constructions the noun features a possessor suffix, agreeing with the possessor in person and number when the possessor is a pronoun. When the possessor is a lexical DP, there is no agreement. Even then (and unlike Finnish), the possessee noun has a suffix encoding possession. When the possessor is a pronoun, but not when it is a lexical DP, the possessive suffix is accompanied by a suffix agreeing with the pronominal possessor.<sup>6</sup>

(16) Hungarian

- a. a ti vélemény-e-tek  
the you opinion-POSS-2PL  
'your opinion'
- b. nektek a vélemény-e-tek  
you.DAT the opinion-POSS-2PL  
'your opinion'
- c. a gyerekek vélemény-e  
the children opinion-POSS  
'the children's opinion'

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<sup>6</sup>Between the possessive suffix and the agreement suffix there is a number suffix denoting the number of the possessee NP. This suffix is null when the NP is singular, hence not indicated in these examples.

- d. a   gyerekeknek a   vélemény-e  
       the children.DAT the opinion-POSS  
       ‘the children’s opinion’

The APC does not appear in the morphologically unmarked NOM possessive construction, but may appear, somewhat marginally, in the dative possessive construction, with dative-marking both on the pronoun and the nominal (the APC-possessor is focused with the help of the focus marker *csak* ‘only’ in (17) in order to make sure that it is parsed as a constituent).<sup>7</sup>

(17) Hungarian

- a. \* *csak a ti gyerekek véleménye(-tek) befolyásolja a*  
       only the you.NOM children.NOM opinion.POSS-2PL influences the  
       *döntést.*  
       decision.ACC
- b. ? *csak nektek gyerekeknek a véleménye(\*-tek) befolyásolja a*  
       only you.DAT children.DAT the opinion.POSS-2PL influences the  
       *döntésünket.*  
       decision.ACC  
       ‘It’s only you children’s opinion that influences our decision.’

However, as in Finnish, the APC-possessor does not trigger possessor agreement; see (17b). It behaves in this respect like a lexical DP.

Comparison of the four languages English, Swedish, Finnish, and Hungarian, limited though it is as a dataset, suggests the following generalization:

- (18) An APC can be a possessor argument if and only if the possessor is assigned morphological case.

Hungarian is a particularly interesting case, as the possessor can be an APC but only when it is dative-marked. On the assumption that the nominative ungrammatical option in (17a) is a no-case option, this fact falls under the generalization (18). This idea will be developed in §3.<sup>8</sup>

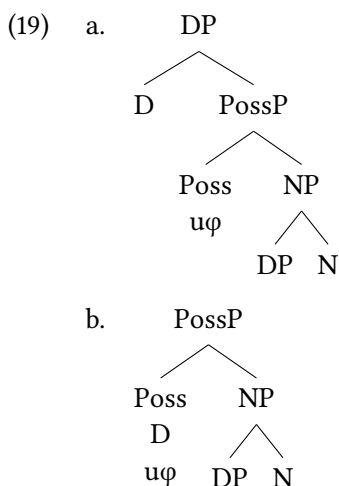
<sup>7</sup>I’m much indebted to Balázs Surányi for data and discussion.

<sup>8</sup>In Icelandic, too, the possessor DP may be an APC, with Genitive case on the pronoun and the lexical noun (Halldór Sigurðsson, p.c.), and likewise in Polish (Gosia Krzek, p.c.). They are thus consistent with generalization (18). However, the possessor is postnominal in both languages, which complicates matters, and I will therefore put them aside.

### 3 Deriving possessive constructions

#### 3.1 The structure of possessive constructions

I assume that nominal possessive constructions in the languages discussed here, English, Swedish, Finnish and Hungarian, have the structure (19a) (cf. Cardinaletti 1998; Delsing 1998; Julien 2005; Alexiadou et al. 2007). An alternative analysis is (19b).



In Hungarian, D in possessive constructions is spelled out as a definite article, while Poss is realized as a suffix on N. The structure (19a) is therefore quite clearly preferable to (19b) in Hungarian. In Finnish there is no overt article in possessive constructions, and in fact no overt articles anywhere (in Standard Finnish, which is the variety discussed here). This may imply that the category D is missing in Finnish (see Bošković 2009). In English and Swedish the possessive pronoun and the definite article have complementary distribution (*\*the my home*). While this could be taken as evidence that the structure (19b) is right, there are other reasons for thinking that (21a) is closer to the mark.<sup>9</sup> I will not include D as a feature of Poss in what follows, but the theory and analyses developed here do not depend on this assumption.

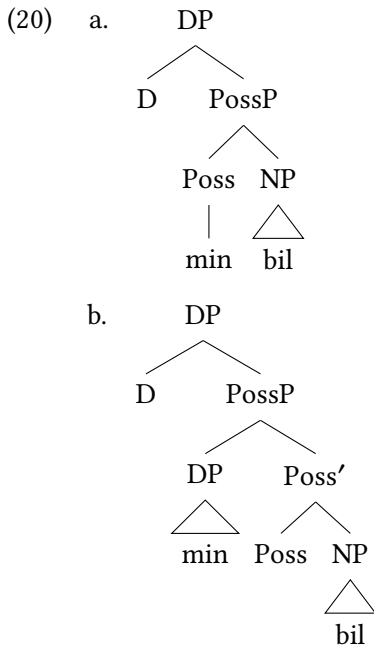
The complement of Poss is more precisely a Number Phrase, dominating Num and NP (as it may contain a numeral or quantifier: *John's three cats*). I will ignore

<sup>9</sup>See the references just cited. One reason not mentioned in these references is that the pre-nominal possessive construction can be a predicate, as in *Mary is John's teacher*, where *John's teacher* can be interpreted as a set of which Mary is a member, i.e. it can be interpreted as a nominal predicate, which entails that it is smaller than DP (Holmberg 1993).



this additional structure. The possessor argument being a DP is also a simplification, to be modified below. (19) is not a representation of linear order. I assume the linear order is ultimately determined by the Linear Correspondence Axiom (Kayne 1994), which is to say, the linear order will be determined by the structural relations, particularly c-command relations, at spell-out. The construction will undergo the operation Agree (Chomsky 2001), which assigns feature values to the  $u\phi$ -features of Poss and assigns a Case value to the possessor DP.

Consider first Swedish. Delsing (1993; 1998) argues that the possessor pronoun in Swedish is a Poss head, not a DP. The structure of, for example *min bil* ‘my car’ would be roughly (20a), not (20b) (he assumes D and Poss are separate heads).



He presents a number of arguments in favour of this idea. Specifically, he demonstrates that while pronominal arguments in other contexts can be somewhat complex in Swedish, possessor pronouns cannot. Consider, for example, (21) (based on Delsing 1998).

(21) Swedish

- a. [Hela han] var täckt av lera  
whole he was covered of mud  
'He was all covered in mud.'
- b. \* [Hela hans] kropp var täckt av lera.  
whole his body was covered of mud

The structure of the subject in (21a), I assume, is roughly (22), with a null D. The pronoun is, in this case, a noun modified by the adjectival quantifier *hel* 'whole'.<sup>10</sup>

(22) [<sub>DP</sub> D [<sub>NP</sub> hela [<sub>NP</sub> han ]]]

If the pronominal possessor were a DP, (21b) would arguably be predicted to be well-formed. If, on the other hand, the pronominal possessor is a D-type head, it is predicted that it would not be modifiable by an adjective.<sup>11</sup>

<sup>10</sup>The string in (21b) is grammatical with the analysis (i).

- (i) Swedish  
Hela [ hans kropp ] var täckt av lera.  
whole his body was covered in mud

More evidence that the parse [hela hans] kropp is ruled out is provided by sentence fragments:

- (ii) Swedish  
Vems kropp var täckt av lera?  
'Whose body was covered in mud?\*' Hela hans kropp  
whole his body

<sup>11</sup>Julien (2005: 227–230) provides the following example to counter Delsing’s (1998) claim that prenominal possessor pronouns are heads in Swedish:

- (i) Swedish  
[ vårt alla ]-s ansvar  
our all -'s responsibility

In this case the possessor pronoun is embedded as specifier of a quantifier in a QP, with arguably no relation to the NP *ansvar*. Interestingly the pronoun has the Genitive form, rather than the (perhaps) more expected default form (which would be nominative *vi* in Swedish): *?vi allas ansvar*.

The following is a piece of evidence of the same kind, but for English.<sup>12</sup>

- (23) a. I want to hear an answer from the real you.  
b. \*I want to hear the real your answer.

In English, too, a pronoun can function as a noun in restricted circumstances. The structure of *the real you* is, I assume, roughly (24):

- (24) [DP the [NP real [NP you ]]]

If the pronominal possessive pronoun were a DP, this would (arguably) predict that (23b) would be good, on a par with (23a).

Since the pronoun in (21) and (23) exceptionally functions as a noun, there may be other reasons why the counterpart possessive construction is not good; it could be that the Genitive case cannot “trickle down” as far as to the head of NP. A more convincing piece of evidence that the possessor pronoun in English and Swedish is not a DP is provided by the observation that it cannot be an APC.

- (25) Swedish  
\*[ våra barn ] åsikter  
our children opinions  
Intended: ‘we childrens opinions’

- (26) \*our children opinions

### 3.2 Coordination of possessor pronouns

The English coordination facts mentioned in the introduction provide another argument that possessor pronouns are not DPs, in English. Pronouns that are subjects or objects can be coordinated, as in (27), but possessor pronouns generally cannot, as seen in (28, 29) (Quirk et al. 1972: 601–602):

<sup>12</sup>An anonymous referee points out that (i), although quite marginal, is still clearly better than (23b), as we would expect.

(i) ? the real you’s answer

A related construction, interesting in this context, is discussed by Tsoulas & Woods (2019).

(ii) Norman is both of our friends.

This looks like a clear counterexample to the claim made in the text that the English Genitive pronoun is a head taking the possessee NP as complement. I will put this issue aside in this paper, though.

(27) [ You and I ] are friends. They didn't see [ us or them ].

(28) a. ?? my and your (friends)

b. ?? your and my

c. ?? my and his

d. ? his and my

e. ?? your and his

f. ? his and your

g. ?? my and her

h. ?? her and my

i. ?? your and her

j. ?? her and your

k. his and her

l. ?? her and his

(29) a. ?? our and your

b. ?? your and our

c. ?? our and their

d. ?? their and our

e. ?? your and their

f. ?? their and your

This is not the full paradigm, as I have not included coordination of a singular and a plural pronoun, nor any coordination with *its*. However, even including them, the generalization is that all coordinations of two possessor pronouns are degraded, although less with those that have *his* as the first conjunct (particularly *his and her*). Assigning “??” to the rest of them is an idealisation. Speakers tend to agree that they are degraded, but to somewhat varying degrees. Putting that case of *his* aside for the moment, if the pronouns are Poss heads in a structure (20a), not DPs in a structure (20b), and in particular if they are derived by

agreement, as will be proposed in the next section, that could explain why you cannot coordinate them.<sup>13,14</sup>

Perhaps surprisingly, in view of the discussion above, Swedish allows coordination of possessor pronouns. (30) only lists three coordinations, but in fact any combination of two pronouns is good.<sup>15</sup>

(30) Swedish

- a. mina och dina vänner  
mine and your friends
- b. dina och hennes vänner  
yours and her friends
- c. våra och deras vänner  
ours and your friends

Note the glosses. Differently from English, the possessor pronouns in Swedish have only one form where English has a weak and a strong (independent) form: *my* vs. *mine*, *your* vs. *yours*, etc. The claim is that the Swedish coordinated pronouns in (30) are coordinated PossPs each with a pronominal head and an NP, as shown in (31), where the NP is elided/null in the first conjunct. I assume the coordination as a whole is a Conjunction phrase (CoP), as in Johannessen (1998), but this is not crucial.

(31) [CoP [PossP mina [NP vänner]] [och [PossP dina [NP vänner]]]]

<sup>13</sup>The assumption that possessive pronouns are heads does not, on its own, explain why they cannot be coordinated, since there is (at least apparently) coordination of some functional heads: *if and when (the situation changes)*, *She both can and will contest the decision*.

<sup>14</sup>Cardinaletti (1998) discusses coordination of pronouns in Italian, and notes that while post-nominal possessor pronouns can be coordinated, pronominal ones cannot. Her analysis of the pronominal ones is not too dissimilar from the one articulated here for English and Swedish: She argues that they are clitics, which is what I will argue below holds true of the English and Swedish possessor pronouns, albeit in the context of a theory (Roberts 2010a) where the derivation of pronominal clitics is different from that in Cardinaletti (1998). As discussed by Cardinaletti & Starke (1999), it is a criterial property of weak and clitic pronouns that they cannot be coordinated (cf. Kayne 1975; Holmberg 1986: 228–233). Thus, if the English possessive pronouns are weak or clitic pronouns we expect them not to be coordinatable. However, it is not the case that the extant theories actually explain why weak and clitic pronouns cannot be coordinated.

<sup>15</sup>I am indebted to Tom Swallow, who conducted a questionnaire-based experiment comparing coordination of possessive pronouns in English, Swedish, and Danish as part of his BA degree programme at Newcastle University in 2015.

Alternatively the second NP can be deleted, giving (32):

- (32) Swedish  
       mina vänner och dina  
       my friends and yours

Many speakers (although not all) agree that the English coordinations in (33) are better than the ones in (28) and (29), as we would expect, given that they can be analysed as coordination of two PossPs. The structure of, for example, *mine and your friends* would be roughly (34).

- (33) a. mine and your friends  
       b. yours and his friends  
       c. hers and his friends  
       d. ours and their friends  
       e. theirs and your friends

- (34) [CoP [PossP mine [NP friends]] [and [PossP your [NP friends]]]]

Now we can understand why *his* is an exception among the possessor pronouns; see (28): *his* is the only possessor pronoun which has an identical strong and weak form.<sup>16</sup> We can therefore assume that the structure of, for example *his and her friends* is roughly (35), a coordination of two PossPs.

- (35) [CoP [PossP his [NP friends]] [and [PossP her [NP friends]]]]

Just as in Swedish, an alternative to *his and her friends* is *his friends and hers*, with the same structure (35), except that the second NP is deleted/null instead of the first one.<sup>17</sup>

Coordination of possessive pronouns in English is discussed in Payne (2011). Payne notes first that Quirk et al. (1972) classifies them as ungrammatical. In a

<sup>16</sup>The pronoun *its* also does not have a distinct weak and strong form. However, this is because it does not have a strong form: *I like my food and the cat likes his/\*its*. Interestingly, this is as predicted by Cardinaletti (1998) and Cardinaletti & Starke (1999): Strong pronouns can only have human reference.

<sup>17</sup>One question that remains unanswered in the present work is why it is that coordination of possessive pronouns is not ruled out altogether and uniformly, by English speakers. It is possible that coordinations like *my and your friends* can be analysed, at least by some speakers, as coordination of two DPs: [<sub>DP</sub> my friends] and [<sub>DP</sub> your friends], with exceptional deletion of the NP in the first conjunct; exceptional because a null NP normally requires the strong form pronoun *mine*. I leave this matter for future research.

search of the British National Corpus he finds 12 examples of coordinated possessive pronouns, five of which are *his and her*. He takes this as evidence that coordination of possessive pronouns is not ungrammatical, and he proceeds to propose a syntactic analysis for them. In the spring of 2017, I did a search of coordinated possessive pronouns in a number of English corpora together with a group of students as part of an advanced syntax course at Newcastle University. Our findings were consistent with Payne's: a small quantity of examples were found in every corpus, proportional to the size of the corpus. For example the Corpus of Contemporary American English (COCA, then 520,000,000 words) contained 15 tokens of *your and my*, 13 of which were in the relevant context: *your and my* NP. We then did a comparison with a Swedish corpus, using the corpus search engine Korp, accessing a range of Swedish corpora. We picked the corpus *Tidningstexter* 'Newspaper texts' as it was roughly the same size as COCA (just over 592,000,000 words) and a similar genre, contemporary written sources. There were 235 tokens of *din och min* 'your/yours and my/mine', 166 of which were relevant. This gives a clear indication of how many examples you expect to find of this construction in a language where it is grammatical: more than 12 times as many as in English. We can only conclude that it is a marginal construction, at best, in English, unlike, for example, Swedish. This is what needs to be explained.

### 3.3 Agree in the possessive construction

Delsing (1998) studiously avoids taking a stand on what the source of the pronominal Poss head is. Following standard assumptions within phrase structure theory in general and Roberts (2010a) in particular, I will assume that a head cannot itself be an argument. It can, however, agree with an argument, which is what happens in the PossP. The argument agreed with may itself be null, as for example in the case of a null subject in agreement with T in languages with rich subject–verb agreement (Biberauer et al. 2010: *passim*). This is also the case in the PossP. I take the structure of the PossP *our home* to be (36), at the point when Poss is merged with NP.



The structure is, again, somewhat simplified. The NP that Poss merges with is more accurately a Num(ber)P, as mentioned earlier. The possessor argument, in this case, a bare pronoun, which I take, for now, to be made up of just the valued  $\phi$ -features [1,PL]. I shall refer to it as  $\phi$ P, a maximal category (though not actually a phrase; see footnote 19). The  $\phi$ P is assigned a role by N; I refer to it loosely as a possessor role.<sup>18</sup>

The head of PossP has the features [Poss,  $u\phi$ ] and an EPP feature. The presence of  $u\phi$ -features in Poss in English is a new hypothesis, to be tested here. It is less controversial in the case of Finnish and Hungarian, as will be discussed below.

Due to its  $u\phi$ -features, Poss will probe its complement NP seeking a set of valued  $\phi$ -features. In the case of (36), it will find the  $\phi$ -feature set [1PL] and copy its feature values. As a result, and since the  $\phi$ P in (36) has no lexical content, after valuation the feature values of the pronoun will be a proper subset of the feature values of Poss.

Following Roberts (2010a,b), this means that the  $\phi$ P is formally a copy of Poss. The possessor pronoun and Poss form a chain of two copies, equivalent, in relevant respects, to a chain derived by movement, although in this case the chain is derived by Agree alone.<sup>19</sup> Roberts (2010a,b) refers to this as incorporation: The  $\phi$ P is incorporated in the head Poss. As is generally the case in chains, only one copy is spelled out, typically the higher copy. So the copy that is “deleted”, i.e.

<sup>18</sup>This includes any role that can be assigned by a noun, including agent or theme (*their discovery of a new planet, my release from prison*, etc.). Alexiadou et al. (2007) postulate a head within what is called NP here, distinct from N, which introduces a possessor argument. They call this head Poss, not to be confused with the head Poss in the present model. Such a head could be assumed here, but would potentially increase the number of parameters more than is needed to account for the observations here, and will therefore not be assumed.

<sup>19</sup>The fact that the lower copy is a maximal category while the higher copy is a head is no obstacle. The lower copy, the pronoun, is in fact a minimal-maximal category (Chomsky 1995: 249). A category  $\alpha$  is minimal if it dominates no category distinct from  $\alpha$ , and maximal if it is not immediately dominated by a category non-distinct from  $\alpha$  (Roberts 2010a: 54–56). The pronoun meets both conditions. All that matters for incorporation in Roberts’s sense is the feature content.



not spelled out, in this case is the  $\phi$ P. The resulting structure is (37). A morphological rule spells out the feature complex [Poss,D,1PL] as *our*. Note that there is no Case-feature involved; incorporation ensures that the resulting chain is visible to the morphological rules spelling out the pronoun (essentially as predicted by Baker 1988: 117–119).

- (37) [<sub>POSSP</sub> [Poss, D, 1PL] [<sub>NP</sub> [~~1PL~~] home]]] → *our home*

Consider Finnish. The counterpart of *our home* is (38):

- (38) Finnish  
(meidän) koti-mme  
our home-1PL

The underlying structure is, again, (36). Consider first the option with no spelled out pronoun. As in English, [<sub>u</sub> $\phi$ ] probes and finds the valued  $\phi$ -features of the possessor pronoun. The values are copied. Since the pronoun is now a copy of the Poss head, it will be deleted, i.e. not spelled out in PF. The features are spelled out on Poss. The head Poss itself is spelled out as a suffix on the noun. While it may be attractive to think that the suffixation is a result of head movement of the noun to Poss (in particular as Finnish has head movement in other constructions; see Holmberg et al. 1993), the fact that adjectives and quantifiers precede the noun militates against such an analysis.

- (39) Finnish  
(meidän) uusi kotimme  
'our new home'

I therefore assume some form of affix lowering from Poss to N to derive the suffixed noun form.

As (38) and (39) show, the pronoun can optionally be spelled out, with Genitive Case. I assume the Genitive Case is assigned by N to its specifier, the possessor (more on this below). I assume the optionality of spell-out is because the pronoun has a [<sub>u</sub>Case] feature optionally. If it does not, it will be deleted after Agree, as a copy of Poss. If it does, it will be spelled out, as the Case feature will rule out copy deletion (assuming that the Poss does not have a Genitive feature). Also, if it is not deleted, the EPP will trigger movement of it from NP to the spec of PossP, shown by the fact that it precedes the adjective, an adjunct to NP, in (39). The structure of (39) will be (40), if the Case option is taken.

- (40) [<sub>POSSP</sub> [1PL, GEN] [<sub>POSS'</sub> [Poss, 1PL] [ [<sub>AP</sub> uusi] [<sub>NP</sub> [~~1PL~~, GEN] koti ]]]]

If the possessor is a lexical DP, there is no agreement, no copying of  $\phi$ -features between Poss and the possessor, neither in English nor in Finnish. In English this results in the spell-out of the  $\phi$ -features of Poss as -s, the default spell-out. In Finnish it is spelled out as absence of a possessor suffix and presence of Genitive morphological case on the possessor noun and its specifiers. Why is there no copying of  $\phi$ -features? An initially plausible hypothesis is that this is because a lexical DP does not have the  $\phi$ -feature that Poss wants, namely person, assuming that the third person of a lexical DP is = no person (cf. Harley & Ritter 2002; Nevins 2007 for discussion). Consideration of the possessor-APC indicates that this is not the reason, though. The possessor-APC, being headed by a D encoding 1PL or 2PL, has person, yet does not trigger agreement. If there was agreement between Poss and a lexical possessor, with or without APC, the result would look like (41a,b), following EPP-driven movement of the possessor argument to the spec of PossP. The structure of (41b) would be (41c).<sup>20</sup>

- (41) a. \* the girl her car  
 b. \* we children our home  
 c. [PossP [we children] [Poss' our [NP <we children> [N' home]]]]

This construction is in fact found in late 16th and 17th century English, the so called “his-Genitive”.

- (42) Allen (2002: ex. 5)  
 and then is there good vse of Pallas her Glasse  
 ‘and then there is good use made of Pallas’ mirror’

As noted by Allen (2002), a construction like it is found in some other Germanic languages as well: Norwegian, Afrikaans, Dutch and German. Note, however, that in those languages the pronoun which, by hypothesis, spells out Poss is a reflexive pronoun which does not agree with the possessor. Even though the

<sup>20</sup>The well-formed expression (i) contains the string *we children our home*. It does not, however, form a constituent. Instead, *we children* is a hanging topic. Example (ii) shows the effect when the string is analysed as a constituent.

- (i) We/us children, our home is important to us.  
 (ii) \* They didn’t like we/us children our home.

pronoun in 16th-17th century English did agree with the possessor, as shown by Allen (2002), it seems that this is a marked phenomenon.<sup>21</sup>

In Finnish, the absence of agreement between Poss and the possessor shows in the absence of an agreement suffix on the possessee noun.

(43) Finnish

- a. lapsien            koti(\*-nsa)  
children.GEN home-3
- b. meidän lapsien       koti(\*-mme)  
we.GEN children.GEN home-1PL

We also need to account for another difference between English and Finnish visible when comparing (43b) and (44) (cf. (2a)).

(44) \* our children home

The APC can have a Genitive head in Finnish but not in English. As discussed in §2, Swedish patterns like English in this respect, while Hungarian patterns like Finnish in the case when the possessor has Dative Case.

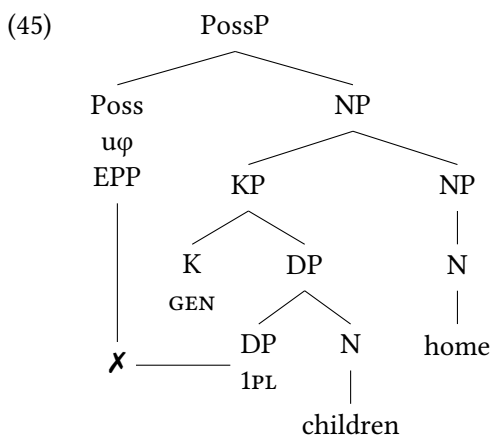
I propose that what blocks agreement between Poss and the lexical possessor in English and Finnish is Genitive Case. Just like oblique Case assigned to a subject blocks agreement between T and the subject, as seen very clearly in Icelandic (Thráinsson 2007), but also in Finnish (Laitinen & Vilkuna 1993; Holmberg 2010: 209–210), Genitive Case assigned to the possessor blocks agreement between Poss and the possessor. I propose, furthermore, that the formal mechanism blocking the agreement is a Case head K at the head of the possessor argument, intervening between Poss and D.

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<sup>21</sup>The following sentence, found on the web (thanks to Marit Julien for data and discussion) shows what a Genitive APC looks like in Norwegian, when employing the “his-Genitive”.

- (i) Norwegian  
Tror nok både hennes eget og oss barn sine liv ville vært bedre.  
think PTCL both her own and us children their.REFL lives would.have been better  
‘I do think both her own life and the lives of us children would have been better.’

The pronoun realizing Poss in the Norwegian his-Genitive is a reflexive which agrees with the possessee NP but not with the possessor, at least not directly; if the possessor is a pronoun it will agree with the possessee NP, hence indirectly with the reflexive.



I assume KP is assigned Genitive by N, along with the possessor theta role. Poss probes, but K blocks access to the  $\phi$ -features of D, with the result that  $[u\phi]$  of Poss is spelled out as *-s*.<sup>22</sup> The EPP steps into action and triggers movement of KP to merge again with PossP, deriving *we children's home* or *us children's home*, depending on which form of the pronoun is the default (which varies across dialects and idiolects).

One crucial difference between English and Finnish is that Finnish has morphological Case on nouns and specifiers of nouns. As in English, N assigns Genitive Case to KP. In Finnish this Case trickles down to D, with its person and number feature, and to N. As in English, Poss probes, but access to the  $\phi$ -features of D is blocked by K. The result is that the  $[u\phi]$ -features of Poss are ignored at both interfaces, LF and PF (there is no “crash”; see Preminger 2014). The EPP triggers movement and remerge of the KP with PossP. The valued Case-features of the noun and the possessor features are spelled out as Genitive.

If this is on the right track, then the pronominal form *meidän* ‘our’ in Finnish has two derivations: (a) The Genitive Case can be assigned directly by the possessee N to a bare pronoun. In that case Poss can agree with the Genitive pronoun, or (b) it can be assigned by N to a KP containing a possessive pronoun along with a lexical NP, and trickle down from KP to the pronoun. In that case there is no agreement between Poss and the head of the possessor, seen most clearly in the

<sup>22</sup> A slightly different formal account is that the probing  $[u\phi]$  finds the Case-feature [GEN] of K, and copies this feature. Under this analysis, the *-s* would be a morphological realization of Genitive, as in traditional grammatical description.

case of the APC possessor. In English there is one derivation only: the possessive pronoun is the spellout of agreement between Poss and the possessor.<sup>23</sup>

### 3.4 A note on Hungarian

In §2 we saw that Hungarian shows essentially the same pattern as Finnish, particularly in the case where the possessor has dative case. Like Finnish, Hungarian has possessor agreement, spelled out as a suffix on the possessee noun, when the possessor is a pronoun, not when it is a lexical DP.

#### (46) Hungarian

- a. *nektek a vélemény-e-tek*  
you.DAT the opinion-POSS-2PL  
'your opinion'
- b. *a gyerekeknek a vélemény-e*  
the children.DAT the opinion-POSS  
'the children's opinion'

As in Finnish, the possessor can be an APC, but only when it has dative case. On the assumption that nominative case on the possessor, which is the other alternative in the Hungarian possessive construction, means no case, the Hungarian APC conforms with the generalization (18), repeated here:

- (47) An APC can be a possessor argument if and only if the possessor is assigned morphological case.

And just as in Finnish, when the possessor is an APC, there is no possessor agreement. The APC behaves like a lexical DP in spite of being headed by a pronoun.

<sup>23</sup>The difference between pronouns and lexical DPs in the way they agree with the Poss head in the possessive construction does not have an obvious analogue in subject agreement with T in the languages discussed here, but is found in some languages, including Irish and Welsh, where there is subject-verb agreement only with pronominal subjects. If we follow Roberts (2010a: 128–139) and analyse object clitics in Romance languages as the spell-out of agreement between *v* and the object, then there is a possible analogue to possessor-Poss agreement in the Romance varieties which do not allow clitic doubling, including French and varieties of Spanish and Italian. In those languages *v* agrees with the object, agreement realised as a pronominal clitic, only if the object is a pronoun. In other varieties there is, or can be, agreement also when the object is a lexical DP; they have so-called clitic doubling.

(48) Hungarian

?csak **nektek** **gyerekeknek** a véleménye(\*-tek) befolyásolja a  
only you.DAT children.DAT the opinion.POSS-2PL influences the  
döntésünket.  
decision.ACC

‘It’s only you children’s opinion that influences our decision.’

As in Finnish, as well as (although less conspicuously) in English and Swedish, this is due to conditions on Agree between Poss and the possessor argument. In English an effect of this is that possessor pronouns cannot be coordinated. In Finnish and Hungarian an effect is absence of a possessor agreement suffix. For reasons of space I will not discuss the details of the Hungarian possessive construction here.

## 4 Conclusions

Probably the most controversial claim in this paper is that the possessor pronoun in English (*my*, *your*, *our*, etc.) is the spell-out of a possessive D-head derived by Agree with an abstract possessor DP within NP, within the theory of agreement articulated in Roberts (2010a,b). Delsing (1998) argued that the possessive pronoun in Swedish is a head, not an XP, but left open what the relation is between this head and the possessor argument within NP. The relation is Agree, valuation of unvalued  $\phi$ -features. As in certain other cases of Agree, only pronominal arguments can be goals.

Possessor agreement is familiar from languages which exhibit an affix on the possessee noun agreeing with the possessor. Two such languages are discussed here, Finnish and Hungarian. Essentially the same phenomenon can be seen in these languages: only pronominal possessors trigger agreement, that is  $u\phi$ -feature valuation, on a probing head.

The theory can explain why coordination of possessive pronouns (*my and your*, *her and his*, etc.) are typically judged as degraded in English. Possessive pronouns in English are realizations of a functional head. Coordination of functional heads is a highly restricted phenomenon (but not unheard of; for instance auxiliaries in English can be coordinated). However, in this case the coordination of pronouns would have to be the result of Agree between Poss, containing a set of  $u\phi$ -features, and a possessor CoP in NP; very likely not an operation provided for by UG.

In Swedish coordination of possessive pronouns (*min och din* ‘my and your’, etc.) is perfectly grammatical. However, this is because the Swedish possessive

pronouns can all take a null NP complement, unlike the English “weak form” pronouns (there is no distinction between *my* and *mine* in Swedish). The coordinated pronouns can therefore always be analysed as coordination of PossPs, in Swedish. This also explains why *his* is the English pronoun which is most amenable to coordination as the first conjunct. This is because *his* is the one pronoun whose strong form is the same as the weak form.

Another fact that the theory can explain is why the adnominal pronoun construction (APC), for example *we children*, cannot have the head assigned Genitive case, in English or Swedish: *\*our children home*. Only Poss, the head of a possessive construction, can have that form. In Finnish the APC can have Genitive case and be possessor. Likewise in Hungarian the APC can be possessor provided it has Dative case. The APC does not trigger possessor agreement, though, in Finnish or Hungarian. That is to say, neither in English and Swedish on the one hand or Finnish and Hungarian on the other hand can Poss agree with the head of the APC; it is treated as a lexical, personless DP. By hypothesis, this is because it is assigned Genitive Case by N, taking the form of a head K, intervening and blocking Agree between Poss and the D of the Possessor. In Finnish and Hungarian, but not in English or Swedish, the Case assigned by N can trickle down to, and be spelled out on, the D and the N of the possessor, also when it is an APC, allowing it to function as a nominal argument with a Case-marked head.

Throughout the paper I have assumed that a bare possessive pronoun in English or Swedish consists of  $\varphi$ -features only. A more articulated analysis would include a null N or null root merged with the  $\varphi$ -feature set, as in Panagiotidis (2002), Elbourne (2008), Holmberg & Phimsawat (2017). This would complicate the condition on incorporation somewhat; we would need to postulate that the copy deletion operation does not see the null root. This would seem to be more of a technical than a substantive problem, though.

## Abbreviations

1	first person	GEN	genitive
2	second person	NOM	nominative
3	third person	PART	partitive
ACC	accusative	PASS	passive
APC	adnominal pronoun construction	PL	plural
		POSS	possessive
DAT	dative	PTCL	particle
EPP	extended projection principle	REFL	reflexive

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## Chapter 8

# Rethinking (un)agreement

Tarald Taraldsen

The labelling algorithm proposed by Chomsky (2013) has consequences overlapping with formal agreement and is taken as a starting point for developing a new analysis of sentences with plural DPs as subjects of verbs with 1PL or 2PL agreement in Spanish and some other languages.

### 1 Interpretable agreement features

In most languages, a finite verb with a plural DP as its subject must be in its 3PL form. The contrast in (1) exemplifies this for Italian:

- (1) Italian
- a. I giocatori vanno a Parigi.  
the players go-3PL to Paris
  - b. \*I giocatori andiamo a Parigi.  
the players go-1PL to Paris

The standard assumption is that this follows from (2):

- (2) a. Person and number features on a verbal functional head, e.g. I, are uninterpretable and unvalued.  
b. Hence, they must be valued under Agree with a DP.

But it is a priori conceivable that person and number features on I could be interpreted as imposing a semantic restriction on the applicability of the verbal predicate, e.g. *andiamo a Parigi* ‘go-1PL to Paris’ in (1b) might translate as in (3), where  $[x = 1PL]$  restricts the range of the  $\lambda$ -expression:

- (3)  $\lambda x [x = 1PL]. x$  go to Paris



If so, (1b) would translate as (4), which would be okay as long as *i giocatori* ‘the players’ happens to denote a set of individuals containing the speaker, since  $x = 1\text{PL}$  means that the argument of (3) must denote a set containing the speaker plus “others”:

- (4)  $\lambda x [x = 1\text{PL}]. x$  go to Paris (the players)

But nothing stops a 3rd person DP from denoting a set containing the speaker:

- (5) We are the champions.

So, taking person and number features on I to be interpretable as in (3) seems to yield the incorrect prediction that (1b) should be fine, and therefore one might be led back to (2). But this leaves open the question why UG should rule out the option illustrated by (3).

Also, Spanish (and some other languages) allows sentences like (1b):

- (6) Los jugadores vamos a París.  
the players go-1PL to Paris  
‘We players are going to Paris.’

The ‘we players’ part of the translation, i.e. the entailment that the set of individuals denoted by *los jugadores* ‘the players’ includes the speaker, would follow from construing the verbal predicate as in (3).

Sentences like (6) are sometimes classified descriptively as instances of “un-agreement”.

## 2 Labelling and agreement

A route to an analysis of the Spanish (6) based on (3) which still excludes the Italian (1b) is suggested by the approach to labelling taken by Chomsky (2013):

- (7) If the syntactic object X is built by merging Y and Z, the label of X is a set of features associated with the head closest to the root of X.

There are two cases to consider:

- (8) a.  $X = [A [_{\text{BP}} \dots B \dots]]$  (A is the head closest to the root)  
b.  $X = [[_{\text{AP}} \dots A \dots] [_{\text{BP}} \dots A \dots]]$  (no head is closest to the root)

Taking “closest” to be defined in terms of asymmetric c-command, (8a), where A is a head, is unproblematic. But in (8b), where two phrases have been merged, neither head c-commands the other. To provide a label for X in (8b), Chomsky (2013) proposes that the tie is resolved as in (9):

- (9) a. In (8b), the label of X is the set of features shared by the heads A and B.
- b. If A and B have no feature in common, (8b) is unlabelled, hence ill-formed.

Adding a Specifier to IP is an instance of (8b):

- (10)  $X = [ [DP \dots D \dots] [IP I \dots] ]$  (no head closest to the root)

Hence, an IP can have a subject DP analyzed as SpecIP just in case D and I share some feature F leading to:

- (11)  $X = [FP [DP \dots D_F \dots] [IP I_F \dots] ]$

Thus, labelling imposes a requirement similar to agreement as induced by (2) without invoking a distinction between interpretable and uninterpretable features.

This leads to the suggestion in (12) for (1b) vs. (6):

- (1) Italian
  - b. \*I     giocatori andiamo a Parigi.
  - the players   go-1PL   to Paris

- (6) Spanish
  - Los jugadores vamos a París.
  - the players   go-1PL to Paris
  - ‘We players are going to Paris.’

- (12) a. The Italian (1b) corresponds to an instance of (9) where D and I have no feature in common.
- b. The Spanish (6) corresponds to an instance of (9) where D and I have a feature F in common, as in (10).

But what is F?

### 3 The feature composition of 1/2PL pronouns and Agr

I will adopt the following partially uncontroversial general assumptions:

- (13) a. *We* means ‘the speaker plus others’
- b. *We* has two features, a person feature  $\pi$  and a feature #
- c. # introduces a set S of individuals (the ‘others’)
- d.  $\pi$  (= 1 or 2) adds the speaker or the hearer to S

How many values  $\pi$  should have and what exactly they are, will be immaterial to what follows. The value for  $\pi$  in 1st and 2nd person pronouns will simply be given as 1 (= the speaker) or 2 (= the hearer). (13d) may be thought of in the following way:  $\pi$  introduces the singleton set {1} or {2}, and # introduces another set S of individuals, and when  $\pi$  and # co-occur, the union of the two sets is formed and used as the restriction on x as in (3). (In §4, I suggest that # does not occur in singular 1/2 pronouns, and in this case,  $\pi$  alone determines the restriction on x.)

To this I add:

- (14) 1PL and 2PL verbal inflections (on I) are composed just like *we* and *you*, i.e. have the same two features  $\pi$  and #, both interpretable as in (3) above.

The link to labelling provided by (7) suggests that the Spanish (6) is grammatical because of (15):

- (6) Los jugadores vamos a París.  
       the players    go-1PL to Paris  
       ‘We players are going to Paris.’

- (15) The Spanish (6) corresponds to an instance of (9) where D and I have a feature F in common, as in (10).

Taking a DP like *los jugadores* ‘the players’ to have the feature #, but not a  $\pi$  feature, we then have:

- (16) (6) = [<sub>#P</sub> [<sub>DP</sub> ... D<sub>#</sub> ... ] [<sub>IP</sub> I<sub>#</sub> ... ]]

Correspondingly, we can exclude the Italian (1b) via (17):

- (1) b. \*I    giocatori andiamo a Parigi.  
           the players    go-1PL    to Paris

- (17) In Italian,  $\pi$  and # associated with verbal inflection behave as a unit with respect to labelling.

That is, the label of X = (1b) might be the feature complex consisting of both  $\pi$  and #, but not only #:

- (18) a. \* (1b) = [ $\{\pi\# \}$ P [DP ... D# ... ] [IP I $\{\pi,\# \}$  ... ]]  
 b. \* (1b) = [ $\#$ P [DP ... D# ... ] [IP I $\{\pi,\# \}$  ... ]]

But since the DP *i giocatori* ‘the players’ does not have the person feature  $\pi$ , D does not share  $\{\pi, \#\}$  with I in (18a), and so the required labelling is disallowed.

## 4 Plural vs. singular

The Spanish (6) has no singular counterpart:

- (6) Los jugadores vamos a París.  
 the players go-1PL to Paris  
 ‘We players are going to Paris.’

- (19) \* El jugador voy a París.  
 the player go-1SG to Paris

So, what is wrong with (20)?:

- (20) (19) = [ $\#$ P [DP *el# jugador* ] [IP voy+ I $\#$  a París ]]

One might adopt (21) as an axiom:

- (21) The feature # only co-occurs with  $\pi$  in the plural forms of pronouns and verbal inflections.

The singular interpretation of *yo* ‘I’ and *tú* ‘you (sg.)’ then follows from  $\pi = 1$  or 2 by itself only denoting a single individual.

But one might also decide to take ‘others’ seriously in ‘we = the speaker plus others’, restricting the # combining with  $\pi$  to denote sets not containing the speaker:

- (22) In pronouns, # cannot introduce a set containing the speaker or the hearer.





That is:

- (26) In combination with  $\pi$  ( $= 1/2$ ), *otro(s)* reflects the presence of # introducing a set containing only individuals ‘other than the speaker/hearer’.

Then, the forms with *otro* in (25) are excluded the same way as (19):

- (19) \*El jugador voy a París.  
the player go-1SG to Paris

Again, the interaction between (22) and (13d) will force \**yootro* and \**túotro* to denote a plurality, and we may assume that this is only possible with the plural pronouns *nos* ‘we, us’ and *vos* ‘you (pl.)’:

- (13) c. # introduces a set S of individuals (the ‘others’)  
d.  $\pi$  ( $= 1$  or  $2$ ) adds the speaker or the hearer to S

Notice that this leads to the conclusion that singular 1st/2nd pronouns and inflections cannot have the feature #. So, (21) does hold, but for a reason:

- (21) The feature # only co-occurs with  $\pi$  in the plural forms of pronouns and verbal inflections.

As regards spell-out, I take it that 1st/2nd pronouns and verbal inflections take the plural form if and only if # is present in the structure.

## 6 DP-internal 1/2PL pronouns

Spanish also has:

- (27) a. *nosotros los jugadores*  
we the players  
‘we players’  
b. *vosotros los jugadores*  
you the players  
‘you players’

But these have no singular counterparts:

- (28) \*yo / tú el jugador  
I you.SG the player

Consider the labelling of X = (27a) taking the pronouns to be phrasal:

- (29) (27a) = [<sub>#P</sub> [ nos<sub>#</sub> otros ] [<sub>DP</sub> los<sub>#</sub> jugadores ]]

The labelling in (29) is legitimate for the same reason as the labelling of (6) in (30), since # can be used as a label independently of  $\pi$  in Spanish:

- (6) Los jugadores vamos a París.  
the players go-1PL to Paris  
'We players are going to Paris.'

- (30) (6) = [<sub>#P</sub> [<sub>DP</sub> los<sub>#</sub> jugadores] [<sub>IP</sub> vamos+I<sub>#</sub> a París]]

Consider now an attempt to label (28) as in (31), taking yo 'I' to be phrasal as well:

- (31) (28) = [<sub>#P</sub> [ yo ] [<sub>DP</sub> el<sub>#</sub> jugador ]]

(31) presupposes that # can co-occur with  $\pi$  in the singular 1st and 2nd person pronoun. But we have concluded that this is not the case:

- (21) The feature # only co-occurs with  $\pi$  in the plural forms of pronouns and verbal inflections.

Hence, merging yo (or tú) with a DP results in a structure that cannot be labelled. Italian cannot have forms like (27):

- (32) a. \*noi i giocatori  
we the players  
b. \*voi i giocatori  
you.PL the players

This is for the same reason that Italian does not allow (1b):

- (1) b. \*I giocatori andiamo a Parigi.  
the players go-1PL to Paris

The attempt to label (1b) as in (18a) fails because the D does not have the feature  $\pi$ , hence is not { $\pi$ , #}, while (18b) fails because of (17):

- (18) a. \* (1b) = [<sub>{π, #}</sub>P [DP ... D<sub>#</sub> ... ] [<sub>IP</sub> I<sub>{π, #}</sub> ... ]]  
 b. \* (1b) = [<sub>#</sub>P [DP ... D<sub>#</sub> ... ] [<sub>IP</sub> I<sub>{π, #}</sub> ... ]]

- (17) In Italian,  $\pi$  and # associated with verbal inflection behave as a unit with respect to labelling.

Correspondingly, the forms in (32) are excluded, if we generalize (17) to (33) as already suggested by (14):

- (33) In Italian,  $\pi$  and # associated with verbal inflection or a pronoun behave as a unit with respect to labelling.
- (34) a. \* (32a) = [<sub>{#, #}</sub>P [ *noi*<sub>{π, #}</sub> ] [<sub>DP</sub> *i*<sub>#</sub> *giocatori* ] ] (*noi* and D don't share  $\pi$ )  
 b. \* (32a) = [<sub>#</sub>P [ *noi*<sub>{π, #}</sub> ] [<sub>DP</sub> *i*<sub>#</sub> *giocatori* ] ] (because of (33))

This leaves open the question of how one is to analyze the Italian *noi/voi giocatori* 'we/you (pl.) players'. But if we adopt Höhn's (2016) idea that *noi* and *voi* sit in D here, there is no labelling problem, since D is a head merging with a phrase (NP) bringing us into scenario (8a) where A (here the pronoun) does not have to share any feature with B (here N). This line of analysis provides a link back to (33): if *noi* and *voi* can be heads, the two features  $\pi$  and # must bundle together on the same head, e.g. D, and this may explain why # cannot be used for labelling separately from  $\pi$ .

To exclude \**noi/voi i giocatori* 'we/you the players' vs. the Spanish *nosotros/vosotros los jugadores*, we must then say that the position above D filled by the pronoun in Spanish must be in SpecDP (deviating from Höhn's analysis) and can only be filled by a phrasal constituent, and if *noi*, *voi* (parsed as non-branching phrases) are merged in SpecDP, the outcome cannot be labelled. (As for \**io/tu giocatore* 'I/you player', it may be that D must be associated with a feature bundle containing #, which, as we have seen, cannot be part of a 1/2 sg pronoun.)

On this analysis, Spanish would differ from Italian by associating  $\pi$  and # with different heads. (Adherence to the labelling algorithm assumed in §2 then requires that # is higher than  $\pi$ .) If so, *nosotros* and *vosotros* are phrasal and cannot be in D, but can be in a Spec position above D. If D cannot be silent, this excludes \**nosotros/vosotros jugadores* 'we/you players' in Spanish.

## 7 Comparison with a different analysis

Höhn (2016) (who also refers to earlier work by Hurtado 1985 and Ackema & Neeleman 2013) offers a different account of the apparent case of "unagreement"

in the Spanish (6) by proposing that (6) is to be analyzed as (35a) with an unpronounced counterpart of the overt *nosotros* ‘we’ that appears in (35b):

- (6) Los jugadores vamos a París.  
       the players    go-1PL to Paris  
       ‘We players are going to Paris.’
- (35) a. [IP [<sub>PersP</sub> NOSOTROS [<sub>DP</sub> los jugadores ]] [IP vamos a París ]]  
       b. [IP [<sub>PersP</sub> nosotros [<sub>DP</sub> los jugadores ]] [IP vamos a París ]]  
               we                    the players            go-1PL to            París

Then, \*(19) correlates directly with \*(28):

- (19) \*El jugador voy a París.  
       the player go-1SG to Paris
- (28) \*yo / tú el jugador  
       I you.SG the player

And the Italian (1b) is ungrammatical because Italian does not allow (32a):

- (1) Italian  
       b. \*I giocatori andiamo a Parigi.  
               the players go-1PL to Paris
- (32) a. \*noi i giocatori  
               we the players

Taking the Spanish (6) to have the structure in (35a), Höhn concludes that unagreement is an illusion.

But Höhn has nothing to say about:

- (36) a. What excludes (28)?  
       b. What excludes (32a) in Italian?

The line of analysis followed here, however, has led to answers to the two questions in (36), based on the labelling algorithm in Chomsky (2013), with no recourse to agreement. My analysis also ties grammatical (19) to ungrammatical (28), like Höhn’s analysis, and relates grammatical (6) in Spanish to grammatical (27) and ungrammatical (1b) in Italian to ungrammatical (32a). This suggests that unagreement is an illusion because agreement also is an illusion (in the range of cases considered here).

## 8 A potential extension

Bosque & Moreno (2013) discuss a peculiar fact about interrogative infinitival clauses in Spanish. Like English, Spanish allows the fairly unexciting type of sentence exemplified in (37):

- (37) a. No sabemos cuando ir a París.  
           not know-1PL when go to Paris  
           ‘We don’t know when to go to Paris.’  
       b.  $\text{pro}_i$  no sabemos [<sub>CP</sub> cuando [<sub>IP</sub>  $\text{PRO}_i$  ir a París ]]

But unlike English and, apparently, most other languages, Spanish also has infinitival interrogatives like (38):

- (38) No sabemos quiénes ir a París.  
       not know-1PL which-PL go to Paris  
       ‘We don’t know which ones of us will go to Paris’

The ungrammatical English counterpart of (38) is supposed to be ungrammatical because the trace (or lower copy) of the *wh*-phrase is not in a case-marked position:

- (39) a. \* We don’t know [<sub>CP</sub> [<sub>whP</sub> which ones]<sub>i</sub> [<sub>IP</sub>  $t_i$  [<sub>IP</sub> to go to Paris ]]]  
       b. \* We don’t know [<sub>CP</sub> [<sub>whP</sub> which ones]<sub>i</sub> [<sub>IP</sub>  $\text{PRO}$  [<sub>IP</sub> to go  $t_i$  to Paris ]]]

In (39a), the trace is in the subject position of the infinitival clause. In (39b), it is in a lower position, e.g. SpecvP or the object position, but still presumably not case-marked. So, the question is how the Spanish (38) overcomes this problem.

Sentences like (38) have two properties in common with sentences like (6). The first has to do with the meaning of (38). The denotation of the matrix subject restricts the domain of *quiénes* ‘which ones’ as indicated by ‘which ones of us’ in the translation of (38). This holds even when *quiénes* is accompanied by an overt restriction as in (40):

- (40) No sabemos quiénes de los jugadores ir a París.  
       not know-1PL which-PL of the players go to Paris  
       ‘We don’t know which ones of the players will go to Paris.’

(40) entails that the speaker is one of the players.

This recalls the fact that (6) entails that the speaker is one of the players:

- (6) Los jugadores vamos a París.  
       the players    go-1PL to Paris  
       ‘We players are going to Paris.’

The second property is revealed by the contrast between (38) and (41), which is ungrammatical even though run-of-the mill infinitival interrogatives like (37a) allow the subject to be 1st/2nd SG:

- (41) \*No sé                quién ir    a París.  
       not know-1SG which one go to    Paris

This recalls the fact that (6) also has no singular counterpart:

- (19) \*El jugador voy    a París.  
       the player go-1SG to Paris

This suggests that the analysis of (38) should be assimilated to the analysis of (6), a link also suggested by Bosque and Moreno.

To capture the two properties of (38) just mentioned, we might begin by reanalyzing PRO as a covert counterpart of the “agreement” inflection on finite verbs, while continuing to require that the subject of the infinitival clause (in SpecIP) must be unpronounced. This is indicated by the strike-through in (42) proposed as a partial analysis of (37a):

- (42) no sabemos<sub>1PL</sub> [CP cuando<sub>i</sub> [IP  $\overline{\text{DP}}$  [IP ir-PRO<sub>1PL</sub> a París t<sub>i</sub> ]]]

I will also assume that PRO must have the same features as the inflection on the matrix verb, i.e.  $\pi$  (= 1) and #, as indicated by the subscripted 1PL in (42). For the infinitival IP to have a label, the unpronounced DP must then also have the feature  $\pi$  (= 1) in addition to # in a language like Italian or English. In Spanish, however, this need not be the case, since Spanish allows the # of 1/2 PL inflections and pronouns to be used as a label independently of the  $\pi$ .

In light of this, consider (43) (similar to (39a) as a representation of the Spanish (40):

- (43) no sabemos<sub>1PL</sub> [CP [whP quiénes de [DP los jugadores ] ] [IP  $\overline{\text{DP}}$  [IP ir-PRO<sub>1PL</sub> a París ]]]

The  $\overline{\text{DP}}$  in (43) is now to be taken as the of trace the DP *los jugadores* ‘the players’, which combines with *quiénes* ‘which ones’ only after movement to SpecCP, as in Sportiche (2005). Therefore, the labelling of the infinitival IP only depends on

the feature # of  $PRO_{1PL}$  being able to be used as a label independently of the  $\pi$ . Since Spanish allows this, (43) is fine as far as labelling is concerned for exactly the same reason (6) is.

Similarly, (41) is ungrammatical for the same reason as (19). The infinitival IP remains unlabelled in (44), because  $\pi$  does not combine with # in singular pronouns or inflections:

- (44) \* no sé<sub>1SG</sub> [CP [whP quién de [DP los jugadores]]] [IP  $\bar{D}P$  [IP ir- $PRO_{1SG}$  a París ]]]

The fact that (40) entails that the speaker is one of the players, follows from  $PRO_{1PL}$  making the predicate *ir a París* applicable to DP only if DP in (44) denotes a plurality including the speaker, i.e. for the same reason *los jugadores* ‘the players’ must denote a set containing the speaker in (6).

Finally, the case problem may be resolved if we take the covert DP in SpecIP to be case-marked in (42) and the following representations, where PRO acts as verbal inflection, effectively treating this covert DP as PRO itself has been treated in classical analyses of control infinitivals.

To exclude the English (45) along with (39a) and their equally ungrammatical counterparts in many other languages, e.g. Italian, we must now also assume that PRO has a  $\pi$  feature even when  $\pi$  does not have the value 1 or 2:

- (45) \* They don’t know [CP [whP which ones]<sub>i</sub> [IP t<sub>i</sub> [IP to go to Paris ]]]

Then, (45) is also excluded because no label can be provided for the infinitival IP in (45) in a language where # combining with  $\pi$  cannot be used for labelling independently of  $\pi$ .

The assumption that *PRO* can have a  $\pi \neq 1$  or 2 is based on the conjecture that *PRO* is like a reflexive pronoun in conjunction with the common assumption that reflexive pronouns such as Romance and Slavic 3rd person reflexives like *se/si* form a natural class with the 1st and 2nd person pronouns (*me/mi*, *te/ti*) to the exclusion of non-reflexive “3rd person” pronouns and determiners (no  $\pi$  in the analysis developed here).

Quite obviously, this is just a sketchy beginning of a story line that might bring (6) and (38) together, and it rests on extra assumptions in need of justification and refinement in addition to the hypotheses appealed to in the preceding sections. Even more importantly, it remains to be seen whether (6) and (38) cluster cross-linguistically as tightly as my proposal would predict.

## 9 A conclusion of sorts

Throughout, I have argued that a set of otherwise puzzling facts can be made sense of, building on the idea that the person and number features associated with verbal inflection are really interpretable as in (3). This represents a clear break with mainstream thinking about subject/verb agreement.

It remains to be seen whether agreement along the lines of (2) is still necessary for other cases of agreement such as adjective or participle agreement. But the fact that Chomsky's (2013) theory of labelling largely predicts the effects of (2) makes this unlikely.

Finally, I have led contrasts between Spanish and other languages back to an assumption about the relation between the two features  $\pi$  and # of pronouns and inflections: in Spanish, # can be used for labelling independently of  $\pi$ , but in Italian and most other languages this is not possible. A suggestion as to why Spanish and Italian behave differently in precisely this way has been offered at the end of §6, but it is not unlikely that there are better ways of understanding what exactly it means to say that the two features come prepackaged in Italian in a way they do not in Spanish.

## Abbreviations

1	first person	PL	plural
2	second person	SG	singular
3	third person		

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## Chapter 9

# Inflected intensifiers: The structure-dependence of parasitic agreement

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This article examines parasitic agreement in Dutch, that is, the appearance of an inflection whose existence is dependent on the presence of a “real” inflection. Specifically, an intensifying degree word (optionally) carries an inflection that is associated with a gradable attributive adjective. The article lays bare various properties of, and constraints on, the phenomenon of parasitic agreement. An important conclusion that follows from the analysis of parasitic agreement is that this phenomenon is structure dependent, just like the parasitic gap phenomenon. The structural configuration that is claimed to be at the basis of parasitic agreement is the Spec-head relationship.

## 1 Parasitism in human language

Research on parasitic gaps has made us familiar with the phenomenon of parasitism in syntax, that is the phenomenon that the presence of a symbol of type  $\alpha$  in a syntactic representation is dependent (i.e., parasitic) on the presence of another symbol of type  $\alpha$  in that same representation; see among others Ross (1967), Taraldsen (1981), Chomsky (1982), and Engdahl (1983). Example (1) is an illustration of the parasitic gap phenomenon:

- (1)  $[_{CP} \text{ Which articles did } [_{TP} \text{ John } [_{VP} \text{ file } e_{RG}] \text{ [without reading } e_{PG}] ] ] ]?$

The gap ( $e_{PG}$ ) in the adjunct clause depends on the existence of another gap (the “real” gap:  $e_{RG}$ ) in the main clause, sharing with it the direct object wh-phrase *which articles*. If the object noun phrase of the main clause is *in situ*, the



appearance of  $e_{PG}$  in the adjunct clause is impossible: \**John filed this book without reading*). In that case, presence of an overt element is required: ...*without reading it*. Obviously, the presence of the pronoun *them* in the adjunct clause in (1) is also possible.

Research on parasitic gap constructions led to an important conclusion: the appearance of the parasitic gap is structure-dependent.<sup>1</sup> Specifically, the parasitic gap ( $e_{PG}$ ) may not be linked to a real gap ( $e_{RG}$ ) that is in a structurally higher position. In more formal terms:  $e_{PG}$  cannot be c-commanded by  $e_{RG}$ . This anti-c-command requirement is met in (1):  $e_{RG}$ , which is dominated by VP, is in a structurally lower position than  $e_{PG}$ , which is part of an adjunct clause higher up in the clausal structure. The anti-c-command requirement is violated, however, in (2), where  $e_{RG}$ , the ‘trace’ of the WH-moved subject noun phrase, c-commands  $e_{PG}$  in the adjunct clause.

- (2) \* [<sub>CP</sub> Who [<sub>TP</sub>  $e_{RG}$  [<sub>VP</sub> met you] [before you recognized  $e_{PG}$ ]]]?

The case study on parasitic gaps raises the question whether other instances of syntactic parasitism can be found in natural language syntax. That is, are there other phenomena in which the appearance of symbol  $\alpha$  depends on the existence of another symbol  $\alpha$ ? And to what extent is the appearance of the parasitic symbol subject to a structure dependent requirement? In this article, I present a case study on morpho-syntactic parasitism in Dutch. Specifically, an adjectival agreement suffix (-e, pronounced schwa) can optionally appear on an adjectival degree word (an intensifier) that modifies an overtly inflected attributive adjective (see Verdenius 1939; Royen 1948; Corver 1997). An example is given in (3).

- (3) Dutch  
       een erg(-e) leuk-e auto  
       a    very-(e) nice-e car

The article is organized as follows: §2 introduces the phenomenon of parasitic agreement. §3 discusses semantic and categorial restrictions on the intensifier that carries the parasitic agreement morpheme. In §4, multiple parasitism is discussed, that is, the appearance of more than one parasitic agreement morpheme within the adjectival projection. §5 discusses a string-based analysis of parasitic agreement, and §6 discusses a structure-based approach according to which the intensifier and the gradable adjective are represented as separate attributive modifiers within the noun phrase. §7 presents the analysis adopted in this article:

<sup>1</sup>See e.g. Chomsky (1975) for the notion of structure dependence. See also Everaert et al. (2015) for various illustrations of the structure dependence of grammatical rules.

parasitic agreement as a manifestation of the Spec-head agreement configuration. In §8 the phenomenon of parasitic agreement is associated with emphasis of information. §9 concludes the article.

## 2 Augmented degree words

Consider the inflectional paradigm of Dutch attributive adjectives:

(4) Dutch

- a. de leuk-*e* auto<sub>[-neuter]</sub>  
the nice-*E* car
- b. een leuk-*e* auto<sub>[-neuter]</sub>  
a nice-*E* car
- c. (de) leuk-*e* auto's<sub>[-neuter]</sub>  
(the) nice-*E* cars

(5) Dutch

- a. het leuke huis<sub>[+neuter]</sub>  
the nice house
- b. een leuk huis<sub>[+neuter]</sub>  
a nice house
- c. (de) leuke huizen<sub>[+neuter]</sub>  
(the) nice houses

As (4)–(5) show, attributive adjectives in Dutch normally carry the adjectival inflection *-e* (i.e., /ə/), as in *leuke*. However, when the attributive adjective modifies a noun phrase with the feature constellation [+neuter], [+singular], [–definite], as in (5b), the attributive adjective is morphologically bare (*leuk*), in the sense that there is no overt inflection attached to the adjective. I assume that, in that case, a zero-affix is attached to the adjective: *leuk-∅*; see §8 for an argument in support of the presence of this zero-affix.

Consider next the examples in (6), in which the attributive adjectival expression contains an intensifying degree modifier that specifies the degree to which the property denoted by the gradable adjective (*dure*) holds. As indicated, this degree word can optionally carry a schwa. From now on, this augmentative schwa, which is typically found in colloquial speech, is represented as *-E*. This way, it is orthographically easily distinguishable from the adjectival inflection *-e* on the attributive adjective.

(6) Dutch

een [ erg(-E) / afgrijpselijk(-E) / ongelofelijk(-E) dur-**e** ] auto  
 a very(-E) horrible(-E) unbelievable(-E) expensive-AGR car  
 ‘a very / horribly / unbelievably expensive car’

The appearance of -E on the degree word is dependent (*parasitic*) on the appearance of overt inflectional morphology (i.e., -e) on the modified adjective. This is clear from the examples in (7) and (8). Only if -e is attached to *leuk* can the degree modifier be augmented with E. If there is no overt inflectional morphology (i.e., -e) present on the attributive adjective, E cannot appear on the degree modifier.<sup>2</sup> This is shown by (8a), where we have an attributive adjective within a [-definite, +singular, +neuter] noun phrase. As illustrated by (8b), augmentative -E is permitted when the attributive adjectival occurs in a noun phrase specified as [-definite, -singular, +neuter]. In that nominal environment, the attributive adjective carries overt inflection.

(7) Dutch

- a. een [erg(-E) leuk-e] auto  
    a very-E nice-AGR car
- b. [erg(-E) leuk-e] auto's  
    very-E nice-AGR cars

(8) Dutch

- a. een [erg(\*-E) leuk] huis  
    a very-E nice house
- b. erg(-E) leuk-e huizen  
    very(-E) nice-AGR houses

A further illustration of the fact that the appearance of -E on the degree word is parasitic on the presence of inflectional -e on the (gradable) adjective, comes from NP-ellipsis constructions. As shown by the contrast between (9a) and (9b), -e typically appears on an attributive adjectival modifier when the nominal head of the indefinite neuter singular noun phrase has been elided (Kester 1996; Corver & van Koppen 2011).

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<sup>2</sup>See, though, §8.

(9) Dutch

- a. Jan heeft [ een [ heel lief ] konijn ] en Marie heeft [ een [ heel  
Jan has a very sweet rabbit and Marie has a very  
stout ] konijn ].  
naughty rabbit
- b. Jan heeft [ een [ heel lief ] konijn ] en Marie heeft [ een [ heel  
Jan has a very sweet rabbit and Mary has a very  
stoute ] ∅ ].  
naughty-AGR  
'Jan has a very sweet rabbit and Mary has a very naughty one.'

Notice now that the inflected attributive adjective (*stoute*) in the NP-ellipsis pattern licenses the appearance of -E on the degree word (yielding *hele*); see (10b). As shown by (10a), *hele* is impossible when NP-ellipsis has not applied to the nominal expression.

(10) Dutch

- a. \*Jan heeft een heel lief konijn en Marie heeft [ een [ hele  
Jan has a very sweet rabbit and Marie has a very-E  
stout ] konijn ].  
naughty rabbit
- b. Jan heeft een heel lief konijn en Marie heeft [ een [ hele  
Jan has a very sweet rabbit and Marie has a very-E  
stoute ] ∅ ].  
naughty-AGR

A third observation that suggests that the appearance of augmentative -E is parasitic on the presence of (overt) adjectival inflection (i.e., -e) on the adjective comes from predicatively used APs. Predicative APs, as opposed to attributive ones, do not display any (overt) inflection on the adjectival head, as is exemplified in (11). Observe that it is impossible to have an augmentative -E on the adjectival degree word that modifies the predicative adjective:

(11) Dutch

- Deze auto is erg(\*-E) leuk.  
this car is very(-E) nice  
'This car is really nice.'

### 3 Semantic and categorial restrictions on parasitic agreement

Besides the morpho-syntactic requirement that the modified attributive adjective carry the adjectival inflection *-e*, there are a number of other restrictions on the appearance of augmentative *-E*. From a more interpretative point of view, augmentative *-E* typically occurs on intensifiers that belong to the subtype of amplifiers; that is, degree words that scale upwards from some tacitly assumed standard value or norm (see Broekhuis 2013: 104). Besides the intensifiers *erg*, *afgrijselijk*, and *ongelofelijk* in (6), this subtype also includes modifiers such as *vreselijk* ‘extremely’, *ontzettend* ‘terribly’, *ongelofelijk* ‘unbelievably’, *waaninnig* ‘insanely’, *geweldig* ‘tremendously’, *verschrikkelijk* ‘terribly’, *belachelijk* ‘absurdly’, *behoorlijk* ‘quite/rather’.<sup>3</sup>

As shown by (12a,b), modifiers of absolute adjectives – i.e., adjectives that are not scalar but rather imply the endpoint of a scale – tend to be less easily combinable with *-E*. The same holds for the approximative modifier *praktisch* in (12c). It should be noted, though, that instances of such patterns can be found on the internet (Google search), whence the judgment %, which means acceptable for some speakers but not for others.

(12) Dutch

- a. een compleet / %compleet-*E* leg-*e* kamer  
a complete complete-*E* empty-*AGR* room  
‘a completely empty room’
- b. een volledig / %volledig-*E* naakt-*e* vrouw  
a complete complete-*E* naked-*AGR* woman  
‘a completely naked woman’
- c. een praktisch / %praktisch-*E* leg-*e* kamer  
a virtual virtual-*E* empty-*AGR* room  
‘a practically empty room’

As indicated by the examples in (13) modal, temporal or evaluative modifiers are never augmented with *-E*.

<sup>3</sup>For some speakers *-E* is also acceptable on downtoners (i.e., down-scaling degree words) such as *tamelijk* ‘rather’ and *redelijk* ‘reasonably’, as in *een tamelijk-*E* lompe opmerking* (a quite-*E* rude-*AGR* remark) and *een redelijk-*E* snelle auto* (a reasonable-*E* fast-*AGR* car ‘a reasonably fast car’).



(13) Dutch

een [ vermoedelijk(\*-E) / tijdelijk(\*-E) / [ gelukkig(\*-E) goedkoop-e ] fiets  
 a     presumable-E        temporary-E     fortunate-E     cheap-AGR   bike  
 ‘a presumably / temporarily / fortunately cheap bike’

Having shown that augmentative -E typically occurs on (amplifying) intensifiers, I now turn to a second restriction on the word that functions as a host for -E. Categorially, the host must be adjectival in nature. Importantly, in line with Bowers’s (1975) and Emonds’s (1976) claim that English “adverbs” such as *extremely* and *terribly* are actually adjectives, I propose that adverbially used degree modifiers such as *erg*, *afgrijselijk*, and *ongelofelijk* in (6) are actually adjectives.<sup>4</sup> Evidence in support of their adjectival nature comes from their distributional behavior. As illustrated in (14), these intensifying elements occur in syntactic positions that are typically (though not exclusively) occupied by adjectives. For example, they occur as attributive modifiers of nouns, complements of copular verbs, and complements of verbs like *vinden*, which select a predicative complement:

(14) Dutch

- a. een afgrijselijke blunder  
    a     horrible        mistake
- b. Deze film    is afgrijselijk.  
    this   movie is horrible
- c. Ik vind die    muziek afgrijselijk.  
    I    find   that music   horrible

Consider now the degree modifiers *zeer* ‘very’ and *vrij* ‘rather/fairly’, which are, respectively, an amplifying intensifier and a downtoning one. As (15) shows, augmentation with -E is impossible.<sup>5</sup>

(15) Dutch

een zeer/\*zer-E    dure                    auto  
 a    very/very-E expensive-AGR car

<sup>4</sup>Thus, I do not claim that the modifiers in (6), and also those in (12), (categorially) are adverbs that can be turned into adjectives by means of affixation of -E. These modifiers are adjectives that can be used adverbially, in the spirit of Bowers (1975) and Emonds (1976).

<sup>5</sup>Verdenius (1939) gives the form *eine zere nette miensj* (a very-E decent-AGR person, ‘a very decent person’) for Limburgian Dutch. The augmented form *zere* suggests that in this variety of Dutch *zeer* is adjectival.

As shown in (16), the degree modifier *zeer* does not appear in positions where adjectives are typically found.

(16) Dutch

- a. \* een zer-e blunder  
a horrible mistake
- b. \* De pijn was zeer.  
the pain was very
- c. \* Ik vond de pijn zeer.  
I found the pain very

## 4 Multiple parasitism

E-augmentation can sometimes apply to more than one degree word within the extended adjectival projection. This phenomenon of multiple parasitism is typically found in (inflected) attributive adjectival phrases featuring the complex modifier *heel erg* (very much). An example is given in (17):

(17) Dutch

- een [<sub>AXP</sub> hel-E erg-E dur-e ] fiets  
a very-E much-E expensive-AGR bike  
'a really very expensive bike'

This “spreading” of schwa is not an arbitrary process. As shown in (18), it is impossible to “skip” a potential carrier of augmentative schwa. In a way, a non-augmented degree word counts as an intervener for leftward spreading of augmentative schwa (see also Corver 1997; Broekhuis 2013).<sup>6</sup>

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<sup>6</sup>A reviewer points out that the restriction on “spreading” in (18) is reminiscent of the weak-strong alternation in German, where mixed endings are acceptable, but the endings can never go “back and forth” between the paradigms:

(i) German

- a. mit kühl**em**, frisch**en**, lecker**en** Bier  
with cool fresh nice beer
- b. \* mit kühl**em**, frisch**en**, lecker**em** Bier

(18) Dutch

- a. een [<sub>AXP</sub> heel erg dure ] auto  
     a       real very expensive-AGR car  
     ‘a really very expensive car’
- b. ? een [<sub>AXP</sub> heel erg-E dure] auto
- c. een [<sub>AXP</sub> heel-E erg-E dure] auto
- d. \* een [<sub>AXP</sub> heel-E erg dure] auto

Another pattern in which the phenomenon of multiple parasitism is found is given in (19):

(19) Dutch

- a. een erg erg dure auto  
     a   very very expensive car  
     ‘a really very expensive car’
- b. ? een erg, erg-E dur-e auto
- c. een erg-E erg-E dure auto
- d. \* een erg-E erg dure auto

In these examples, we have an iterative pattern: repetition of the degree modifier amplifies the intensifying meaning.

## 5 Parasitic agreement: A string-based approach?

From the parasitic agreement phenomena discussed so far one might draw the conclusion that augmentation of the intensifier with -E is a string-based “surface-structure” effect. That is, E-augmentation is a pure PF-phenomenon that results from *linear*-based spreading of the adjectival inflection of the attributive adjective onto the *linearly adjacent* adjectival degree word. More specifically, the affix -e of the attributive adjective gets copied onto the adjectival degree word under linear adjacency, a process reminiscent of Embick & Noyer’s (2001) post-syntactic (morphological merger) rule of *Local Dislocation*. Schematically, we have the process as depicted in (20), where  $\alpha * \beta$  means that the elements  $\alpha$  and  $\beta$  are linearly adjacent. Augmentation applies in a right to left direction, where the agreement morpheme -e on *dure* gets copied onto the immediately left adjacent instance of *erg*, yielding *ergE*, whose inflection is subsequently copied onto the leftmost instance of *erg*, resulting in the sequence *ergE ergE dure*.

- (20) a. *een \* erg \* dure \* auto* →  
           *een \* erg<sub>E</sub> \* dure \* auto* (*een erg<sub>E</sub> dure auto*)  
       b. *een \* erg \* erg \* dure \* auto* →  
           *een \* erg \* erg<sub>E</sub> \* dure \* auto* →  
           *een \* erg<sub>E</sub> \* erg<sub>E</sub> \* dure \* auto* (*een erg<sub>E</sub> erg<sub>E</sub> dure auto*)

A first potential problem for this string-based analysis is the fact that degree word augmentation is possible if linguistic material linearly intervenes. Specifically, the parenthetical word *ja* ‘yes’, expressing the speaker’s reinforced affirmation of the high degree, may separate the members of a sequence of iterated degree words like (20b). This is exemplified in (21), where (21a) represents the non-augmented pattern and (21b) the augmented pattern. If degree word augmentation applied only under strict linear adjacency with a following lexical item carrying *-e*, then the intervening *ja* should block the “spreading” of schwa, but it doesn’t.

- (21) Dutch  
       a. *een erg ja erg ja erg goeie grap*  
           a   very yes very yes very good joke  
           ‘a really, yes, really good joke!’  
       b. *een erg-E ja erg-E ja erg-E goeie grap*

A second potential argument against a linear, purely PF-based analysis of augmentative schwa comes from patterns in which *-E* is present on the adjectival degree word even though there is no overt adjectival inflection *-e* present on the gradable adjective that heads the adjectival projection. The existence of such patterns suggests that augmentative schwa does not simply result from a copying process that applies at the sound surface; that is, *-e* as part of an attributive adjective gets PF-copied onto a linearly adjacent adjectival degree word.

Some relevant facts are given in (22):

- (22) Dutch  
       a. *een erg(-E) verlegen(\*-e) man<sub>[-neuter]</sub>*  
           a   very   shy               man  
       b. *een erg(-E) belezen(\*-e) man<sub>[-neuter]</sub>*  
           a   very   well-read   man  
       c. *een erg(-E) open(\*-e) samenleving<sub>[-neuter]</sub>*  
           a   very   open       society

The adjectives *verlegen*, *belezen*, and *open* end in *-en* in written language but are pronounced as schwa in spoken (Standard) Dutch. Possibly, the absence of attributive adjectival inflection is somehow related to the fact that the adjectival root ends with the sound schwa (see also Broekhuis 2013).

Importantly, the examples in (22) show that, in spite of the presence of the right morphosyntactic feature constellation – i.e., [–neuter, –definite, +singular] – the attributive adjectives do not display the attributive adjectival inflection *-e*. Nevertheless, it is possible to add augmentative *-E* to the adjectival degree word. This suggests that the appearance of *-E* is not simply a matter of (string-based) PF-copying of an overt inflectional marker. Rather, what really matters is the abstract feature constellation associated with the attributive adjective.

For the sake of completeness, observe also the following examples, in which the attributive adjective phrase is contained within a noun phrase having the feature constellation [–definite, +singular, +neuter].

(23) Dutch

- a. een erg(\*-E) verlegen kind<sub>[+neuter]</sub>  
a    very    shy            child
- b. een erg(\*-E) belezen kind<sub>[+neuter]</sub>  
a    very    well-read child
- c. een erg(\*-E) open volk<sub>[+neuter]</sub>  
a    very    open nation            (i.e., group of people)  
‘very open-minded people’

As we saw in (5b), the adjectival head never displays the overt inflection *-e* in those contexts. Example (8a) further showed that augmentative *-E* never appears on the degree word in those environments. The obligatory absence of augmentative *-E* in (23) is completely in line with (8a). Importantly, the patterns in (22) and (23) suggest that what matters for *E*-augmentation is not the Spell-out (i.e., overt phonological realization) of the adjectival inflection, but rather the abstract feature complex that underlies Spell-out.

Let me now turn to a third argument against a string-based “surface” approach to augmentative schwa. The argument comes from participles that are used attributively. Consider the following examples featuring an inflected attributive present participle:

(24) Dutch

- a. een [ maandenlang over zijn toekomst erg(\*-E) twijfelende ]  
 a months.long about his future much(-E) doubting-AGR  
 leerling  
 student  
 ‘a student who has been very much in doubt about his future for months’
- b. een [ zich al jaren daarop erg(\*-E) verheugende ] man  
 a REFL already years that.to much(-E) look.forward-AGR man  
 ‘a man who has been rejoiced at that for many years’

These examples show that the participles *twijfelend* and *verheugend* can carry an attributive adjectival inflection *-e* and be modified by a degree modifier (*erg*). As indicated, the degree modifier cannot be augmented with *-E* even though it is linearly adjacent to the inflected present participle. The ill-formedness of the augmented form *erg-E* suggests that *E*-augmentation is not a surface process based on string-adjacency.

A similar conclusion can be drawn on the basis of the examples in (25), where the degree word modifies a past/passive participle:

(25) Dutch

- a. een [ toendertijd door iedereen erg(\*-E) gehat-e ] dictator  
 a at.the.time by everyone very(-E) hated-AGR dictator  
 ‘a dictator who was hated very much by everyone at the time’
- b. een [ toendertijd door iedereen erg(\*-E) gewantrouwd-e ] president  
 a at.the.time by everyone very-E distrusted-AGR president  
 ‘a president who was distrusted very much by everyone at the time’

The examples in (24) and (25) show that *E*-augmentation of a degree word is not possible when the degree word modifies a (linearly adjacent) present or past/passive participle. At this point, it should be noted, though, that there are patterns in which *E*-augmentation of the degree word does seem to be possible when it modifies a participle. Consider the following examples:

- (26) a. een [ erg(-E) opwindende ] gebeurtenis  
 a very(-E) exciting-AGR event  
 ‘a very exciting event’

- b. een [ erg(-E) geïnteresseerde ] student  
 a    very-E interested-AGR    student  
 ‘a very interested student’

So, what underlies the contrast between (24) versus (26a), and (25) versus (26b)?

From a string-based perspective, there is no difference as regards the distance between the inflected present participle and the modifying degree word. So there must be another factor that is at the basis of the contrast. This factor might very well be related to the categorial nature of participles. Specifically, the categorial nature of the participles in (24–25) is verbal, while that of the participles in (26) is adjectival (see also Broekhuis 2013 for discussion). The verbal nature of the participles in (24–25) is clear from their aspectual properties. The present participles in (24) express durative aspect, as is clear from the presence of the modifiers *maandenlang* and *al jaren*. The participle designates an ongoing event. Note that this durative meaning is absent in (26a): *opwindend* refers to the property (a state of affairs) of being excited. The past/passive participles in (25) express perfective aspect: we are dealing with an event that has been completed. In (26b), on the contrary, the participle *geïnteresseerde* refers to the property of being interested. In other words, it semantically acts like a true adjective.

Note that the adjectival nature of *opwindend* and *geïnteresseerd* in (26) is confirmed by a number of diagnostics for adjectival status (see also Broekhuis 2013). Firstly, synthetic comparative formation (*-er*) can apply to these forms, as in (27).

(27) Dutch

- a. een [ nog opwindend-er-e ] gebeurtenis  
 an    even exciting-CMPR-AGR    event  
 ‘an even more exciting event’  
 b. een [ nog geïnteresseerd-er-e ] student  
 an    even interested-CMPR-AGR    student  
 ‘an even more interested student’

Secondly, as shown in (28), these participles can be prefixed by means of the negative morpheme *on-*, which is typically found on adjectives (e.g., *aardig* ‘kind’, *onaardig* ‘unkind’).

(28) Dutch

- a. een [ onopwindende ] gebeurtenis  
an unexciting-AGR event  
'an unexciting event'
- b. een [ ongeïnteresseerde ] student  
an uninterested-AGR student  
'an uninterested student'

Thirdly, the participles in (26) can be modified by the intensifier *heel* 'very' (see (29)), an intensifier that can combine with adjectives but not with verbs.<sup>7</sup>

- (29)
- a. een [heel opwindende] gebeurtenis  
a very exciting-AGR event  
'a very exciting event'
  - b. een [heel geïnteresseerde] student  
a very interested-AGR student  
'a very interested student'

None of these adjectival properties apply to the participles in (24)–(25). In (30), this is exemplified for *twijfelend* in (24):

(30) Dutch

- a. \* een nog twijfelend-er-e student  
an even doubting-CMPR-AGR student  
'a student who is even more in doubt'
- b. \* een ontwijfelende student  
an un-doubting-AGR student
- c. \* een heel twijfelende student  
a very doubting-AGR student

On the basis of the above-mentioned contrasts it can be concluded that participles can display verbal or adjectival grammatical behavior. When the participle is adjectival, parasitic agreement is attested: that is, the inflection *-e* (= schwa) on the participle can license the appearance of *-E* (= schwa) on the adjectival degree modifier. When the participle is verbal, however, parasitic agreement is

<sup>7</sup>For example, it is impossible to say: \**Dat windt hem heel op* (that excites him much PTCL, 'that excites him a lot').



impossible: -E cannot appear on the adjectival degree modifier despite the presence of an inflection on the linearly adjacent participle. As a final illustration of this contrast, consider also the following minimal pair:

(31) Dutch

- a. een [ hem erg(\*-E) opwindend-e ] jurk  
     a   him very(-E) exciting-AGR   dress  
     ‘a dress that excites him a lot’
- b. een [ erg(-E) opwindend-e ] jurk  
     a   very(-E) exciting-AGR   dress  
     ‘a very exciting dress’

In (31a), *opwindend* is a verbal participle, while, in (31b), it is an adjectival participle. parasitic agreement is possible in (31b), but not in (31a).

Although I have related the absence of parasitic agreement to the verbal nature of participles in (24), (25) and (31a), the question remains why the inflection -e on the participle cannot spread onto the degree modifier. Related to that question: if the participle in these examples is verbal, how does that match with a clearly adjectival property, namely the presence of adjectival inflection? In what follows (see §7), I propose that the adjectival participle and the verbal participle have a different underlying syntactic structure. To make things concrete, the participle *opwindend* in (31b) is an adjectival word. Specifically, it has the syntactic representation in (32b). The verbal participle *opwindend* in (31a), on the contrary, has a composite syntactic structure, consisting of a verbal part (*hem opwind-*) and an adjectival part (*-end*); see (32a). It will be argued that this difference in phrasal structure is at the basis of the contrast between (24)-(25), on the one hand, and (26), on the other hand.<sup>8</sup>

- (32) a. [AP [VP hem opwind-] -end]
- b. [A(P) opwindend]

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<sup>8</sup>Also for German it has been argued that participial endings are homophonous between ‘completely verbal’ and ‘completely adjectival uses’, i.e., participles are not ‘hybrids’ with mixed properties, but switch around between clear-cut categories. See, for example, Toman (1986) for discussion.

## 6 Parasitic agreement: Inflected intensifiers as attributive adjectives?

In the previous section it was shown that the phenomenon of parasitic agreement cannot be analyzed in terms of string-based leftward spreading of the overt adjectival inflection *-e*. A structure-based approach seems more plausible. In this section, one implementation of such an approach will be sketched and rejected.

Starting from the idea that the appearance of *-E* on an AP-internal degree modifier is unusual, this structure-based approach hypothesizes that in a construction like *een erg-E dur-e auto*, the adjectival degree word *erg-E* is not located within the attributive adjectival expression at all but rather behaves like an AP-external attributive AP that somehow has scope over the gradable adjective that follows it, see (33a). Under such an analysis, *afgrijpselijke dure* in (33a) has the same structural analysis as *mooie dure* in (33b). Being in an attributive position, the adjectival degree word *afgrijpselijk* receives an adjectival inflection (here represented as *-E*), just like the “normal” attributive adjective *dure*.

(33) Dutch

- a. [<sub>DP</sub> een [<sub>NP</sub> afgrijpselijk-E [<sub>NP</sub> dure [<sub>NP</sub> fiets ]]]]  
       a           horrible-E           expensive-AGR       bike  
       ‘a horribly expensive bike’
- b. [<sub>DP</sub> een [<sub>NP</sub> mooie [<sub>NP</sub> dure [<sub>NP</sub> fiets ]]]]  
       a           beautiful-AGR       expensive-AGR       bike  
       ‘a beautiful expensive bike’

It can easily be shown that this approach towards augmentative *-E* does not work. First of all, as shown in (34), *-E* can also appear on a degree word that clearly forms a conjunct (and therefore a constituent) together with the modified adjective:

(34) Dutch

- een [ niet alleen [<sub>AP</sub> afgrijpselijke dure ] maar ook [<sub>AP</sub> afgrijpselijke  
   a   not only       horrible-E expensive but also       horrible-E  
   lelijke ]] fiets  
   ugly     bike  
   ‘a horribly expensive but also horribly ugly bike’

Secondly, patterns like (35) are possible, in which a PP that is selected by the adjective precedes the augmented degree word.

(35) Dutch

een daarvan erg-E afhankelijk-e jongen  
 a that.on very-E dependent-AGR boy  
 ‘a boy who is very dependent on that’

If the augmented degree word occupied a separate attributive position, as in (33a), the PP-complement would have to be moved from within the second attributive AP to a position preceding the first (supposedly) attributive AP, as depicted in (36).

(36) Dutch

[<sub>DP</sub> een [<sub>daarvan</sub><sub>i</sub> [<sub>NP</sub> erg-E [<sub>NP</sub> [<sub>t<sub>i</sub></sub> afhankelijke] [<sub>NP</sub> jongen]]]]]  
 a that-on very-E dependent-AGR boy  
 ‘a boy very much dependent on that’

Such a displacement operation, however, is impossible, as shown by the ill-formed example (37b), where the PP-complement *daarvan* has been moved from within the attributive AP headed by *afhankelijke* (see (35)) to a position preceding the attributive AP *vriendelijke*.

(37) Dutch

- a. [<sub>DP</sub> een [<sub>NP</sub> vriendelijke [<sub>NP</sub> [<sub>daarvan</sub> afhankelijke] [<sub>NP</sub> jongen]]]]]  
 a friendly-AGR that-on dependent-AGR boy  
 ‘a friendly boy who is very much dependent on that’
- b. \* [<sub>DP</sub> een [ <sub>daarvan</sub><sub>i</sub> [<sub>NP</sub> vriendelijke [<sub>NP</sub> [<sub>t<sub>i</sub></sub> afhankelijke] [<sub>NP</sub> jongen]]]]]  
 ‘a friendly boy who is very much dependent on that’

Given the above-mentioned problems, I conclude that the phenomenon of parasitic agreement cannot be explained in terms of an attributive adjectival analysis of the augmented degree word.

## 7 Parasitic agreement as a Spec-Head relationship

The paradigms in (4) and (5) made clear that three features play a role in determining the appearance of overt adjectival inflection on Dutch attributive adjectives:

±definite, ±singular, and ±neuter. When the noun phrase has the feature specification [−definite, +singular, +neuter], the attributive adjective is morphologically bare, which was interpreted as the presence of a zero-affix on the attributive adjective. In all other cases we find the inflectional affix *-e*. I will take these affixal manifestations to be spell-outs (externalizations) of the feature complex that is associated with the adjective entering into an agreement relationship – concord – with the noun phrase. If augmentative (i.e., parasitic) *-E* is a manifestation of adjectival agreement, then the question arises how this agreement can appear on the adjectival degree modifier.

From the examples in (22) and (23) we may conclude that appearance of parasitic agreement is dependent on the abstract feature constellation of the attributive adjective rather than on the overt manifestation of this feature complex. That is, there are patterns in which *-e* is absent on the attributive adjective but nevertheless (optionally) present on the degree modifier (represented here as *-E*). This suggests that parasitism regards first and foremost the abstract feature constellations that form the input to Spell-Out.

Besides the feature constellation of the attributive adjective, the structural relationship between the attributive adjective and the degree modifier matters for the appearance of parasitic agreement. Specifically, I propose that parasitic agreement is an instance of Spec–head agreement. I assume that the adjectival intensifier occupies the Spec-position of the lexical head *A*, which means that the intensifier is structurally close to the attributive gradable adjective:<sup>9,10</sup>

<sup>9</sup>A reviewer raises the question as to whether *-E* could simply be interpreted as phonological (meaningless) ‘junk’, which is still available as an adverbial remnant of older varieties of Dutch. This remnant *-e* is still available in fixed expressions such as *van verre* (from far-*e*, ‘from a distance’) and *nog lange niet* (yet long-*e* not, ‘not yet’). That *-E* in patterns such as *een erg(-E) leuk-e auto* (a very-*E* nice-*e* car, ‘a very nice car’) is not simply the appearance of a historical inflectional remnant but rather results from contextually determined morphosyntax comes from the observation that this phenomenon of parasitism is also attested in partitive genitive constructions. For example, besides *iets erg doms* (something very stupid-*s*) and *iets vreselijk ingewikkelds* (something extremely complicated-*s*), one also comes across patterns such as *iets ergs doms* and *iets vreselijks ingewikkelds*, where both the modifier and the adjective carry the bound morpheme *-s* (see Royen 1948). Notice, by the way, that *-E* never appears on the modifier in these structural environments: *iets erg(\*-E) doms*, *iets vreselijk(\*-E) ingewikkelds*. The distribution of *-s* on modifiers in partitive genitive constructions needs further investigation. The bound morpheme *-s*, for example, never appears on the modifier *heel*, as in *iets heel(\*-s) moois* (see also Broekhuis 2013: 423). As shown in (17), *heel* can carry *-E*.

<sup>10</sup>Note that the structure in (38a) is identical to the one in (38b). This structural identity is what we find also in parasitic gap constructions. That is, the overall structure of *Which book did you file without reading?* is similar to the structure of *Which book did you file without reading it?* The only difference regards the (derivation of) the object position in the adjunct clause; i.e. pronoun (*it*) versus parasitic gap.

- (38) a.  $[_{AP} [_{AP} \text{erg}] \text{leuk}_{\langle 1, G \rangle} \text{-AGR}]^{11}$  (no parasitic agreement)  
 b.  $[_{AP} [_{AP} \text{erg-AGR}] \text{leuk}_{\langle 1, G \rangle} \text{-AGR}]$  (parasitic agreement)

A reason for placing the degree modifier in a structurally close relationship with the attributive adjective is the fact that the scalar/gradable property of the adjective is a lexical property of the adjective *leuk*, here represented with the subscript G(radable). I assume that this lexical property must be locally satisfied, meaning within the lexical projection AP. Empirical support for the structural proximity of the adjectival intensifier and the gradable adjective comes, first of all, from complex attributive adjective phrases containing multiple modifiers. As shown in (39), the degree word is always closest to the gradable adjective:

- (39) Dutch  
 a. een [ {vermoedelijk / tijdelijk / gelukkig} [ vreselijk  
     a   presumably   temporarily   fortunately   extremely  
     goedkop-e ] ] fiets  
     cheap-AGR   bike  
     ‘a presumably / temporarily / fortunately extremely cheap bike’  
 b. \* een [vreselijk {vermoedelijk / tijdelijk / gelukkig} goedkop-e] fiets

Secondly, the PP-complement of a regular (i.e., non-deverbal) adjective like *blij* ‘happy’ cannot intervene between the gradable adjective and the degree word, neither in predicative APs nor in attributive ones:<sup>12</sup>

- (40) Dutch  
 a.  $[_{AP} \langle \text{Daarmee} \rangle \text{erg} \langle * \text{daarmee} \rangle \text{blij} \langle \text{daarmee} \rangle ]$  was Jan.  
     that.with very                      happy                      was Jan  
     ‘Jan was very happy with that.’  
 b. een  $[_{AP} \langle \text{daarmee} \rangle \text{erg} \langle * \text{daarmee} \rangle \text{blij} \langle * \text{daarmee} \rangle ]$  man  
     a        that.with very                      happy-AGR                      man  
     ‘a man who is very happy with that’

<sup>11</sup>Subscript 1 represents the external argument of *leuk* and subscript G represents the lexical property of being gradable; see Corver (1997).

<sup>12</sup>As opposed to the predicative AP in (40a), the attributive AP in (40b) does not permit the pattern in which the PP-complement follows the adjective. That is, the (inflected) adjective must be linearly adjacent to the noun. This restriction on the placement of PP within an attributive adjectival phrase has been attributed to a ban on right recursion for (certain) phrases occurring on left branches. For discussion, see among others Emonds (1976), Williams (1981), and Biberauer et al. (2007).

As shown by the following examples, other types of modifiers can reasonably well be separated from the adjective by an intervening PP-complement:

(41) Dutch

- a. een [ <daarmee> gelukkig     ⟨<sup>?</sup>daarmee⟩ erg    ⟨\*daarmee⟩ blij ]  
      a      that.with fortunately                  very                  happy-AGR  
      man  
      man
- b. een [ <daarmee> vermoedelijk    ⟨<sup>?</sup>daarmee⟩ erg    ⟨\*daarmee⟩  
      a      that.with presumably                  very  
      blij ]      man  
      happy-AGR man
- c. een [ <daarmee> slechts tijdelijk     ⟨<sup>?</sup>daarmee⟩ erg    ⟨\*daarmee⟩  
      a      that.with only temporarily                  very  
      blij ]      man  
      happy-AGR man

Having shown that there are good reasons for assuming that the adjectival intensifier occupies a syntactic position that is structurally close to the (attributive) adjective, let us next turn to the pattern in (18), repeated here as (42):

(42) Dutch

- a. een [<sub>AXP</sub> heel erg dure] fiets  
a real very expensive-AGR bike  
'a really very expensive bike'
- b. ? een [<sub>AXP</sub> heel erg-E dure] fiets
- c. een [<sub>AXP</sub> hel-E erg-E dure] fiets
- d. \* een [<sub>AXP</sub> hel-E erg dure] fiets

Before giving an analysis of the (multiple) parasitic agreement phenomenon in (42c), let me point out that the amplifier *heel* can be followed only by the amplifying degree word *erg*. Other degree words such as *vreselijk* 'extremely', *ontzettend* 'terribly' etc. cannot occur in combination with *heel*, as is exemplified in (43):

(43) Dutch

- |  |       |
|--|-------|
| *een [heel vreselijk/ontzettend dure]        | fiets |
| a very extremely/terribly expensive-AGR bike |       |

From the possible cooccurrence of *heel* and *erg* I conclude that they form a syntactic unit that acts as a modifier of the gradable adjective. Schematically:

- (44) een [<sub>AP</sub> [<sub>AP</sub> heel erg] dure] fiets

The question, obviously, arises why *erg* is the only amplifying degree word that can be modified by *heel*. Possibly, *erg* can function as a pure marker of upward scalarity. That is, it refers to a point on the implied scale that is higher than the standard value, but it does not so much express the size of the interval between the standard value and that higher point. In this respect, *erg* differs from amplifiers such as *vreselijk* ‘extremely’ and *ontzettend* ‘terribly’ in (43), which express that the size of the interval between the standard value and the higher degree is “really big”. It seems that the amplifier *heel* in (44) marks the (big) size of the interval between the standard value and the higher point on the scale.

Let us return to the patterns in (42) and see how the (im)possibility of parasitic -E can be accounted for. In (42a), there is no parasitic agreement. The attributive adjective is the only element carrying adjectival inflection (-e) as a result of concord with the noun phrase. Specifically, -e is an externalization of the feature constellation [-definite, +singular, -neuter].

Consider next (42b), which for most people is acceptable but a little deviant. In this example, parasitic inflection is overtly realized on the head of the modifying AP:

- (45) een [<sub>AP</sub> [<sub>AP</sub> heel erg-E] mooi<sub><1,G></sub>-e] auto

In (42c), the amplifying adjective *heel* carries parasitic -E as a result of the Spec-head agreement relationship with *erg*-E. Thus, *heel*-E carries the attributive adjectival inflection by transitivity; that is, via *erg*-E, which heads the AP in which the modifier *heel* is embedded.<sup>13</sup>

The ill-formedness of (42d) follows straightforwardly: *heel* can never be augmented with -E since it does not enter into a Spec-head relationship with the inflected attributive adjective. Thus, parasitic agreement between the “host” —

<sup>13</sup>Thus, the agreeing AP headed by *erge* is taken to be structurally closer to the modified noun than is the modifier *heel*, which is embedded within the agreeing attributive AP. As a reviewer points out, one might want to adopt a bare phrase structure approach here. Under such an approach, the distribution of -E in (42c) can be accounted for as follows: The label of the modifying phrase as a whole would be *erg*-E itself, with *erg*-E, arguably, in the right configuration for agreement with *mooie*, and *heel*-E in the right configuration for agreement with *erg*-E. Pattern (42d) is ruled out because *heel*-E is embedded too deeply in (the phrase labeled) *erg* to be available for licensing by *dure*.

the carrier of “real” agreement – and the “parasite” – the carrier of parasitic agreement – is only possible when the two stand in a structurally local relationship with each other: the parasite must be the specifier of the host.

Keeping this locality restriction in mind, consider next the examples in (31), repeated here as (46):

(46) Dutch

- a. een [ hem erg(\*-E) opwindend-e ] jurk  
     a   him very(-E) exciting-AGR   dress
- b. een [ erg(-E) opwindend-e ] jurk  
     a   very(-E) exciting-AGR   dress

Recall that it was argued that the present participle *opwindend* in (46a) has a different categorial make-up from the one in (46b). Specifically, *opwindend* in (46b) was analyzed as an adjectival element: [<sub>A</sub> *opwindend*]; *opwindend* in (46a), on the contrary, was claimed to have a composite syntactic structure, consisting of a verbal part (*hem opwind-*) and an adjectival part (the participial ending *-end*); see (32a). As shown in (47b), *erg* is in a Spec-head relationship with the inflected adjective *opwindende*. Consequently, *erg* can display parasitic agreement: *erg-E*. In (47a), however, the degree modifier *erg* is part of the verbal layer and does not stand in a Spec-head relationship with the inflected adjectival part, viz., *-ende*. Since the degree word does not stand in a local Spec-head relation with the inflected participial ending *-ende*, it is not able to display parasitic agreement morphology.

- (47) a. een [<sub>AP</sub> [<sub>VP</sub> hem erg(\*-E) opwind-] -end-e] jurk
- b. een [<sub>A(P)</sub> erg(-E) [<sub>A</sub> opwindende]] jurk

From the minimal pair in (46) and the structure in (47) it can be concluded that it is hierarchical structure rather than linear order that matters for the licensing of parasitically agreeing (adjectival) degree words.

The relevance of hierarchical structure for the appearance of parasitic agreement is also clear from a number of other adjectives that turn out to be structurally ambiguous. The adjectives I have in mind are the deverbal adjectives in (48). The characterization ‘deverbal’ comes from two observations: firstly, some of these adjectives display (past/passive-)participial morphology and as such are formally similar to verbal forms (e.g., *gesteld*, *verknocht*). Secondly, some of these adjectives are derivationally related to a verb. For example, *afhankelijk (van)* ‘dependent (on)’ is clearly related to the verb *afhangen (van)* ‘to depend (on)’.



## (48) Dutch

- a. een [ <daarvan> erg <daarvan> afhankelijke ] man  
 a that.on very dependent-AGR man  
 ‘a man who is very dependent on that’
- b. een [ <daarop> erg <daarop> gestelde ] man  
 a that.on very keen-AGR man  
 ‘a man who is very keen on that’
- c. een [ <daaraan> erg <daaraan> verkochte ] man  
 a that.to very devoted-AGR man  
 ‘a man who is very devoted to that’

As shown in (48), the PP-complement can appear either at the left periphery of the adjectival projection or in between the degree modifier and the attributive adjective. Especially the latter syntactic position is remarkable, since, as was shown in (40), the PP-complement cannot occur in between the degree word *erg* and an attributive adjective, when the latter is a “regular” (i.e., non-deverbal) adjective. This asymmetry between the patterns in (48) and those in (40) suggests that the deverbal adjectives in (48) have, or can have, an underlying structure which differs from that of “regular” adjectives such as *blij* ‘happy’ and *trots* ‘proud’. I propose that, analogously to the structural ambiguity of the form *opwindend* in (47), the deverbal adjectives in (48) can have two different structural representations, namely an adjectival one (49a) and a deverbal one (49b):

- (49) a. een [<sub>AP</sub> daarvan [<sub>A</sub> afhankelijke ]] man  
 a that.on dependent-AGR man
- b. een [<sub>AP</sub> [<sub>VP</sub> daarvan afhang-] -elijke] man

An elaborate motivation for this structural distinction falls beyond the scope of the present paper. Let me nevertheless give one argument that supports the ambiguous status of *afhankelijk*, namely its possible co-occurrence with two types of modifiers: *heel* ‘very’, which typically modifies (gradable) adjectives, and *volgende* ‘sufficiently’, which typically modifies verbs (see also Broekhuis 2013). Let me start with *heel*.

As shown in (50a,b), *heel* only occurs as a modifier of (gradable) adjectives and never modifies verbs that can combine with degree modifiers (e.g., *erg*). The fact that *heel* can modify *afhankelijke*, as in (50c), suggests that *afhankelijke* behaves like a non-deverbal adjective in that case. Note in passing that the PP-complement *daarvan* can only occur at the left periphery of the adjectival phrase

and not in a position in between the degree word and the adjective. This distributional behavior of the PP-complement is completely in line with that of PP-complements selected by a “regular” (i.e. non-deverbal) adjective like *blij* ‘happy’; compare with (40).

(50) Dutch

- a. een [ daarmee heel blij ] man  
a that.with very happy-AGR man  
‘a man who is very happy with that’
- b. Jan verheugde zich erg / \*heel op haar komst.  
Jan looked.forward REFL very to her arrival  
‘Jan very much looked forward to her arrival.’
- c. een [ <daarvan> heel <\*daarvan> afhankelijk ] man  
a that.on very dependent-AGR man  
‘a man who is very dependent on that’

Consider next the modifier *voldoende* ‘sufficiently’. As shown in (51a), combining *voldoende* with a regular adjective like *trots* ‘proud’ yields a pattern which is quite marked. Combination with a (gradable) verb is completely natural; see (51b). As illustrated in (51c), *voldoende* can easily combine with the adjective *afhankelijk*, which is expected if *afhankelijk* can have a “verbal flavor”. Note in passing that, under this verbal behavior of *afhankelijk*, the possible placement of the PP-complement in between the degree word and the adjective is entirely expected. As shown in (51b), the PP-complement can also be placed in between the degree word *voldoende* and the gradable verb.

(51) Dutch

- a. ??Jan is [ voldoende trots op haar ].  
Jan is sufficiently proud of her
- b. Jan heeft zich <daarop> voldoende <daarop> verheugd.  
Jan has REFL that.on sufficiently looked.forward  
‘Jan has looked forward to that sufficiently.’
- c. Jan is [ <daarvan> voldoende <daarvan> afhankelijk <daarvan> ]  
Jan is that.on sufficiently dependent  
‘Jan is sufficiently dependent on that.’

If I am right in saying that *heel* acts as a modifier of an *adjectival* projection and *voldoende* as a modifier of a *verbal* projection, then the adjectival structures in (50c) and (51c) can be represented as (52a) and (52b), respectively:<sup>14</sup>

(52) Dutch

- a. een [<sub>AP</sub> daarvan<sub>i</sub> [<sub>AP</sub> heel [<sub>A'</sub> afhankelijke t<sub>i</sub> ]]] man  
a        that.on            very        dependent-AGR        man
- b. een [<sub>AP</sub> [<sub>VP</sub> <daarvan> voldoende <daarvan> afhang-] -elijke] man

Having shown that a deverbal adjective like *afhankelijk* has an ambiguous status, let us return to the phenomenon of parasitic agreement. Consider, specifically, the following contrast:

(53) Dutch

- a. een [ erg(\*-E) daarvan afhankelijke] jongen (MOD-E PP A-e)  
a        very-E    that-on    dependent-AGR boy  
'a boy who is very dependent on that'
- b. een [ daarvan erg(-E) afhankelijke] jongen (PP MOD-E A-e)

(53a) shows that parasitic agreement is blocked when the PP-complement *daarvan* intervenes between the degree modifier *erg* and the attributive adjective *afhankelijke*. As indicated by (53b), parasitic agreement is possible when the PP-complement is at the left periphery of the adjectival projection and, consequently, does not intervene between the degree word and the attributive adjective. One might interpret this contrast as support for a linear approach towards parasitic agreement (see §5). That is, the inflected attributive adjective and the adjectival degree word must be linearly adjacent for inflection to spread onto the degree word. As I have argued in §5, however, there are good reasons for rejecting such a string-based approach to parasitic agreement. A structure-dependent account is preferred. Analogously to my account of the contrast between (46a) and (46b), I propose that the adjectival expressions in (53a) and (53b) have different internal structures. Specifically, (53a) has the structure in (54a), and (53b) the one in (54b).

(54) Dutch

- a. een [<sub>AP</sub> [<sub>VP</sub> erg(\*-E) daarvan afhang-] -elijke] man  
a        very-E    that.on    depend-    -ent-AGR man

<sup>14</sup> As indicated, I assume that the PP-complement has been moved from a postadjectival position to the left periphery of the AP.

- b. een [<sub>AP</sub> daarvan<sub>i</sub> [<sub>AP</sub> erg(-E) [<sub>A'</sub> afhankelijk<sub>e</sub> t<sub>i</sub>]]] man  
 a            that.on            very-E            dependent-AGR man

In (54a), the deverbal adjective *afhankelijk* has a composite structure consisting of a verbal part, viz., the VP *erg(\*-E) daarvan afhang-*, and an adjectival part, viz., the adjectival suffix plus the adjectival inflection: *elijk-e*. Since *erg* is contained within the (AP-internal) verbal domain, it does not enter into a Spec-head relationship with the adjectival inflection associated with *-elijke*. Consequently, appearance of *-E* on the degree word will not be licensed. In (54b), on the contrary, licensing of *-E* is possible. Here *afhankelijk* is a non-composite adjective (just like *trots* ‘proud’, for example) which has the degree word *erg(-E)* in its specifier position. In other words, we have the right structural configuration for parasitic inflection to appear on the adjectival degree word.

## 8 Parasitic -E as a marker of expressive emphasis

So far I have examined the phenomenon of parasitic agreement from the perspective of syntax. I argued that the adjectival degree word can be augmented with *-E* (schwa) if it stands in a Spec-head relationship with an attributive adjective carrying a feature constellation that externalizes as *-e* (schwa). The question, obviously, arises why *-E* should appear, since the *E*-less pattern is also well-formed. So what information is it that *-E* encodes and contributes? I tentatively propose that *-E* is a marker of (expressive) emphasis. It adds expressive force to the amplifying meaning of the adjectival degree word. Expressive emphasis is obtained by duplication of information in syntax – namely, duplication of agreement information via Spec–head agreement – and multiple Spell-out (externalization) at the Syntax-Sensorimotor interface. An adjectival affix that normally remains silent when the adjectival host fulfills an adverbial function, as in *een erg-Ø mooie auto* (a very beautiful-AGR car), externalizes as *-E* in order to make the intensified meaning expressed by the adjectival degree word more prominent/salient at the *sound* surface. In other words, adding expressive force or prominence should be interpreted here as a property of externalization.

At this point, it may be useful to point out that this expressive-emphatic use of *-E* (i.e. schwa) is also found on certain Dutch pronouns (see e.g. Haeseryn et al. 1997: 237–238; Hoeksema 2000; Zwart 2001). This is exemplified in (55):

- (55)
- |    |              |     |               |
|----|--------------|-----|---------------|
| a. | <i>ik</i>    | a'. | <i>ikke</i>   |
|    | I            |     | I-e           |
| b. | <i>dat</i>   | b'. | <i>datte</i>  |
|    | that         |     | that-e        |
| c. | <i>dit</i>   | c'. | <i>ditte</i>  |
|    | this         |     | this-e        |
| d. | <i>what?</i> | d'. | <i>watte?</i> |
|    | what         |     | what-e        |

As noted in Zwart (2001), an augmented form like *ikke* can be interpreted as standing in a contrastive relationship with an alternative individual, as in (56a), or as a highly intensified/emphatic form (i.e., intensity accent), as in (56b).

(56) Dutch

- a. Jij krijgt geen ijsje maar ik(-e) wel!  
 you get no ice-cream but I(-e) PTCL<sub>positive</sub>  
 'You won't get an ice cream, but I will!'
- b. A: Wie wil er een ijsje? B: Ik(-e)!  
 who wants there an ice-cream I(-e)  
 A: 'Who would like to have an ice cream?' B: 'Me!'

An in-depth analysis of these augmented pronouns falls beyond the scope of this article. In the spirit of my analysis of -E on adjectival degree words, one might propose that -e in (55) is licensed by the presence of a functional element within the structure of the pronoun. In line with Déchaine & Wiltschko (2002), for example, one might take pronouns to have the layered structure  $[_{DP} D [_{\varphi P} \varphi [_{NP} N]]]$ , where *ik* is the realization of  $\varphi(P)$ , the locus of person and number features, and -e an affixal realization of D, which possibly gets inherited by (i.e. copied onto)  $\varphi(P)$ . Schematically:  $[_{DP} D [_{\varphi P} \varphi (= ik)+D (= -e) [_{NP} N_{\emptyset}]]]$ .<sup>15</sup> It

<sup>15</sup>In certain varieties of Dutch, the affixal article -e 'the' is also found on certain nouns. Take, for example, the following examples from Oldambt Dutch (Schuringa 1923: 101).

- (i) Oldambt Dutch
- a. noar kerk-e  
 to church-e  
 'to church'
- b. Lamp-e wil nait bran'n.  
 lamp-e will not light  
 'The lamp won't light.'

goes without saying that this structural analysis of expressive-emphatic schwa in pronominal phrases needs further investigation.

Summarizing, I have argued that -E adds emphasis to the adjectival degree word (the intensifier) that modifies the gradable adjective. The emphatic marker -E is, actually, an adjectival inflection that is licensed under Spec-head agreement with the inflected (-e) attributive adjective. Thus, syntax (i.e., the structural Spec-head relation) provides the right context for parasitic agreement, and externalization of that structure yields a pattern featuring -E.

I close this section with a brief discussion of a phenomenon that seems unexpected under the approach towards parasitic agreement taken so far. It turns out that there are patterns in which -E appears on an intensifier, even though there is no gradable adjective present, which carries the inflection -e. Before turning to those patterns, recall that -E does not appear on the degree word when the latter modifies an attributive adjective carrying the feature constellation [-definite, +singular, +neuter], as in (8a), repeated here as (57a). Nor does -E appear when the adjective is used predicatively, as in the copula construction in (11), repeated here as (57b):<sup>16</sup>

(57) Dutch

- a. een [erg(\*-E) leuk] huis  
a very(-E) nice house
- b. Deze auto is erg(\*-E) leuk.  
this car is very(-E) nice  
'This car is really nice.'

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<sup>16</sup>Similar patterns can be found in Frisian. Verdenius (1939), for example, gives the following sentences:

- (i) Frisian  
't is al skandalig(e) let  
it is already scandalous(-E) late  
'It is already very late!'
- (ii) Frisian  
Hy kaem skandalig(e) let  
he came scandalous(-E) late  
'He arrived terribly late!'

Consider now the adjectival expressions in the following examples:

(58) Dutch

- a. Jan heeft [een [<sub>AP</sub> verdomd(-E) leuk ] huis!  
    Jan has   a           damned-E   nice   house  
    ‘Jan has a really nice house.’
- b. Jan heeft [een [<sub>AP</sub> verrekt(-E) leuk ] huis!  
    Jan has   a           damned-E   nice   house  
    ‘Jan has a really nice house.’

(59) Dutch

- a. Deze auto is [verdomd(-E) leuk].  
    this car is damned-E   nice  
    ‘This car is really nice!’
- b. Deze auto is [verrekt(-E) leuk]  
    this car is damned-E   nice  
    ‘This car is really nice!’

What is remarkable about these examples is that -E appears on an intensifier (*verdomd*, *verrekt*) within an adjectival context that normally does not license the appearance of -E; see (57). The question therefore arises as to what licenses the presence of -E in these examples. And related to that question: what distinguishes intensifiers such as *verdomd* and *verrekt* from intensifiers such as *erg* ‘very’, *vreselijk* ‘extremely’, *ontzettend* ‘terribly’ etc.?

I propose that the distinct behavior of the intensifiers *verdomd* and *verrekt* has to do with their status as *expressive* modifiers in the sense of Potts (2005); see also Potts (2007) and Morzycki (2008). As Potts points out, English expressive modifiers such as *damn* and *fucking*, as in *the damn Republican* or *the fucking car*, do not express truth-conditional, restrictive meaning. In this respect they behave differently from descriptive adjectives such as *rich* and *beautiful*, which clearly contribute restrictive meaning to the noun phrase: *a rich Republican*, *a beautiful car*. As Potts argues, expressive modifiers typically convey the speaker’s commentary on and attitude towards what is being said. As such, the expressive modifier has a more appositional or “additional” (i.e., non-restrictive) meaning, one which is directly connected to the utterance situation itself. In a way, then, descriptive modifiers such as *rich* and *beautiful* represent a different dimension

of meaning than do expressive modifiers such as *damn* and *fucking*. I refer the reader to Potts (2005; 2007) for further details.<sup>17</sup>

Now what is it that allows expressive modifiers such as *verdomd* and *verrekt* to be augmented with -E in spite of the absence of overt adjectival inflection? One might hypothesize that the answer simply lies in the expressive nature of words such as *verdomd* and *verrekt*. In other words, it is an intrinsic property (say, their expressive semantics) of these lexical items that permits augmentation with -E. Although expressiveness obviously matters for the appearance of -E in (58)-(59), it cannot be the whole story. Under such an analysis, one would expect that these words can be augmented with -E when they occur in an AP-external context. It turns out, though, that -E is impossible in such contexts. Consider, for example, the following utterances, in which *verrekt* and *verdomd* occur as independent utterances and clearly have an expressive meaning but cannot be augmented with -E.<sup>18</sup>

(60) Dutch

- a. Verrekt(\*-E)! Je hebt gelijk!  
damned you have right  
'Gosh! You are right!'
- b. Verdomd(\*-E)! Je hebt gelijk!  
damned you have right  
'Gosh! You are right!'

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<sup>17</sup>The idea that descriptive meaning and expressive meaning represent different layers of interpretation raises the question as to whether this interpretative difference has a counterpart in syntax. That is, are descriptive modifiers integrated differently in syntactic structure than expressive modifiers? Building on a suggestion by Chris Kennedy, Morzycki (2008), for example, tentatively proposes that phrase structure may contain a specific layer – E(xpressive)P(hrase) – for encoding expressive information. Under such an analysis, *the damn Republican* would look like: [<sub>DP</sub> the [<sub>EP</sub> damn [<sub>E'</sub> E [<sub>NP</sub> Republican]]]]. In this article, I won't consider this option and assume that intensifiers such as *verdomd* and *verrekt* occupy the same position as intensifiers such as *erg* and *vreselijk*.

<sup>18</sup>Verdenius (1939) observes the same for Frisian. Recall from footnote 16 that the intensifier *skandalig* (scandalously, 'terribly') can be augmented with -E when it is contained within an AP. The appearance of -E is blocked, however, when *skandalig* acts as a modifier of a verb. For example:

- (i) Frisian  
Hy liicht skandalig(\*-E)  
he lies scandalous(-E)  
'He lies terribly!'



The contrast between (58)–(59), on the one hand, and (60), on the other hand, suggests that some property of the gradable adjective plays a role in licensing the appearance of  $-E$  on the expressive intensifier. In view of what we have seen before, it does not seem implausible to claim that this property is the Spec–head agreement relationship between the gradable adjective and the degree word. This would mean that, even if the adjective does not carry any overt inflection (i.e.,  $-e$ ), the adjective can still enter into an agreement relationship with the degree modifier in its Spec-position. Under such an analysis, one would be forced to say that morphologically bare adjectives do carry an inflectional morpheme, but that this morpheme is silent; that is, it is a null suffix.

The idea that Spec–head agreement does not have to become manifest by means of overt inflectional morphology but can remain hidden under the (sound) surface as a result of zero-morphology makes it possible to extend the phenomenon of parasitic agreement to the attributive *erg leuk* in (57a) and the predicative AP *erg leuk* in (57b). That is, there can be parasitic agreement between the degree modifier and the gradable adjective but the agreement does not surface audibly/visibly as a result of zero-morphology (represented as  $\emptyset$ ) on both items. Schematically:

(61) Dutch

- a. een [ *erg*- $\emptyset$ <sub>[-def,+sg,+neut]</sub> *leuk*- $\emptyset$ <sub>[-def,+sg,+neut]</sub> ] huis  
     a     very                      nice                      house
- b. Deze auto is [ *erg*- $\emptyset$  *leuk*- $\emptyset$  ].  
     this car is very nice  
     ‘This car is really nice.’

If we follow this line of analysis, *verdomd leuk* in (58)–(59) would have the structure in (62a), and *verdomde leuk* the one in (62b):

- (62) a. [*verdomd*- $\emptyset$  *leuk*- $\emptyset$  ]  
       b. [*verdomd*- $E$  *leuk*- $\emptyset$  ]

Thus, both patterns feature the “abstract” Spec–head agreement relationship between the expressive intensifier and the gradable adjective, but the externalization of the agreement relationship is symmetric ( $-\emptyset -\emptyset$ ) in (62a) but asymmetric ( $-E -\emptyset$ ) in (62b). Possibly, the asymmetric Spell-out of the agreement relationship is a formal manifestation of expressivity on the side of the speaker. In a way, the formally asymmetric manifestation of the Spec–head agreement relationship constitutes a deviant/marked or “imperfect” externalization. As argued

in Corver (2013; 2016), such deviations from regular linguistic patterns have a high information/surprise value as a result of their unexpectedness. By means of this unexpected linguistic symbol at the sound surface, the speaker provides a cue/signature of his internal emotional state.<sup>19</sup>

## 9 Conclusion

The parasitic gap phenomenon has made us familiar with the phenomenon of parasitism in syntax, that is the phenomenon that the presence of a symbol of type  $\alpha$  in a syntactic representation is dependent (i.e., parasitic) on the presence of another symbol of type  $\alpha$  in that same representation. Research on parasitic gaps led to an important conclusion: the appearance of the parasitic gap is structure-dependent. Specifically, the parasitic gap ( $e_{PG}$ ) may not be linked to a real gap ( $e_{RG}$ ) that is in a structurally higher position. In this article, I have tried to add another phenomenon to the list of linguistic parasitism, viz. parasitic agreement; that is, the appearance of an inflection whose existence is dependent on the presence of a “real” inflection. Specifically, an intensifying degree word (optionally) carries an inflection which is associated with the gradable adjective. Crucially, it was shown that the appearance of the parasitic inflection depends on hierarchical structure and not on sequential or linear structure. In other words, parasitic agreement, just like the parasitic gap phenomenon, is structure dependent. The structural configuration that was claimed to be at the basis of parasitic agreement is the Spec-head relationship.

In short, rethinking the phenomenon of linguistic parasitism from the perspective of agreement leads to the same conclusion as research on parasitism from the perspective of gaps: Hierarchical structure matters!

## Abbreviations

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<sup>19</sup>Other examples of expressive/affective signatures at the sound surface arguably are the following: First, the appearance of *-e* (schwa) on attributively used monosyllabic adjectives in Afrikaans. Under a neutral reading, these adjectives do not bear any overt inflectional morphology (as opposed to bisyllabic ones), which I take to be an instance of zero-morphology ( $\emptyset$ ); e.g. *n mooi konyn* (a beautiful rabbit). In their expressive/affective use, however, they become augmented with *-e*: *'n mooie konyn* (‘a really beautiful rabbit’). A second illustration might be the (optional) augmentation with *-e* (schwa) of Dutch superlative adjectives, as in *Jan reed 't hardste* (Jan drove the/it<sub>neuter</sub> fastest-*e*, ‘Jan drove fastest’).

AGR	agreement	PTCL	particle
CMPR	comparative	REFL	reflexive
PF	phonetic form	RG	“real” gap
PG	parasitic gap		

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## Chapter 10

# Rethinking “defective goal”: Clitics and noun incorporation

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In this paper we revisit Mithun’s (1984) classic typology of noun incorporation (NI) constructions and offer an analysis for the various types of NI using Roberts’ (2010) notion of “defective goal”. We suggest that the cross-linguistic variation across NI types can be captured by three parameters: i) whether the host of the incorporated nominal element is V or  $v$ , ii) whether the incorporate is  $n$  or D with a referential index, and iii) whether the object is a “defective goal” or not.

In his most recent book, Roberts (2010) unfolds a perspective on sundry cases of head movement that is centred on what he calls a “defective goal”. The idea is that in syntactic configurations in which a probe  $\pi$  engages in an Agree relation with a goal  $\gamma$  whose feature content is a proper subset of that of  $\pi$ , the effects of chain formation and displacement arise without movement needing to be involved: thanks to the subsecutive probe–goal relation, a chain is formed between  $\pi$  and  $\gamma$ , with exponence at  $\pi$  as a simple result of chain reduction (which as a rule singles the highest member of a chain out for phonological realisation).<sup>1</sup> This approach to “head movement” in terms of subsecutive probe–goal relations at the same time makes the phenomenon squarely syntactic in nature (it is a

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<sup>1</sup>Roberts (2010: 61): “Usually, the ‘head’ of the chain – that is, the position that asymmetrically c-commands all the others – is the one non-deleted position because this is the locus of the most feature-checking/valuing relations.”



result, after all, of a syntactic Agree relationship) and has the potential to take “movement” out of the equation entirely.<sup>2</sup>

The centrepiece of Roberts’ application of the defective goal approach to head movement is his analysis of object cliticisation in the Romance languages. In our contribution to this volume, we would like to present some thoughts, in the general spirit of Roberts’ approach but fine-tuning them in a number of ways, on the syntax of definite direct objects, object clitics, and noun incorporation. Starting out from Roberts’ (2010) own proposal for object cliticisation and his suggestions regarding noun incorporation, we proceed in §2 by reviewing Mithun’s (1984) typology of noun-incorporation constructions, and develop an explanatory account of this typology in which Roberts’ analysis of clitics as defective goals is mobilised to maximum effect as a point of variation among noun-incorporating languages, in conjunction with two other microparameters that fit naturally into the system: the locus (*v* or *V*) and size (*n* or *D*) of the incorporated nominal element. In object cliticisation and a subset of N-incorporation constructions, the combination of *v* and a nominal element attached to it forms a complex probe with a defective goal. How clitic doubling fits into this perspective is addressed in §3. In §4, we explore an analysis of object pro-drop afforded by the logical possibility for *v* by itself to be a proper featural superset of its goal, sanctioning the latter’s silence. After §5 takes a brief look at definiteness agreement and person, we close in §6 with a note on an important difference between two ways in which a functional head can be a proper featural subset of a c-commanding functional head: through extended projection (which does not implicate probing), or via a probe–goal relationship involving two different extended projections.

We believe that these thoughts taken together enhance, at the empirical level, the efficacy of Roberts’ “defective goal” approach to head movement phenomena and, at the theoretical level, the delimitation and significance of subjective probe–goal relations in the morphosyntax.

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<sup>2</sup>We write “has the potential to take” rather than simply “takes” because of a lack of clarity on this point in the book. On the one hand, Roberts’ (2010: 160) prose makes it perfectly clear that he believes that “given that copying the features of the defective goal exhausts the feature content of the goal, Agree/Match is in effect indistinguishable from movement. For this reason we see the PF effect of movement.” Yet on the other hand, the trees that he presents still make it look like movement is involved (as Matushansky 2011 also notes in her review of the book). We take the prose and not the trees to reflect the true nature of Roberts’ thinking on the matter.



## 1 Clitics

Roberts (2010) takes a novel approach to the problem posed by clitic constructions, with particular reference to object clitics, as in French (1b), the clitic counterpart to (1a), with a full-fledged definite object-DP.

(1) French

- a. j’ai surpris les filles  
I have surprised the girls  
‘I surprised the girls’
- b. je les ai surprises  
I them have surprised.F.PL  
‘I surprised them’ (said of feminine direct object)

Roberts argues that in a structural configuration in which a probe  $\pi$  c-commands a goal  $\gamma$  and the feature content of  $\gamma$  is a proper subset of that of  $\pi$ , we get the effect of displacement: in such a defective ( $\pi, \gamma$ ) relationship, only one of the partners is spelled out – typically the structurally higher one (i.e., the probe,  $\pi$ ). Roberts takes an object clitic to be just a bundle of  $\phi$ -features, and to thereby constitute a proper subset of  $v$  – which, apart from the  $\phi$ -features that match those of the object also has a category feature and possibly plenty of other formal features as well.<sup>3</sup>

- (2)  $[_{VP} [_v [\phi_{\{ \phi, [+N] \}}] [_v \{ [+V], ACC, \dots \} \{ \{ \phi, [+N] \}, \{ [+V], ACC \} \} ] [_{VP} V \phi P_{\{ \phi, [+N], ACC \}} \dots ]]$

For Roberts, this explains why the object clitic is spelled out on  $v$  rather than in the A-position that non-clitic objects find themselves in: the probe  $v$  and the clitic, its defective goal, form a chain which, through chain reduction, gets an exponent (in the form of a pronominal element representing the  $\phi$ -feature bundle) in the position of the structurally higher member of the chain,  $v$ .

<sup>3</sup>For the purpose of linearisation, we are representing the clitic as a  $\phi$ -feature bundle adjoined to  $v$  and forming a complex probe  $\phi+v$ . It may be that linearisation can be dealt with in ways not exploiting adjunction; but for simplicity and transparency, we will use adjunction structures throughout the paper. In the adjunction structures employed in this paper, the feature content of the adjunction complex is the sum of the feature bundles of the host and the adjunct. Throughout, we annotate this as follows:  $[_v [X_{\{FFx\}}] [_v \{FFv\}]]_{\{ \{FFx\}, \{FFv\} \}}$ .

## 2 Noun incorporation

In Section 4.2.2 of his book, Roberts (2010) unfolds what he calls “a note on noun incorporation” (NI), whose purpose it is “to sketch how Baker’s data and results concerning NI and related issues might be captured in terms of the general approach to head-movement advocated here, and what some of the consequences of that may be” (p. 188). In his brief discussion, while rightly stressing the similarity between noun incorporation and object cliticisation, Roberts suggests that nouns that incorporate are *n*’s associated with an object that projects no further up than *nP*. This leads to (3) as the representation of noun incorporation constructions along the lines pursued by Roberts:

$$(3) \quad [_{VP} [_v \text{ } [n_{\{[+N]\}}] \text{ } [_{v\{[+V], \text{ACC}, \dots\}}] ] ] \{ \{[+N]\}, \{[+V], \text{ACC}\} \} [_{VP} \text{ } V \text{ } nP_{\{[+N], \text{ACC}\}} \dots ] ]$$

Once again, the object is a defective goal: its features form a proper subset of the features on the complex probe *v*. The noun will therefore be spelled out on the verb, and the *nP* in VP, the defective goal, remains silent.

Roberts intends this note as an indication of how his notion of a defective goal might be of service in the account of a nominal displacement phenomenon close in nature to object cliticisation. And indeed, it seems to us that in a proper understanding of the complexities of noun incorporation, defective probe–goal relations play an important role. But (3) is only the tip of the iceberg.

In the ensuing subsections, we will show that (3) does indeed have a place in the syntax of noun-incorporation constructions: it accounts well for one subtype of Type I in Marianne Mithun’s (1984) classic typology of noun-incorporation phenomena. But Mithun’s typology features several other members, which also need to be analysed. The goal of the remainder of §2 is to present an account of Mithun’s complete typology of noun incorporation, in a theoretically parsimonious way, and mobilising Roberts’ notion of “defective goal” as fruitfully as possible.

### 2.1 The typology of noun incorporation and pseudo-incorporation

Mithun’s (1984) monumental study of noun-incorporation phenomena in a wide range of different languages resulted in a typology of four distinct types of N-incorporation cases. Of these, the first has two subtypes, which we will refer to in this paper as Types Ia and Ib; the latter has taken on the title “pseudo-incorporation” in the more recent literature on noun incorporation (see e.g. Mas-

sam 2001b), and we will often use this label ourselves when talking about Type Ib.<sup>4</sup>

- (4) *Descriptive typology of noun incorporation phenomena* (based on Mithun 1984)
- Ia lexical compounding: the incorporated noun is non-referential, generic; the incorporation complex denotes a conventional, institutionalised activity
  - Ib “pseudo-incorporation”: the incorporated noun is non-referential, but shows a much greater degree of morphosyntactic independence than in lexical compounding
  - II the incorporated noun lacks argument status, and does not usurp the verb’s structural case-assigning capacity, which is redirected to a phrase in the external syntax
  - III the incorporated noun can be referential and absorbs case, but cannot be associated with modifiers in the external syntax
  - IV the incorporated noun can be referential and absorbs case, and can be associated with modifiers in the external syntax

We will argue in this section that for an understanding of this typology, three things are essential:

- (5) a. the host of the incorporated nominal element – V or  $\nu$   
 b. the nature of the incorporated nominal element –  $n$  or  $D^i$  (“i” = “referential index”)  
 c. the status of the object – “defective goal” or not

When the incorporated nominal element is attached to  $\nu$ , it can form an integral part of the  $\nu$  probe that is a proper featural superset of a defective goal in VP, in the sense of Roberts (2010). This is what we argue is the case in noun-incorporation cases of Types Ib and III. In Types Ia, II, and IV, the object is not a defective goal – either (as in Types Ia, IV) because the incorporated element is not attached to  $\nu$  but to V (which is not a probe) or because the object is not a

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<sup>4</sup>Mithun herself does not use the labels “Type Ia” and “Type Ib”, or “pseudo-incorporation”. She does, however, make an explicit distinction among Type I noun-incorporating languages between morphological compounding cases and cases in which the verb and the noun are “simply juxtaposed to form an especially tight bond”. In our structural analysis, Types Ia and Ib will turn out to be quite different: there is no obvious sense, from our point of view, in which they should be grouped together as subtypes of one basic incorporation type. But we will follow Mithun’s classification for the sake of transparency and straightforward comparison.

proper featural subset of the feature content of the complex probe formed by  $v$  and the incorporated element adjoined to it.

The structural translation of the typology in (4) that (5) offers is given in (6), which sums up in a nutshell the proposal that will be spelled out in the subsections to follow.<sup>5</sup>

- (6) *Structural typology of noun incorporation constructions (this paper)*
- Ia host: V  
 guest:  $n$   
 object: none  
 $[_{VP} v_{\{[+V], ACC, \dots\}} [_{VP} [V [n_{\{+N\}}] [V]]]]$
- Ib host:  $v$   
 guest:  $n$   
 object: defective goal  
 $[_{VP} [v n_{\{+N\}}] [v_{\{+V\}, ACC, \dots}]]_{\{[+N], \{[+V], ACC, \dots\}} [_{VP} V nP_{\{+N\}}]]$
- II host:  $v$   
 guest:  $n$   
 object: non-defective goal  
 $[_{VP} [v n_{\{+N\}}] [v_{\{+V\}, ACC, \dots}]]_{\{[+N], \{[+V], ACC, \dots\}} [_{VP} V D^iP_{\{D, \phi, [+N]\}}]]$
- III host:  $v$   
 guest:  $D^i$   
 object: defective goal  
 $[_{VP} [v D^i_{\{D, \phi, [+N]\}}] [v_{\{+V\}, ACC, \dots}]]_{\{D, \phi, [+N], \{[+V], ACC, \dots\}} [_{VP} V nP_{\{+N\}}]]$
- IV host: V  
 guest:  $D^i$   
 object: non-defective goal  
 $[_{VP} v_{\{+V\}, ACC, \dots} [_{VP} [V D^i_{\{D, \phi, [+N]\}}] [V]] xNP]]$

Note that in (6.Ia) and (6.IV),  $v$  is included for parallelism with the other structures – but while  $v$  is a necessary ingredient of the other structures, it can freely be absent from (6.Ia) and (6.IV). This will be important later, in the discussion of the transitivity restriction on noun incorporation.

## 2.2 Incorporated nouns associated with defective goals

The notion of “defective goal” is particularly helpful in the analysis of noun incorporation of Type III, but it also plays a role in the account of Type Ib. Let us

<sup>5</sup>In (6) and throughout the paper, “ $D^i$ ” stands for a D(eterminer) with a referential index. For simplicity, (6) adopts a structural representation of the object-of relationship in which the object is the complement of V; but nothing in what follows is incompatible with a representation of the Theme as the specifier of VP; as in Hale & Keyser (1993) et passim.

start with the latter, usually referred to as “pseudo-incorporation”.

### 2.2.1 Type Ib pseudo-incorporation

The representation in (7) differs from (2) in the size of the object ( $\phi P$  in (2), but a mere  $nP$  in (7)) and in the size of the feature bundle represented by the element adjoined to  $v$  ( $\{\phi, [+N]\}$  in (2), but just  $\{[+N]\}$  in (7): the only feature that  $n$  contributes is a categorial feature.

- (7)  $[_{VP} [_v n_{\{[+N]\}} [_v \{[+V], ACC, \dots\}]] \{ \{[+N]\}, \{[+V], ACC, \dots\} \} [_{VP} V nP_{\{[+N]\}}]]$

In both (2) and (7) the feature content of the complex probe  $v$  is a proper superset of that of the object. So the object is a defective goal in both structures. The representation in (7) is the equivalent of Roberts’ (2010) suggestion for the syntax of noun incorporation in general, given in (3).

(7) is useful for the analysis of what has been called pseudo-incorporation. In a typical pseudo-incorporation construction, the clause shows the valency and case pattern characteristic of intransitives, and the object is non-referential, lacking a referential index. On the assumption that referential indices are located on D, this means that pseudo-incorporated nouns must lack the D layer. But it can be modified (as in (8), from Niuean), indicating that it does not form a complex head with the verb. Massam (2001b) argues that pseudo-incorporation in Niuean involves determinerless noun phrases. (7) translates this structurally by analysing the internal argument as  $nP$ , specified for category and hence eligible for adjectival modification, but not as large as DP.  $nP$  is not subject to the Case Filter, which is why in (8) absolutive case is available for the external argument.

- (8) Niuean  
 ne inu kofe kono i Sione  
 PST drink coffee bitter ABS Sione  
 ‘Sione drank bitter coffee.’

The question of whether or not pseudo-incorporated objects form a complex head with the verb depends, given the proposal in (7), on whether chain reduction singles out the bottom or the top of the chain for exponence.<sup>6</sup> When  $nP$  is the

<sup>6</sup>The question of which member of the chain is spelled out in turn depends, at least in part, on whether  $nP$  remains in VP or makes its way into a position outside the c-command domain of the  $n+v$  probe by the time of spell-out. Exponence of  $nP$  will make the incorporation “covert”, but still ensures that the object and the verb are spelled out in close proximity to one another:  $nP$ , because of its minimal size, is not eligible for “scrambling” into positions beyond vP.

term that is subject to exponence, the incorporated noun will accept attributive modifiers, as in (8). In cases of pseudo-incorporation in which the noun does not accept dependents or modifiers, it will be the *v*-adjoined member of the chain that is singled out for phonological exponence, with *nP* fully silenced because it is a defective goal to the *n+v* probe.<sup>7</sup>

### 2.2.2 Type III noun incorporation

In Mithun's Type III noun-incorporation languages (which include Ainu, Chukchi, Mapudungun, and Nahuatl), the incorporated noun can be fully referential, playing an active role in the discourse. Baker et al. (2005: 145–146) illustrate this clearly for Mapudungun.

#### (9) Mapudungun

- a. ngilla-waka-n;      fey langüm-fi-ñ  
 buy-cow-IND.1SG.SBJ then kill-3.OBJ-1SGJ  
 'I bought a cow; then I killed it.'
- b. # ti ullcha domo pe-fi-y                      ti ayü-domo-le-chi  
 the young woman see-3.OBJ-IND.3SG.SBJ the love-woman-STAT-ADJ  
 wentru  
 man
- c. ti ullcha domo ñi      chaw pe-fi-y                      ti  
 the young woman 3.POSS father see-3.OBJ-IND.3SG.SBJ the  
 ayü-domo-le-chi      wentru  
 love-woman-STAT-ADJ man  
 'the young woman<sup>#</sup>( 's father) saw the man who loved the woman'

<sup>7</sup>We take Niuean (8) to represent the typical pseudo-incorporation pattern. But as our reviewers rightly point out, the term "pseudo-incorporation" has been applied with reference to a wide variety of phenomena. The use of bare morphologically accusative objects as "verbal modifiers" in Hungarian (as in *János verset ír* 'János poem.ACC writes') has been treated under this rubric (see fn. 13, below), as have the "weak definites" of Germanic (*John plays the double bass*). For the latter, an approach along the lines of (7) would require a treatment of the article as something different from D (see Zamparelli 2000). The behaviour of bare singular objects in Norwegian (*Anna kjøpte bil* 'Anna bought car'), for which Kallulli (1999) argues that they establish discourse referents yet lack the DP-layer (which is arguably why they cannot serve as subjects of secondary predication: *Anna kjøpte bil\*(en) ny* 'Anna bought car(DEF) new'), might also be folded into (7) – but then the ability to introduce a discourse referent must (for Norwegian, at least) be divorced from D.

In (9a), we see that in Mapudungun an incorporated noun can set up a new discourse referent and serve as the antecedent for a referentially dependent element. In the contrast between (9b) and (9c), we discover a Principle C effect similar to the one found in the English translations, which suggests that the incorporated object behaves in syntax like an independent referential expression does in languages such as English.

The fact that the incorporated noun in Type III constructions can be fully referential suggests that such noun incorporation should be given a different analysis from the one proposed in the previous subsection for pseudo-incorporation, with the difference lying in the size of the object. While for pseudo-incorporation a bare *nP*, as in (7), seems right on target, for Type III noun incorporation we need an object that can harbour a referential index. If, as is standardly assumed, *D* is the locus of referential indices, the *D*-head must be active in the syntax of noun-incorporating languages of the Mapudungun type, Mithun’s Type III. We introduce this *D*-head ( $D^i$ , where “*i*” is the referential index) directly on *v*, serving as the incorporated element, as shown in (10). This *D* forms a discontinuous object with the *nP* in the  $\theta$ -position. The noun lexicalises the *D*-head, which is what gives rise to physical incorporation into the verb. (We will return to lexicalisation in §2.4.)

$$(10) \quad [{}_{vP} [{}_v D^i_{\{D, \varphi, [+N]\}} [{}_v \{[+V], \text{ACC}, \dots\}]] \{ \{D, \varphi, [+N]\}, \{[+V], \text{ACC}, \dots\} \} [{}_{VP} V \ nP_{\{[+N]\}}]]$$

In Type III constructions there can be no “modifier stranding”, which means that it is impossible for the constituent situated in the object position of the verb to harbour any modifiers associated to the incorporated object.<sup>8</sup> This will follow immediately if in the syntax of Type III noun-incorporation constructions, the object position is structurally occupied by a defective goal of the *v* probe.

Because the defective goal is destined to complete silence under Roberts’ (2010) proposal, it cannot harbour any modifiers of the incorporated noun. In the structure in (10), the *nP* in the verb’s object position is, by Roberts’ logic, a defective goal that remains completely silent at PF. Any modifiers merged inside *nP* will be silenced along with the rest of *nP*. Adjunction of modifiers to *nP* itself

<sup>8</sup>We use “modifier stranding” as the familiar descriptive term for this, even though it will emerge later in the paper that we do not actually take modifiers of an incorporated noun that occur outside the incorporation complex to have literally been stranded (by movement of the noun). We would also like to emphasise that under “modifier stranding” we do NOT understand the presence of external possessors: this is a different phenomenon, often associated with “possessor ascension”. See Baker et al. (2005: 168) for discussion of the concerns raised by “possessor stranding/ascension”.

is impossible because *nP* occupies a  $\theta$ -position: adjunction to  $\theta$ -role bearers is impossible (Chomsky 1986: 6, McCloskey 1996: 57).

In their detailed comparative study of noun-incorporating languages, Baker et al. (2005) find that in Type III languages, the verb does not engage in morphological agreement with the incorporated object. The structure in (10) derives this – in part on principled grounds, and in part by executive decision. The principled part of the agreement story is the relation between the *v*-adjoined D (which is the locus of the referentiality of the object) and the *v* probe: since *v* does not c-command the D adjoined to it, it cannot establish an Agree-relation with this D. But *v* does c-command the object, to which D is linked and with which it forms a discontinuous object. If this object were as large as  $\phi$ P, it should be able to control  $\phi$ -feature agreement with *v*, which is not what we find in the languages studied by Baker et al. In these languages, the object position of the verb, to which V assigns its  $\theta$ -role, is occupied by something too small (*nP*) to be able to engage in a morphological  $\phi$ -agreement relationship with *v*.

But though the size of the nominal construct in the object-of-V position in (10) must be such that it is a defective goal for the D+*v* probe, it is not guaranteed to be as small as *nP*: the syntax of (10) would be convergent also if the object were a  $\phi$ P. Our analysis of Type III noun-incorporation constructions thus leads us to suspect that the correlation that Baker et al. (2005) found between absence of “modifier stranding” and absence of agreement with the object is not necessarily absolute: there could be Type III noun-incorporating languages which do evince  $\phi$ -feature agreement with the object. Whether such languages exist is something we are not in a position to confirm at this time.

Baker et al.’s (2005) third hallmark of Type III incorporating languages is that in these languages, incorporation of the (deep) object into an unaccusative verb is impossible.<sup>9</sup> Baker et al. derive this in a rather complicated way, with an appeal to  $\phi$ -feature deletion on the “trace” of the incorporated noun, in conjunction with a particular interpretation of the EPP. For us, the correlation between absence of “modifier stranding” and the ban on incorporation of unaccusative objects is also expected to necessarily be an absolute one. And as a matter of fact, from our proposal it follows much more straightforwardly than it does from Baker et al.’s: in the analysis of Type III incorporating languages in (10), the locus of incorporation is *v*, and this element is either not present in the syntax of unaccus-

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<sup>9</sup>Barring (in some languages) meteorological predicates and constructions in which the incorporated noun is associated with a possessor. Baker et al. (2005) have an account for these cases – one which does not directly carry over to the proposal in (10). We have no immediate solution to offer for these exceptions.



ative constructions at all, or too weak to be able to support incorporated nominal elements.<sup>10</sup>

## 2.3 Incorporated nouns not associated with defective goals

In Type IV noun-incorporating languages, incorporation of the (deep) object of unaccusative verbs is unrestricted. Baker et al. (2005) find that in Type IV languages it is also quite generally possible to strand modifiers, unlike in Type III languages. These things suggest that the host of the incorporate is different in Type IV languages, and that the object in these languages is not a defective goal.

### 2.3.1 Type IV noun incorporation

Type III and Type IV noun-incorporating languages are on a par (and as a pair differ in this regard from the other noun-incorporation types) when it comes to the referentiality of the incorporated noun. Baker (1996: 287–288 and sect. 7.4.3) shows for Mohawk, in the same way that Baker et al. (2005) later did this for Mapudungun (recall (9)), that the incorporated noun is fully active in the discourse. From our point of view, this means that a D-head is involved in Type IV noun-incorporation constructions, just as it is in Type III. It is important to establish that this is something the two types have in common.

But besides this parallel, Baker et al. (2005) demonstrate that Mithun’s Type IV noun-incorporating languages (including Mayali, Mohawk, Southern Tiwa, and Wichita) are diametrically opposed to Type III in three respects. We just mentioned that Type IV languages, unlike those of Type III, allow “modifier stranding” and incorporation in unaccusative contexts; in addition, in Type IV languages but not in Type III ones, the verb agrees morphologically with the incorporated noun. What might the difference between Types III and IV be, in analytical terms, such that these divergences fall out?

Our hypothesis regarding Type IV noun-incorporation constructions is that the incorporated D (spelled out as a noun) is attached not to *v* but to *V*, as shown in (11):

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<sup>10</sup>Chomsky’s (1995) original *v*-hypothesis had it that *v* is responsible for the checking of accusative case AND for the assignment of an external  $\theta$ -role to the subject of a transitive clause. More recent work has extended the distribution of *v* to all things verbal, making a distinction between *v*\* (the “strong” *v* that occurs in transitive constructions and assigns an external  $\theta$ -role) and “unstarred” *v* (the “weak” *v* found everywhere else). On that approach, the strong correlation between absence of “modifier stranding” and absence of incorporation in unaccusative constructions can still be made to follow from (10), on the assumption that “*v*” here is specifically the transitivity *v*\*.

- (11) [<sub>VP</sub> *v*<sub>{[+V], ACC, ...}</sub> [<sub>VP</sub> [<sub>V</sub> *D*<sup>*i*</sup> {*D*, *φ*, [+N]} [*V*]] xNP]]

*D* does not form a discontinuous object with xNP (some extended projection of *N*) in the object position: although they can be interpretively linked (in a relationship of specification), the two are merged independently of one another. Importantly, in its *V*-adjoined position, *D* is not in a position to probe anything because its host, *V*, is not itself a probe. xNP, therefore, is not a defective goal, and not doomed to silence. This means that when both are present in the structure simultaneously, xNP and *D* can both be spelled out. xNP can harbour modifiers that are semantically associated with the incorporated object, creating the impression of “modifier stranding” – although the modifier, included in xNP, is not actually being “stranded” by anything.<sup>11</sup>

Besides the possibility of “modifier stranding” (or, better put, the presence of “classificatory” or specificational material in the external syntax), (11) also correctly predicts the fact that the incorporated object (the *V*-adjoined *D*) in Type IV noun-incorporation constructions enters into an agreement relation with the verb and checks *v*’s case feature. This is thanks to the fact that *v* in (11) c-commands the *v*-adjoined *D*<sup>*i*</sup> and can hence engage in an Agree relationship with *D*<sup>*i*</sup>.

Thirdly, (11) also makes it immediately understandable that in Type IV noun-incorporating languages, it is possible for the (deep) object of unaccusative verbs to incorporate. After all, nothing in (11) implicates *v* in the incorporation process: the incorporated element (*D* with its referential index “*i*”) is attached to *V*; this should be possible regardless of whether *v* is present or not (or on the featural properties of *v* when present).

A clear prediction made by (11) that is not raised by Baker et al. (2005) but which is indeed fulfilled is that in Type IV noun-incorporating languages the

<sup>11</sup>The proposed approach to “modifier stranding” is compatible with Rosen’s (1989) representation of “stranded” modifiers as associated with a silent noun, though it is not necessarily dependent on that representation.

A treatment of “modifier stranding” that does not take this term literally is recommended by the fact that the external-syntactic material associated with the incorporated noun in Type IV languages is not necessarily representable as a subconstituent of the noun phrase of which the incorporated noun is supposed to be the (moved) head. The external material in Type IV is characterised by Mithun as “classificatory” material. Its function is to specify the content of the incorporated noun further. This can be done by modifiers in the traditional sense (“red” as further specifying the content of “car”), but it can also be achieved by another, more specific nominal expression (“Cadillac” as a further specification of the content of “car”). The generalisation covering external material in Type IV languages is that it is specificational – regardless of how the content specification that it brings about is syntactically represented (i.e., irrespective of whether or not it can be mapped into a noun phrase).

incorporated object must be a thematic dependent of the incorporator. Consider in this context the Mayali examples in (12) (Evans 1994):

(12) Mayali

- a. \* an-barndadja            gu-wukku ngarri-*mim*-wo-ni  
       III-owenia\_vernicaosa LOC-water 1A-fruit-put-PI
- b.   an-barndadja            ngarri-*mim*-bo-wo-ni  
       III-owenia\_vernicaosa 1A-fruit-water-put-PI  
       ‘we used to put the fruit of *Owenia vernicaosa* in the water’

What we see in (12a) is that *mim* ‘fruit’ cannot be incorporated into the verb *wo* ‘put’ by itself. This is because *mim*, in the structure of a “put”-type construction, is not a direct argument of the verb: the predicate for *mim* is *gu-wukku* ‘in the water’, or, on a Larson/Hale & Keyser-style approach, the complex predicate *gu-wukku wo* ‘put in the water’, not the verb by itself. Since Type IV incorporation, on our analysis in (11), involves the adjunction of the incorporated noun directly to the verbal root V, and since by hypothesis such adjunction is legitimate only if there is a direct thematic relationship between V and the incorporated material, it is impossible in Mayali (12a) to incorporate ‘fruit’ into ‘put’. Interestingly, it is possible to incorporate ‘fruit’ when ‘water’ forms a complex verb with ‘put’, as in (12b). This is immediately understandable as well: *bo-wo*, the head-level combination of ‘put’ and ‘water’ that we find in (12b), takes ‘fruit’ as its argument, and can therefore serve as a host for *mim* at the level of V.<sup>12</sup> The Mayali data in (12) thus support the idea that noun incorporation in Type IV languages involves a thematic relation between the incorporated noun and its verbal host, V.

This is a good moment to mention that in our approach to the difference between Type III and Type IV noun-incorporating languages, we take a stance

<sup>12</sup>For completeness, we mention here that the complex verb *bo-wo* ‘put in water’ can also take *mim* as its argument externally, as in (i). Note that the form of the element glossed as ‘water’ is very different in (12a) (*wukku*) from the form found in (12b) and (i) (*bo*). We take this to suggest that *bo* in (12b) and (i) is not an incorporated locative but rather a base-generated subpart of a complex verb ‘put in water’.

- (i) Mayali  
       an-barndadja            an-*mim* ngarri-bo-wo-ni  
       III-owenia\_vernicaosa III-fruit 1A-water-put-PI

that is almost exactly the opposite of the one taken by Rosen (1989) in her lexicalist analysis of noun incorporation. For Rosen (1989), the difference between Type III and Type IV languages is that in the former, the incorporated noun saturates a  $\theta$ -role in the verb's argument structure whereas in the latter it modifies that role, allowing for the assignment of the (modified)  $\theta$ -role to a phrase in the external syntax. For us, on the other hand, Type IV languages are characterised precisely by the fact that the incorporated noun (adjoined directly to V) receives a  $\theta$ -role from V. The material in the external syntax that the incorporated noun may be associated with in Type IV languages ("xNP" in (11)) is not, on our analysis, a thematic dependent of the verb: rather, it stands in a specificational relationship to the incorporated noun.

### 2.3.2 Type Ia noun incorporation

For noun-incorporation cases of Types II–IV, there has always been much debate in the literature regarding the question of whether they should be given a lexical or a syntactic treatment. In the mainstream generative literature, Rosen's (1989) paper is the primary representative of the lexicalist approach, and Baker's (1988, 1996) work is the main champion of the syntactic approach. For Type Ia, on the other hand, there has never been any doubt as to how it should be treated: there is a broad consensus that this is a case of lexical compounding.

In standard, pre-1990s work on the syntax/lexicon distinction, the term "lexical compounding" used to make reference to cases in which a lexical element is attached to another lexical element in the lexicon, i.e., prior to entering the syntactic component. But in a theory in which there is no distinction, in the realm of derivational processes, between the lexicon and the syntax (i.e., in a theory in which "lexical word-formation operations" are part and parcel of the syntactic component), we can no longer appeal to a difference in timing between "lexical compounding" and the kind of noun incorporation seen in Type IV languages. There is just a single derivational engine, called "syntax". So if the term "lexical compounding" is to mean anything in a single-engine theory of morphological and syntactic derivation, it can only make reference to the size of the elements combined: "lexical compounding" involves the combination of two elements that are both "lexical"; Type IV noun incorporation combines a lexical element with something that is not "lexical".

Let us make this more precise. What we are describing is a difference between two types of noun incorporation, Types Ia and IV. Both specifically involve nouns – the process of noun incorporation is to be distinguished from cases of preposition incorporation or verb incorporation. So at a minimum, the incorporated

element in all cases of “noun incorporation” must be categorised as being nominal. If we take the bare root (“N”) to be acategorial (as is standard in current mainstream generative morphosyntactic theorising), then in all cases of “noun incorporation” the adjoined element must minimally be as large as *n*, the categorising “little head” that identifies the root as a nominal one. For “lexical compounding” (i.e., Type Ia incorporation), this is exactly what we take the incorporated element to be: a “little *n*” adjoined directly to the verbal root, as in (13). What makes Type Ia incorporation different from Type IV incorporation, as analysed in (11), is thus not the nature of the host (V in both cases) or the timing of the adjunction to V, but the size of the adjunct (lexicalised as a noun in both cases; see §2.4): *n* in Type Ia, and *D<sup>i</sup>* in Type IV.

- (13) [<sub>VP</sub> *v*<sub>{[+V], ACC, ...}</sub>] [<sub>VP</sub> [<sub>V</sub> [*n*<sub>{[+N]}</sub>] [*V*]]]]

Both Type Ia and Type IV noun incorporation are characterised by the fact that the incorporated noun is attached directly to V, a lexical root. Viewed from the perspective of the host, then, we could call both Type Ia and Type IV incorporation “lexical”. The difference between them lies in the size of the nominal adjunct. Due to the fact that the incorporated nominal element is a mere *n*, it is not a referential element in Type Ia incorporation. The combination of *n* and V is entirely devoid of morphosyntactic content besides the adjunct’s category feature. Since the incorporated element is no larger than *n*, it cannot be associated with anything in the external syntax with which it forms a discontinuous object: *n* is itself the lowest point in the functional sequence. So “modifier stranding” or external specification is impossible in Type Ia.

In Type Ia noun incorporation, as in Type IV, the locus of the incorporated nominal element is V. In our discussion of Type IV cases in the previous subsection, we noted that this derives an important fact about such cases: that the incorporated element must bear a thematic relation to the incorporator. For Type Ia incorporation, this holds as well – as a matter of fact, this is something that Hale & Keyser (1993) draw prominent attention to in their discussion of conversion in English, which on their syntactic approach is an instance of Type Ia noun incorporation.

Hale & Keyser (1993) point out a striking regularity in the pattern of denominal verb formation in English (and similar languages). In the pairs in (14)–(16), we see that it is systematically impossible to base denominal verbs on the nominal head of the Theme argument of a complex predicate – despite the fact that the denominal verbs in the b-examples do exist independently (see the expressions

immediately below them), they cannot be used in resultative secondary predication constructions in which the nominal base of the verb serves as the Theme of the complex predicate of which the constituent to the right of the verb is a part.

- (14) a. to shelve a book  
b. \*to book on a shelf  
c. to book a ticket
- (15) a. to clear a screen  
b. \*to screen clear  
c. to screen a movie
- (16) a. to coat a house (with paint)  
b. \*to house with a coat (of paint)  
c. to house a family

A denominal verb can be formed out of an abstract verb (like “PUT” in (14), “MAKE” in (15), and “PROVIDE” in (16)) and a secondary predicate with which it combines, as in the a-examples; but when the element incorporated into the abstract verb is an argumental noun whose  $\theta$ -role is not assigned to it by the abstract verb by itself, as in the b-cases (where the incorporated noun that serves as the base for the denominal verb is the Theme argument of “PUT”, “MAKE” or “PROVIDE” plus the secondary predicate that follows the verb), the output is ungrammatical. The regularity of the pattern discovered by Hale & Keyser (1993) strongly suggests that noun incorporation of Type Ia is subject to a thematic restriction – one that follows straightforwardly from an analysis in which the locus of incorporation is the verbal root “V” (as in Type IV).

### 2.3.3 Type II noun incorporation

The two cases of noun incorporation just discussed (Types Ia and IV) are both characterised by the attachment of the incorporated noun directly to the verbal root, which makes these “lexical” incorporation cases in the relevant sense of the term. Thanks to its being attached directly to V, the incorporated noun in Type Ia and Type IV is an argument of the predicate head. In Type II constructions, by contrast, the incorporated noun does not have argument status. The fact that the incorporate lacks argument status vis-à-vis the verb indicates that it is not attached to the verbal root: if it were, it would necessarily get the root’s internal  $\theta$ -role assigned to it. So from the incorporate’s non-argument status, we

conclude that Type II noun incorporation must be like Types Ib and III in having the incorporate attached to *v* rather than to V.

A defining property of Type II that sets it apart from Type III is that the incorporate does not absorb *v*’s case.<sup>13</sup> If the incorporate were as large as  $D^i$ , this would be hard to account for: a D with a referential index wants case (i.e., is subject to the Case Filter). From this, we conclude that Type II incorporation involves a *n* adjoined to *v* (see (17)). In this regard, Type II is like Type Ib.

- (17) [<sub>VP</sub> [<sub>v</sub>  $n_{\{[+N]\}}$  [<sub>v</sub>  $\{[+V], \text{ACC}, \dots\}$ ]]  $\{[+N]\}, \{[+V], \text{ACC}, \dots\}$ ] [<sub>VP</sub> V  $D^i P_{\{D, \phi, [+N]\}}$ ]]

Unlike in the case of pseudo-incorporation (Type Ib; recall (7)), however, the complex probe [<sub>v</sub> *n*+*v*] is not a proper featural superset of the object, which is a full DP originating in the object position merged independently of the incorporated object. In Mithun’s (1984: 859) terms, “[i]nstead of simply reducing the valence of the V by one, [Type II] permits another argument of the clause to occupy the case role vacated by the IN” (i.e., the incorporated noun). The b-examples in (18) and (19), from Yucatec Mayan (adapted from Mithun 1984: 858), illustrate this:

(18) Yucatec Mayan

- a. k-in-č’ak-k                      č’e’    ičil in-kool  
     INCMPL-I-chop-IPFV tree in    my-cornfield  
     ‘I chop the tree in my cornfield.’
- b. k-in-č’ak-č’e’-t-ik                      in-kool  
     INCMPL-I-chop-tree-TR-IPFV my-cornfield  
     ‘I clear my cornfield.’

<sup>13</sup>In Type Ib pseudo-incorporation of the Niuean type (recall (8)), the pseudo-incorporate also does not absorb *v*’s case. The incorporate in both (7) and (17) is a *n*; and in (7) even the occupant of the complement-of-V position is just a *nP*. In fn. 7, we mentioned that Hungarian “verbal modifier” constructions such as *János verset ír* ‘János poem writes’ could be treated as pseudo-incorporation constructions of Type Ib. Here we see an explicitly case-marked nominal object (*vers-et* ‘poem-ACC’), classified as a “mere” *nP*. It is quite generally possible in Hungarian for morphological case to be hosted by things that are not necessarily as large as a full-blown DP (even non-nominal constituents can bear morphological case: *Mari jól futott* ‘Mari good.ACC ran, i.e., Mari had a good run’; *Mari szépnek tartom* ‘I consider Mari.ACC pretty.DAT’; *szépnek, Mari szép* ‘(as for) pretty.DAT, Mari is pretty’). But there is no universal requirement that *nP* have case: Universal Grammar only demands that DPs have case (the Case Filter). In Type II incorporation constructions, by contrast, the DP present in VP must necessarily engage in a case-checking Agree-relationship with *v*.

(19) Yucatec Mayan

- a. k-in-wek-k                      ha'  
     INCMPL-I-spill-IPFV water  
     'I spill water.'
- b. k-in-wek-ha'a-t-ik                      *pro*  
     INCMPL-I-spill-water-TR-IPFV  
     'I splash him.'

In Type II incorporation cases (which resemble applicative constructions of the Bantu type, as Rosen (1989) also notes), the feature sets of *n* and DP each get their own exponents: the “associate” of the incorporate is not a defective goal, and is not condemned to silence. In its base position, the DP can check the verb’s accusative case feature, and behaves in every way like an ordinary object. This accounts for all the properties of Type II incorporation.

## 2.4 On discontinuous objects and spanning

At the end of this survey of the typology of noun-incorporation constructions, we address two analytical details to which we have so far paid scant attention but which are vital ingredients of the account.

In the structures of Type III and Type IV noun incorporation, the incorporated nominal element is represented as a D (attached to *v* in Type III and to V in Type IV). In Type III cases, this D is associated with a *nP* in the object position. Two questions arise in connection with this:

- (a) how can D, a determiner head, have a noun as its exponent (as desired)?  
 (b) how can D be associated with the *nP* in object position in Type III constructions?

Let us start with question (a). The key idea here is that, in noun-incorporation languages of Types III and IV, lexical nouns can serve as exponents of a “span” (in the terminology of nanosyntax). A span is a series of heads in head–complement relations. The languages in question have lexical entries that can expone the entire nominal functional sequence, from *n* all the way up to D. This is correlated with the typological fact that polysynthetic languages as a rule lack true determiners (Baker 1996).<sup>14</sup> Determinerlessness is a result of the lexical noun’s representing the entire string of functional heads in the extended projection of N, up to

<sup>14</sup>For *ti* in Mapudungun (9b) and (9c), we assume that it is not a true determiner but more like a demonstrative.



and including D. When N and D are in a contiguous span in the tree, they can and therefore must be co-lexicalised by a single morpheme, the “lexical noun”. This is the result of an economy principle variously known as Minimise Exponence (Siddiqi 2009, cf. also Noyer 1993), the Union Spellout Mechanism (Muriungi 2009), or Maximise Span (Pantcheva 2010). The D attached to the verb in Types III and IV harbours the feature content of this entire functional sequence, and, in the languages in question, receives the lexical noun as its exponent.<sup>15</sup>

Regarding question (b), in the noun-incorporation structure in (10), for Type III, the DP that serves as the object of the verb is discontinuous: its D- and  $\varphi$ -portions are base-generated directly on  $v$ , very much like an object clitic like *les* in French (1b) (a determiner with  $\varphi$ -feature content); the rest of the noun phrase ( $nP$ ) occupies the object position in VP, where the noun phrase hooks up to the thematic role that it requires for interpretation as an argument of the verb. The discontinuity of the definite object, with D generated outside VP, is directly in the spirit of work by Sportiche (1998) and Lin (2000). In the configuration in (10), D is part of a D+ $v$  complex that is a featural superset of the  $nP$  in object position, which serves as a defective goal for the D+ $v$  probe. Chain reduction leads to the silencing of the defective goal, and exponence of the object in  $v$ -adjoined position.

## 2.5 Noun incorporation: Summary

In this section, we have presented a proposal for the typology of noun incorporation that preserves and extends Baker et al.’s (2005) major results, recasting their main parameters and supplementing them with Roberts’ (2010) notion of “defective goal”, thereby achieving greater descriptive adequacy than either Roberts or Baker et al. would have been able to attain by themselves.

Noun incorporation constructions of Types Ia and IV are united in our analysis by their choice on (5a): they both pick V rather than  $v$  as the host. The other three types of noun incorporation all have the incorporated element hosted by  $v$ . Types Ia and IV differ in the nature (and concomitantly the size of the feature bundle) of the incorporate (5b):  $n$  versus  $D^i$ . Types Ib and III are distinct from one another in this way as well. Type II is like Type Ib with respect to the choices on (5a) and (5b); but in Type II the object in VP is not a defective goal, in the sense of Roberts (2010), for the  $n+v$  probe: it is a full-blown argumental and referential

<sup>15</sup>When D and N are not in a contiguous sequence, they can, in principle, both be separately exponed by the lexical noun, provided that  $n$  or N is not a defective goal to a probe with D attached to it. For further relevant discussion of “spanning”, see Ramchand (2008), Taraldsen (2010), Merchant (2015) and Svenonius (2016).

DP. So (5c) is what makes the difference between Type II noun incorporation and pseudo-incorporation (Type Ib), the latter behaving with regard to (5c) like Type III noun incorporation.

- (5) a. the host of the incorporated nominal element –  $V$  or  $v$
- b. the nature of the incorporated nominal element –  $n$  or  $D^i$  (“ $i$ ” = “referential index”)
- c. the status of the object – “defective goal” or not

Taken together, (5a)–(5c) provide just the right parameters to differentiate between the various distinct types of noun incorporation identified in the literature. With just (5a) and (5b), we would have been able to describe most of the differential properties of noun incorporation that Baker et al. (2005) manage to account for in their important work – albeit in a non-trivially different way: where Baker et al. bank heavily on a parameter regarding the deletion of  $\phi$ -features from the “trace” of noun incorporation, the present analysis eschews movement (hence “traces” or multiple copies) altogether and capitalises on two formal properties of the incorporated element (its host and the size of its feature bundle). It is thanks to our third parameter, (5c), that we get a purchase on the difference between Types Ib and II, and, more generally, on the distribution of external-syntactic material associated with the incorporated element (“modifier stranding”). Baker et al. (2005) explicitly set Type II aside, and do not talk about pseudo-incorporation at any length. For a full perspective on the typology of noun incorporation, Roberts’ (2010) notion of “defective goal” (which Baker et al. did not have the benefit of) is essential.

### 3 On doubling

In the syntax of Type II noun incorporation, the incorporated noun (a  $n$  attached to  $v$ ) can freely cooccur with an overt DP object in VP because the  $n+v$  probe is not a proper featural superset of the DP in object position. In Type IV, the incorporate is itself a large feature set ( $D$ ); but because it attaches low, to  $V$  rather than  $v$ , and because  $D+V$  is not a probe, an object in VP is never going to be a defective goal in the sense of Roberts (2010) either. In Type III noun-incorporation constructions, by contrast, the incorporated element is a  $D$  and its host is  $v$  – so here we get a complex probe  $D+v$  that is a proper featural superset of any object inside VP, thereby turning any object in VP into a “defective goal” and forcing it to be silent.

For object-clitic constructions in languages of the Romance type, in which there is a clear formal identity between object clitics and definite determiners, we will adopt an analysis in which the clitic is a D attached to  $v$  – very much as in the analysis of Type III noun-incorporation constructions in §2. The syntax of object-clitic constructions thus looks as in (20), where the  $v$ -adjoined D is associated with a nominal constituent (some extended projection of N, “xNP”; in French (1b) this is  $\phi$ P, controlling  $\phi$ -agreement with the participle, but in Romance varieties without clitic agreement it may be just nP) in the object-of-V position that is a “defective goal” for the D+ $v$  probe. Since the Romance languages have determiners, the exponent of the D attached to  $v$  will be a definite article (*les* in (1b)), not a lexical noun (as in Type III/IV noun-incorporation languages; recall §2.4).

$$(20) \quad [{}_{\nu P} [{}_{\nu} D^i \{D, \phi, [+N]\} [{}_{\nu} \{[+V], \text{ACC}, \dots\}]] \{[D, \phi, [+N]], \{[+V], \text{ACC}, \dots\}\} [{}_{VP} V \text{ xNP}]]$$

In light of our discussion of the syntax of Type III noun incorporation, (20) leads us to expect that the clitic should not be able to be associated with any overt material in the external syntax. This is certainly not dramatically inaccurate – but clitic doubling does exist (see e.g. Rioplatense Spanish (21), from Jaeggli 1986: 32), and needs to be accounted for.

- (21) Spanish  
       lo vimos a       Juan  
       we saw    P<sub>DAT</sub> Juan  
       ‘we saw Juan’

When D(=CL)+ $v$  co-occurs with an object, as in clitic doubling constructions, the associate of the clitic cannot be placed anywhere in the complement of  $v$ , c-commanded by D+ $v$ . Clitic doubling must instead involve the placement of the associate in a position outside the c-command domain of  $v$  – arguably the very same position used in “differential object marking” (DOM) and “object shift” constructions. The fact that in Spanish the associate of a clitic in a clitic doubling construction is adorned with the same marker (the dative preposition *a*) as a DOM-object goes along with this directly. We identify the spell-out position of

the associate of the clitic in clitic doubling constructions as an outer specifier of *v*P, as in (22).<sup>16</sup>

(22) [<sub>v</sub>P [<sub>x</sub>NP associate]<sub>i</sub> [<sub>v</sub>P [<sub>v</sub> [<sub>D</sub> D=CL] [<sub>v</sub>]] [<sub>v</sub>P ... ~~x~~NP ...]]]

Note that the clitic, in its *v*-adjoined position, does not receive a  $\theta$ -role from V. The associate must hence be the thematic member of the clitic-doubling complex. This compels *x*NP to bind a silent copy in a  $\theta$ -position inside VP. The  $\theta$ -role that *x*NP's silent copy receives does not have to be one assigned by V: as Sportiche (1996) points out (citing Greek examples from Schneider-Zioga's work), clitic-doubled objects can be subjects of (small) clauses in V's complement. This is unproblematic for our proposal, as long as the spell-out position of the associate is outside *v*'s command.

Placement of a “double” of the incorporated object in a position outside the search domain of the *v* probe is a logical possibility for noun-incorporating languages as well. As Baker et al. (2005: 165) point out (following Baker 1996), doubling is indeed a different matter from “modifier stranding” in noun-incorporating languages:

All polysynthetic languages allow overt NPs to be dislocated, standing in a relation of resumption to pronouns expressed as agreement morphemes on the verb. Some languages expand upon this, allowing dislocated NPs to stand in a relation of resumption to ... an IN [incorporated noun] as well.<sup>17</sup>

Among both Type III and Type IV noun-incorporating languages (which differ with respect to the legitimacy of “modifier stranding”), we find cases in which the incorporated noun can be “doubled” by a noun phrase in the external syntax that is descriptively richer than the incorporated element. Like Baker, we treat these “doubles” as being located outside the *c*-command domain of *v* (i.e., outside VP). They can be in a dislocated position (an  $\bar{A}$ -position in the left or right periphery), or serve as appositions, or function as DOM-objects à la (22).

<sup>16</sup>It is entirely possible that the DOM position is the specifier of a functional projection outside *v*P (rather than an outer Spec*v*P). See e.g. Manzini & Franco (2016) for a concrete proposal which also sheds light on the function of the prepositional element *a*. The fact that this element may be omitted in certain clitic-doubling varieties (e.g. Portefño Spanish; Suñer 1988: 399–400) seems to us not to affect the proposal in (22): whether or not *x*NP is marked by a prepositional element is a low-level point of variation, not a core-syntactic one. We thank a reviewer for raising this point as well as the issue addressed in the next paragraph in the main text.

<sup>17</sup>What Baker calls “resumption”, we would prefer to refer to as “specification”. The “double” is typically more specific than the incorporate. The relation between the two has often been likened to classifier constructions – both Mithun (1984) and Rosen (1989) appeal to this notion. It seems to us that “specification” is a more appropriate term, not raising expectations about fundamental similarities with complex noun phrases involving classifiers.

## 4 Object pro-drop and defective goals

In many of the empirical cases reviewed so far in this paper, adjunction of a nominal element to  $v$  turns  $v$  into a “super-probe”: a probe whose feature content is a superset of that of the goal, which is thereby declared defective in Roberts’ (2010) sense of the term. Imagine now that there could be languages, or situations within languages, in which  $v$  is a featural superset of the goal all by itself, without the help of a nominal element attached to it. Concretely, imagine a situation in which  $v$  in (23) possesses all of the formal features  $\{\alpha\text{FF}\}$  borne by the object-DP. Will this turn the object into a defective goal, forcing it to be silent?

(23)  $[_{vP} v_{\{\alpha\text{FF}, \dots\}} [_{VP} V [_{DP} D_{\{\alpha\text{FF}\}} \dots] \dots]]$

Whenever DP in (23) is not a common-noun phrase with idiosyncratic, encyclopedic properties that are not included in the feature bundle  $\{\alpha\text{FF}\}$  possessed by  $v$  (more on this at the end of this section), we cannot prevent the silencing of DP in this structure: DP is a proper featural subset of  $v$  and c-commanded by  $v$ . This will then be a case where Agree between  $v$  and the object, the latter a defective goal, leads to pure silence in the object position. This reads exactly like the description of object pro-drop licensed in the absence of a clitic: in languages whose  $v$  has such featural wealth as to make it a superset of the object (with at least some of the object’s features spelled out on the verb, in the form of agreement morphology), it licenses the dropping of the object by turning the object into its defective goal.

For languages that have object clitics but no (general) object pro-drop, it is possible for the object to be silenced *only* when it is the associate of a D attached to  $v$ : only the presence of this D (the clitic) gives  $v$  the morphological feature content that makes it a featural superset of D’s associate  $\phi\text{P}$  in the object position.

For languages whose inflected  $v$  by itself is rich enough to take the object as a defective goal, we will want any overt objects to be outside the c-command domain of  $v$  – in the “DOM” position in (22), or in an  $\bar{A}$ -position elsewhere in

the tree. The silent object inside VP is recoverable by the local c-command relation with the coindexed object outside VP. The subjective probe–goal relation between  $\nu$  and the VP-internal object guarantees the latter’s silence.<sup>18</sup>

What are the features that can be included in the  $\{\alpha\text{FF}\}$  on  $\nu$  in (23)? Obviously the familiar  $\phi$ -features – but probably also idiosyncratic lexical properties such as [edible] or [spherical]. Such lexical properties of roots are addressed by the functional heads within the extended projection of the nominal root: classifiers are typically highly sensitive to geometric properties such as [spherical], for instance. These are also implicated in selectional restrictions: [edible] is relevant for the object of verbs like *eat*; [spherical] is for the internal argument of verbs such as *roll*. Such selectional restrictions are idiosyncratic properties of individual roots, hence most likely the province of V. But V is not a probe, so if selection involves a probe–goal dependency (which is not necessarily the case but not seldom assumed),  $\nu$  will be the probe in the case of the “object of” relation:  $\nu$  will inherit the relevant selectional features from the root, and take care of their checking. A root such as *eat* will then combine with a  $\nu$  specified for the feature [edible], requiring that the object bear the matching feature; similarly, the  $\nu$  combining with the root *roll* will be specified for [spherical].

More microscopic encyclopedic properties of objects (such as sweet or tart, soft or hard, tender or chewy, for objects of *eat*; bouncy or not for objects of *roll*) are not usually active in selectional relations: *eat* cares about its object being edible but not about its sweetness or hardness; a classifier for spherical objects combines equally well with bouncy and non-bouncy spheres. In a late insertion theory, these encyclopedic properties are added only at spell-out, not fed into the syntax, and never involved in probe–goal relations or Roberts-style silencing under defectiveness.

The defective probe–goal approach to object drop allows the silent object of verbs such as *eat* to be specified as [edible], and that of *roll* as [spherical], as desired: a dropped object must meet the verb’s selectional restrictions. But more

<sup>18</sup> A reviewer asks how this account of object pro-drop languages can allow such languages to have non-specific lexical objects, which are not expected to be positionable in the “DOM” position. If in a particular object-drop language  $\nu$  is *systematically* in possession of all of the formal features borne by the object, non-specific objects will always be silent, and overt objects will always be interpreted specifically. There may be languages that work like this – languages in which the verb will need to be antipassivised in order for a non-specific “object” to be introduced. But our proposal does not predict that all object-drop languages should work this way: in languages in which  $\nu$  CAN possess all the formal features of the object, there is no reason to assume that it MUST, under all circumstances. Objects can be spelled out in VP and be overt whenever they are not defective goals – i.e., whenever  $\nu$  does not bear all of the object’s features.

specific encyclopedic properties of the dropped object are not morphosyntactically recoverable. When such encyclopedic features are not retrievable from the surrounding discourse, they must be made explicit in the form of an overt object. In object pro-drop languages, that object must be located outside the probing domain of  $v$ , for otherwise it would be a morphosyntactically defective goal for  $v$ , destined to silence. The “DOM” position in (22) or some  $\bar{A}$ -position elsewhere in the tree will be the syntactic locus in languages sanctioning object pro-drop for overt objects whose formal features (i.e.,  $\{\alpha\text{FF}\}$  in (23)) match those of  $v$ .

## 5 Definiteness agreement and person

For the so-called “definite/objective conjunction” of Hungarian, illustrated in (24), an analysis can be proposed along the lines of the approach to Romance-style object cliticisation taken above.<sup>19</sup>

(24) Hungarian

- a. lát-j-a      (őt)      / \*(őket)  
     see-J-DEF (s)he.ACC    they.ACC  
     ‘(s)he sees him/her/them’
- b. lát-t-a      (őt)      / \*(őket)  
     see-PST-DEF (s)he.ACC    they.ACC  
     ‘(s)he saw him/her/them’

On such an approach, the “definiteness agreement” marker on the verb is a D attached to  $v$  (undergoing vowel harmony with the verb). When no overt object is present, the D+ $v$  complex is associated with a defective goal in VP and licenses its silence – this is what is usually referred to for Hungarian as “object pro-drop”, now actually assimilated to object cliticisation, with D attached to  $v$ .

It is interesting to note that number is not recoverable from D= $a$ : the Hungarian definite article has no plural form (*az év* ‘the year’, *az évek* ‘the year.PL’; not \**azok évek* ‘the.PL year.PL’). Only definiteness and (default) third person are retrievable from D. So the combination of D= $a$  and  $v$  cannot take the third person plural pronoun as a defective goal because this goal has something that D= $a$  does not have: number ( $a$  represents D and person, not number). As a consequence, third person plural objects cannot be dropped in Hungarian: \*(*őket*) in (24). This falls out directly from the defective goal hypothesis.

<sup>19</sup>In Den Dikken (2018), an extended argument is presented for the clitic status of “definite agreement” in Hungarian (as well as Proto-Uralic).

Interestingly, first and second person object pronouns can be dropped both in the singular and in the plural, even though nothing about them is recoverable from verbal inflection (from the subjective/indefinite conjugation):

(25) Hungarian

- a. lát            (*engem*) / (*minket*)  
       see.INDEF me            us  
       ‘(s)he sees me/us’
- b. látott        (*engem*) / (*minket*)  
       saw.INDEF me            us  
       ‘(s)he saw me/us’

(26) Hungarian

- a. lát            (*téged*) / (*titeket*)  
       see.INDEF you<sub>SG</sub> / you<sub>PL</sub>  
       ‘(s)he sees you<sub>SG/PL</sub>’
- b. látott        (*téged*) / (*titeket*)  
       saw.INDEF you<sub>SG</sub> / you<sub>PL</sub>  
       ‘(s)he saw you<sub>SG/PL</sub>’

In light of the preceding discussion, we are led to conclude that (25) and (26) do not involve a defective probe–goal relation. The dropping of first and second person object pronouns must be licensed discursively; it cannot be sanctioned morphosyntactically. More generally, Baker’s (2011: 877, fn. 3) conjecture that “agreement for first and second person can never take place under mere Agree”, but requires the Spec–Head relation (a conjecture that is confirmed and derived from a structural representation of the feature [person] in Den Dikken 2014) leads us to draw the conclusion that the dropping of person-marked objects can never involve a Roberts-style defective probe–goal relation when the object is structurally represented inside *v*’s complement.

When a person-marked object is structurally represented in the specifier position of *v*P (the “DOM” position in (22)), the object’s silence can be morphosyntactically licensed by *v* if *v*’s feature set includes [person] and if the Spec–Head relation is a probe–goal configuration (“upward Agree” or “downward valuation”; Bjorkman & Zeijlstra 2019, Preminger & Polinsky 2015). Whenever *v* does not probe the person-marked object, it can remain unexpressed only if the discourse makes it recoverable, as in the Hungarian case illustrated above.



## 6 Agreement inside extended projections

In configurations involving an object that serves as a defective goal, the complex *v* is a “super-probe” for the defective goal inside VP, sanctioning its silence and giving rise to the effect of head movement (cliticisation or noun incorporation). Inside the complex noun phrase in (27), D is also a featural superset of the functional projections below it: D has a specification for the feature [D(efinite)] as well as for the  $\varphi$ - and categorial features of the complex noun phrase (which are visible on DP).

- (27) [DP D<sub>{D,  $\varphi$ , [+N]}</sub>] [ $\varphi$ P  $\varphi$ <sub>{ $\varphi$ , [+N]}</sub>] [<sub>nP</sub> *n*<sub>{[+N]}</sub>] [NP N]]

Similarly, in the clause, C has a specification for [force] as well as for the  $\varphi$ - and categorial features of the finite verb. But plainly, the fact that D and C are featural supersets of the functional projections in their complement does not force the latter to be silent. Why not?

Although D and C are featural supersets of the  $\varphi$ P and TP in their complement, they do not probe the feature bundles in the heads of their complements. D and  $\varphi$  are part of one and the same extended projection, and so are C and T. While functional heads in a continuous extended projection are arguably always a proper featural superset of the functional heads they immediately c-command,<sup>20</sup> they do not stand in a probe–goal or selectional relation with them. The various functional heads in the extended projection of a head all belong to the same family, and have matching genes because of this family relation. No functional head can establish a probe–goal relation with a lower functional head in the same extended projection because the feature content of the lower functional head could not have been disjoint from that of the higher functional head. By definition there

<sup>20</sup>This will provide a very simple explanation for the fact that the complement of C/D is immobile (i.e., cannot engage in filler-gap dependencies: cf. \*[*John is smart*], *I don't think that*, and \*[*book*], *I didn't read the*). On the text approach, this becomes a specificity effect. The higher FP (i.e., CP or DP) has all the features of the lower FP (TP,  $\varphi$ P); therefore, if an external probe seeks to engage in an Agree relation for the features shared by the two FPs, it will pick the more inclusive and more directly accessible of the two phrases (i.e., the higher one) as its goal. (Cases like *books I have none* (Lord Mansfield in the House of Lords; 18th century) do not involve subextraction – the “stranded” portion of the DP in these cases can always constitute a noun phrase by itself: contrast *books I have none* with \**books I have no*.)

is feature matching throughout the spine of an extended projection. Because feature matching is thus guaranteed, probing is generally futile.<sup>21</sup>

On the other hand, across different extended projections, feature matching is not guaranteed: it can arise only as a function of a probe–goal relation between the terms of these different extended projections. One can refer to both the feature matching within extended projection and the feature matching resulting from probing agreement by the cover term “Agree”.<sup>22</sup> But because the former kind of feature matching does not involve a probe–goal relation, it does not lead to chain formation and concomitant chain reduction (i.e., silencing of the goal, in the case of a defective goal).

In the complex noun phrase *les filles* in (1a), repeated below (along with (1b)) and analysed as in (27), D and  $\phi$  are part of a single extended projection, so feature sharing is guaranteed, and no probe–goal relations are established within this complex object. A functional head  $F_n$  in an extended projection of some lexical root cannot engage in a probe–goal relation with a functional head  $F_{n-1}$  in its immediate c-command domain, so the D-head in (27) cannot probe  $\phi$ . Despite the fact that in the structure in (27)  $\phi P$  is a proper featural subset of DP, we are

<sup>21</sup>For VP topicalization (placement of an extended projection of V in the specifier position of a functional category in the clausal left periphery), no exception to this general statement needs to be made if, as is plausible, the clause is a combination of two extended projections, one of V (incl.  $v$  and presumably also a functional head for Aktionsart aspect) and one of T (incl. C and the information-structural F-cats familiar from cartographic work). The need to split the full clause into two separate extended projections becomes compelling once it turns out that elements in the functional sequence of the high left periphery (outside TP) rear their heads also in the low left periphery (between T and  $vP$ ). Thus, if it is true that TopP occurs both outside TP and outside  $vP$  (see Belletti 2004 for relevant discussion of low topic positions), and if it is true (as the facts of Hungarian suggest) that within the functional sequence of a single extended projection TopP can never occur below FocP, then it must be the case that a low TopP outside  $vP$  and a high TopP outside TP and FocP (see the schematic structure in (i)) belong to different extended projections – the extended projections of V and T, respectively. Any functional head in the extended projection of T is then welcome to probe for some extended projection of V. VP topicalization thus does not involve probing within a single extended projection.

(i) [<sub>CP</sub> C [<sub>TopP</sub> Top [<sub>FocP</sub> Foc ... [<sub>TP</sub> T ... [<sub>TopP</sub> Top ... [<sub>vP</sub>  $v$  [<sub>VP</sub> V ...]]]]]]]

The kind of VP-raising at work in predicate-initial languages such as Niuean, for which Mas-sam (2001a) argues that T is the probe and SpecTP the landing-site, is also unproblematic from this perspective: with T defining its own extended projection, such VP-raising does not involve a probe–goal relation within one single extended projection.

<sup>22</sup>If one finds it confusing to apply the term “Agree” both to feature matching under probing and to the definitional feature matching found within extended projections, one could alternatively express the feature sharing found in functional sequences in terms of spans, a notion introduced in the nanosyntax literature and exploited in §2.4.

not dealing with a defective goal because there is no probing among the members of a single extended projection.  $\varphi P$  is not forced to be silent in (1a), therefore.

(1) French

- a. j’ai surpris les filles  
I have surprised the girls  
‘I surprised the girls’
- b. je les ai surprises  
I them have surprised.F.PL  
‘I surprised them’ (said of feminine direct object)

For (1b), it might a priori seem attractive to represent *les* as the exponent of D inside a complex noun phrase in which the complement of D remains silent: (28) achieves a generalisation over definite common noun phrases and object clitics that accounts for the form-identity of the definite article and the clitic.

- (28)  $[_{DP} D=les [_{\varphi P} \varphi [_{NP} n [_{NP} N]]]$
- (1a):  $\varphi P = filles$
- (1b):  $\varphi P = \emptyset$

But (28) raises the questions of why *les*, when unaccompanied by any overt material in  $\varphi P$ , must cliticise, how it goes about the business of cliticising to a verb, and, perhaps most fundamentally, how the  $\varphi P$  in (1b) can be silenced in the first place. Since this  $\varphi P$  is part of the same extended projection as D, and since Roberts’ notion of “defective goal” is not applicable within the confines of an extended projection (because no probe–goal relations are established among the members of the functional sequence that constitutes the extended projection), it cannot be that  $\varphi P$  in (1b) is silenced due to its being a defective goal.

So the occurrence of *les* by itself, as an object clitic that is a portmanteau for D and  $\varphi$ , cannot be accounted for straightforwardly if the clitic is taken to originate in the object position. This emphasises the need to approach clitics in a manner different from the one presented in (1b), and seems to make it inevitable to base-generate the clitic outside VP (on *v*, as in (20)), where it can be the exponent of D+ $\varphi$  and form a discontinuous object with a defective goal in the  $\theta$ -position inside VP. This is the essence of Roberts’ (2010) approach to object cliticisation, which we have defended, refined and expanded in this paper to cover not just cliticisation but also the full range of noun incorporation constructions reported in the literature on polysynthetic languages.

## Abbreviations

1	first person	INDEF	indefinite
3	third person	IPFV	imperfective
ABS	absolutive	LOC	locative
ACC	accusative	NI	noun incorporation
ADJ	adjective	OBJ	object
CL	clitic	PL	plural
DAT	dative	POSS	possessive
DEF	definite	PST	past
DOM	differential object marking	SBJ	subject
EPP	extended projection principle	SG	singular
F	feminine	STAT	stative
INCMPL	incompletive aspect	TR	transitive
IND	indicative		

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## Chapter 11

# Rethinking French Dative Clitics in light of Frozen Scope Effects

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Frozen scope effects as found in double object constructions in English are shown to be found in French too. They arise when an indirect object is doubled with a Dative Clitic as in Clitic Left or Right Dislocation but not otherwise. This minimally suggests that Dative clitics do not simply represent the counterpart of prepositional indirect objects, which do not exhibit frozen scope effects.

## 1 Introduction

English has both a prepositional dative construction (PDC) and a double object construction (DOC) with different properties.<sup>1</sup> One distinguishing property is the frozen scope effect only found in the DOC. First, this note documents that this effect is sometimes found in French too and concludes that French, like English, has a distinction between PDCs and DOCs, as suggested in Anagnostopoulou (2005). It next discusses the fact that this effect is only found in the presence of a dative clitic, suggesting that Dative clitics are only available for IOs in DOC constructions and not in PDC constructions and discusses how DOCs surface in French and concludes they do not.

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<sup>1</sup>Some terminology: I will discuss pairs such as *Mary sent Bill flowers*, *Mary sent flowers to Bill*. I will call the latter the prepositional dative construction (PDC) and the former the double object construction (DOC). I will call indirect object (IO) the DP interpreted as the goal/recipient/intended possessor/benefactives/malefactives, namely *Bill* here. I will call direct object (DO) the DP that interpreted as the theme/patient, here *flowers*.



## 2 CLLD

### 2.1 Basics

To illustrate the frozen scope effect in French, I will use CLitic Left Dislocation (CLLD). I could have equally well used CLitic Right Dislocation (CLRD) and will make scattered remarks about it. French CLLD is illustrated below and can affect any XP which can be associated with a clitic, a weak pronominal form (with a different distribution than its non pronominal counterparts):

- (1) a. **Jean**, **il** est parti.  
John, he is left  
b. **Jean**, on **le** connaît.  
John, we him know  
c. **A Paris**, on y va souvent.  
To Paris, we there go often  
d. **Triste**, Albert pourrait **le** devenir.  
Sad, Albert could it become

Several properties distinguish the sometimes superficially similar CLLD from Hanging Topic Left Dislocation (HTLD), e.g. the following two (cf. Alexiadou 2017, or Krapova & Cinque 2008):

- HTLD can only be found in root contexts, CLLD appears in both root and non-root contexts.
- There can be more than one CLLD-ed XP in a clause, but no more than one HTLD-ed DP.

Accordingly, all the CLLD sentences to come should be considered subordinate clauses, or follow an independent Topic, making the relevant element the second of two consecutive Topics, even if this is not explicitly indicated.

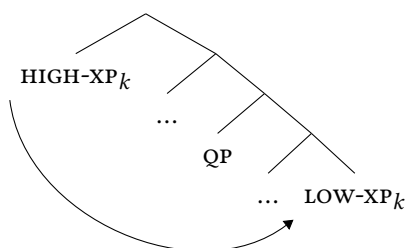
### 2.2 CLLD is movement

We now show that CLLD is movement, without worrying about the kind of movement involved. A fuller discussion of the derivation properties is given in Angelopoulos & Sportiche (2017).

### 2.2.1 Scope reconstruction

A (further) difference between CLLD and HTLD is the presence vs. absence of Connectivity effects. It can be observed if Case is differentially marked: Hanging Topics do not exhibit Case connectivity with the resumptive element and consequently the Topic appears in the default case, unlike what happens with CLLD. Most telling among connectivity effects however is the fact that reconstruction effects are observed with CLLD, demonstrating that CLLD is, or can be, a movement dependency between a left peripheral and a clause internal position. Indeed, reconstruction of a high-XP to a low-XP position as in the adjacent tree arises if and only if low-XP is the trace of high-XP.

(2)



Here, it will suffice to show that (total) reconstruction is possible for pronominal binding. In the tree above, if the high-XP contains a pronoun bound by the QP, with the QP not outscoping it, total reconstruction of high-XP is required to be within the scope of this QP to put the pronoun in the scope of QP. This thus diagnoses the presence of a trace in the c-command domain of the quantifier. Reconstruction is said to be total iff low-XP is interpreted and high-XP is not interpreted at all. This is standardly illustrated by:

- (3) Quelle photo de lui est-ce-que personne (ne) vend (photo de  
 [ Which picture of his<sub>k</sub> ]<sub>j</sub> did nobody<sub>k</sub> NEG sell [ picture of  
 lui)?  
 his<sub>k</sub> ]<sub>j</sub>

Here *picture of his* (in fact possibly *which picture of his*) is totally reconstructed to its trace as *nobody* cannot outscope the clause initial position of the wh-phrase.

### 2.2.2 CLLD reconstruction

Reconstruction of CLLD-ed constituents for pronominal binding can be readily illustrated. First, a CLLD-ed DO or IO for example can totally reconstruct be-

low the subject of its clause.<sup>2</sup> Note that we typically (but not exclusively) use “negative” quantifiers to prevent the possibility of them outscoping the preposed CLLD-ed XP:

- (4) a. [ La prof de sa<sub>j</sub> fille ]<sub>k</sub>, aucun parent<sub>j</sub> (ne) la<sub>k</sub> connaît bien.  
           the teacher of his daughter, no parent NEG her knows well  
       b. [ À la prof de sa<sub>j</sub> fille ]<sub>k</sub>, aucun parent<sub>j</sub> lui<sub>k</sub> a parlé.  
           to the teacher of her daughter, no parent to-her has spoken

This shows that the CLLD-ed XP has been moved from below the QP subject.

This extends to long distance cases: pronominal binding, shown here with a CLLD-ed subject or object, is allowed from a quantifier in the source clause (that containing the clitic), or in a clause higher than the source clause.

- (5) a. [ Les louanges pour son<sub>j</sub> dernier livre ]<sub>k</sub>, aucun auteur<sub>j</sub> ne pense  
           the praises for his last book, no author NEG thinks  
           qu’ elles<sub>k</sub> seront ignorées.  
           that they will be ignored  
       b. [ Les louanges pour son<sub>j</sub> dernier livre ]<sub>k</sub>, je pense qu’ aucun auteur<sub>j</sub>  
           the praises for his last book, I think that no author  
           ne les<sub>k</sub> ignorait.  
           NEG them ignored

### 2.3 CLLD reconstruction asymmetries

As shown above, a CLLD-ed XP can reconstruct, hence can have been moved. More specifically, these examples illustrate reconstruction under subjects: examples (4a) and (5) show that a DO can reconstruct under a subject; example (4b) shows that an IO can reconstruct under a subject; and example (5a) shows that a subject can reconstruct under a subject. Is it possible to show reconstruction under a non-subject? The answer is positive, but there is a surprising gap.

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<sup>2</sup>In all cases of pronominal binding, we choose embedded pronouns rather than high possessors. High possessors display ununderstood properties, cf.

- (i) a. ? His grades persuaded every boy to work harder  
       b. ✓ The grades he got persuaded every boy to work harder

### 2.3.1 Background on French PDC

With DOs and IOs, French superficially shows only PDC constructions. Furthermore, in such PDCs without movement, IOs and DOs behave as c-commanding each other: informally, they behave as if they were under each other.<sup>3</sup>

- (6) a. **IO c-commands DO**  
 On a présenté l'habilleur de **son** partenaire à **chaque** / **aucune**  
 We introduced the dresser of her partner to each no  
 danseuse.  
 dancer.F
- b. **DO c-commands IO**  
 On a présenté **chaque** / **aucune** danseuse à **son** partenaire.  
 We introduced each no dancer.F to her partner

Here the bold face pronoun can be bound by the bold faced quantifier.

This remains true under some movement operation, e.g. wh-movement:

- (7) a. **IO reconstructs under DO**  
 Quel habilleur de **son** partenaire on a présenté à **chaque** /  
 Which dresser of her partner did we introduced to each  
**aucune** danseuse?  
 no dancer.F
- b. **DO reconstruct under IO**  
 Auquel de **ses** partenaires on a présenté **chaque** / **aucune**  
 To which of her partners did we introduced each no  
 danseuse?  
 dancer.F

### 2.3.2 Can CLLD-ed DOs and IOs totally reconstruct under each other?

We are now in a position to show that CLLD-ed DOs can totally reconstruct under an IO. The observation is that a pronoun contained in a CLLD-ed DO can be bound by a quantifier contained in the IO.

- (8) [ La note de **son**<sub>j</sub> dernier devoir ]<sub>k</sub>, le professeur l<sub>k</sub>' a rendue à  
 the grade on his last assignment the professor it gave to  
**chaque** / **aucun** élève<sub>j</sub>.  
 each no student

<sup>3</sup>This is independently interesting and telling about the derivational history of PDCs, and DOCs for that matter. This is not discussed here but is in Sportiche (2017b).

Surprisingly, the symmetric situation does not hold: a pronoun contained in a CLLD-ed IO *cannot* be bound by a quantifier contained in the DO. This shows that CLLD-ed IOs cannot totally reconstruct. I will return below to the question of why. Note that the DO/IO reconstruction contrast also shows that total reconstruction is indeed involved in the DO case, rather than the QP somehow outscoping a higher position (namely  $XP_k^2$  of the tree in (16) below).

- (9) \*CLLD-ed IOs in the scope of an unmoved DO Indirect object *lui*
- a. on a présenté **chaque** / **aucun** professeur<sub>j</sub> aux parents de son<sub>j</sub>  
 we introduced each no professor to-the parents of his  
 meilleur étudiant.  
 best student
- b. \* [ Aux parents de son<sub>j</sub> meilleur étudiant ]<sub>k</sub>, on leur<sub>k</sub> a  
 to-the parents of his best student, we them<sub>DAT</sub> have  
 présenté **chaque** / **aucun** professeur<sub>j</sub>.  
 introduced each no professor

Superficially, IOs look like PPs, unlike DOs that do reconstruct. Their failure to reconstruct, however, is not due to this (potential) categorial difference with DOs (or subjects). Indeed, other CLLD-ed PPs clearly contrast with IOs, as illustrated below:

- (10) CLLD-ed genitive PPs in the scope of an unmoved DO Locative *en*
- a. On a éloigné aucune fille<sub>j</sub> [ de sa<sub>j</sub> meilleure amie]<sub>k</sub>.  
 we have removed no girl from her best friend
- b. ? [ De sa<sub>j</sub> meilleure amie ]<sub>k</sub>, on en<sub>k</sub> a éloigné aucune fille<sub>j</sub>.  
 From her best friend, we of-her have removed no girl
- (11) CLLD-ed genitive PPs in the scope of an unmoved IO About *en*
- a. On a parlé à aucune fille<sub>j</sub> [ de sa<sub>j</sub> meilleure amie]<sub>k</sub>.  
 we have spoken to no girl about her best friend
- b. ? [ De sa<sub>j</sub> meilleure amie ]<sub>k</sub>, on en<sub>k</sub> a parlé à aucune  
 About her best friend, we of-her have spoken to no  
 fille<sub>j</sub>.  
 girl

- (12) CLLD-ed locative PP Locative *y*
- a. Ils n' ont renvoyé aucune lettre<sub>m</sub> [ à l'adresse de son<sub>m</sub>  
they NEG have sent back no letter to the address of its  
expéditeur ].  
sender
- b. ? [ À l'adresse de son<sub>m</sub> expéditeur ]<sub>k</sub>, ils n' y<sub>k</sub> ont  
To the address of its sender, they NEG there have  
renvoyé aucune lettre<sub>m</sub>.  
sent back no letter

While IOs contrast with PPs, the PP facts are a bit less clear than the DP cases: they are better than IOs, perhaps just good. The same point can be made clearly with CLitic Right Dislocation, CLRD, only briefly mentioned here, which shares all the relevant properties with CLLD (they differ in the surface position of the dislocated constituent):

- (13) \*CLRD-ed IO in the scope of an unmoved DO Indirect object *lui*
- a. On a présenté **chaque** / **aucun** professeur<sub>j</sub> aux parents de son<sub>j</sub>  
We introduced each no professor to-the parents of his  
meilleur étudiant.  
best student
- b. \* On leur<sub>k</sub> a présenté **chaque** / **aucun** professeur<sub>j</sub>, [ aux  
We them<sub>DAT</sub> have introduced each no professor, to-the  
parents de son<sub>j</sub> meilleur étudiant ]<sub>k</sub>.  
parents of his best student
- (14) ✓CLRD-ed genitive PPs in the scope of an unmoved DO Locative *en*
- a. On a éloigné aucune fille<sub>j</sub> [ de sa<sub>j</sub> meilleure amie ]<sub>k</sub>.  
We have removed no girl from her best friend
- b. On en<sub>k</sub> a éloigné aucune fille<sub>j</sub>, [ de sa<sub>j</sub> meilleure amie ]<sub>k</sub>.  
We of-her have removed no girl from her best friend

Furthermore, reconstructability extends to other categories, e.g. to predicates as in (15) (in fact they *must* totally reconstruct as low as can be tested, as preposed predicates generally do).

- (15) [ Fier d' un étudiant ]<sub>j</sub>, Pierre l<sub>j</sub>' a [ souvent [ été t ]].  
Proud of a student Peter it has often been

- (✓ souvent > un étudiant)  
(✓ often > a student)

As shown, reconstruction to below the adverb *souvent/often* is possible.

### 3 Analyzing the CLLD reconstruction asymmetries

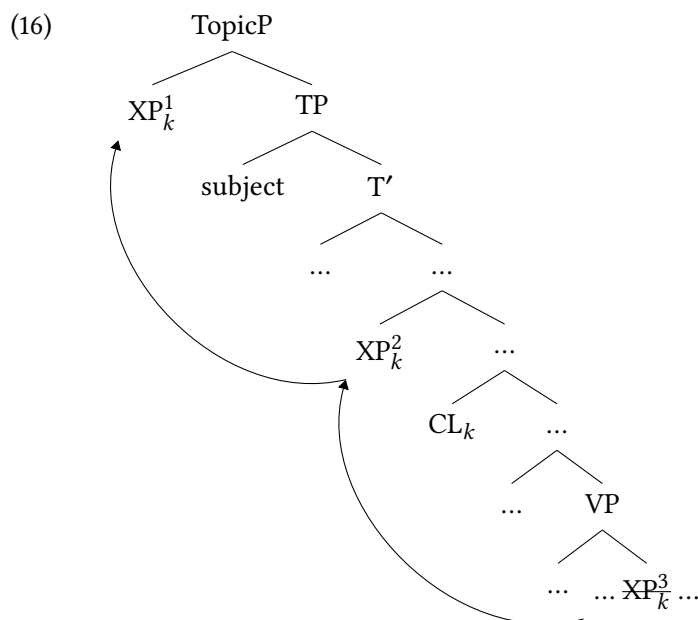
#### 3.1 DOCs in French

We have established that CLLD-ed constituents can all totally reconstruct, except for CLLD-ed IOs which alone fail to totally reconstruct to the surface position they apparently occupy when not moved, namely the dative position of a PDC. Why do IOs behave differently? There are two analytical options as to why a constituent M would fail to reconstruct to some position P:

1. M has moved to a position disallowing reconstruction.
2. M has not moved from P.

**Exploring option 1** Given that all CLLD-ed constituents can totally reconstruct to some position, it can't be that properties of the CLLD surface position itself prevent reconstruction. The difference between IOs and others XPs must thus come from somewhere else. One option is to attribute the IO/DO difference to different properties of the clitics themselves. Angelopoulos & Sportiche (2017) show that CLLD of DOs and IOs (e.g.) in a simple clause is at least a two-step operation proceeding roughly as shown in the tree (16), where  $XP_k^2$  is possibly in a spec/head relation with CL (as in Sportiche 1996).





In the context of this analysis, we can interpret the reconstruction possibilities as follows: if  $XP=DO$ , total reconstruction is possible from  $XP_k^1$  either to  $XP_k^2$  (lower than the subject) or to  $XP_k^3$  (lower than an unmoved IO). If  $XP=IO$ , total reconstruction to  $XP_k^2$  (lower than the surface subject) is possible, but not lower, hence not in the scope of a DO. A version of option 1 would attribute to dative clitics themselves the prevention of such total reconstruction. But while there is some plausibility to the existence of systematic differences between dative clitics and all others (e.g. datives must be animate, mostly, or personified, unlike other clitics), it is unclear why this should have the requisite interpretive effect (of blocking reconstruction). I therefore conclude against option 1 and in favor of option 2.

**Exploring option 2** According to option 2, CLLD-ed IOs have not moved from a position in the scope of DO. Since IOs can reconstruct at least to  $XP_k^2$  (cf. example (4b)), they must have been CLLD-ed from a position L intermediate between DOs and (surface) Subjects. There is evidence that this position is relatively low. Indeed consider the derivational path of CLLD-ed elements as it is described in the tree (16). The example (4b) with *aucun* shows that L must be lower than the position in which an *aucun NP* subject must be interpreted. Such DPs are indefinites in the scope of negation which must totally reconstruct from their

surface position to such a position so we can conclude that L is also in the scope of clausal negation (which excludes the surface subject position). L might well be the  $XP_k^2$  position.<sup>4,5</sup>

With CLLD-ed IOs, we must then have an underlying structure with IO asymmetrically c-commanding DO, and necessarily outscoping DO. But this is nothing other than a DOC, and failure of reconstruction of the CLLD-ed IO simply illustrate the frozen scope effect familiar from English double object constructions (cf. e.g. Larson 1988)! This effect is illustrated below:<sup>6</sup>

- (17) a. Marta owed a peasant a horse.  
b. Marta owed a peasant every horse.

In (17b), the DO cannot outscope the IO: the reading *every > a* is unavailable. This means that, despite the lack of surface evidence, French does have a DOC (with frozen scope) in addition to a PDC (without frozen scope): this corroborates a conclusion reached in Anagnostopoulou (2005) based on a study of Datives in Greek, French, Japanese and Spanish.

Anagnostopoulou (2005) concludes that all these languages have both DOCs and PDCs, with some variation as to the categorial realization of IOs in both DOCs and PDCs (PPs vs DPs). It takes the crucial property of DOCs to be the

<sup>4</sup>By the same reasoning, L must be in the scope of e.g. a conditional modal: in the example (i) *Les secrets de ses<sub>k</sub> amis, [un homme loyal]<sub>k</sub> les garderait pour lui*. ‘The secrets of his friends, a loyal man would keep them to himself’, the subject must reconstruct under the modal but can still bind the pronoun in the CLLD-ed phrase. This means this phrase can totally reconstruct below the subject hence below the modal.

<sup>5</sup>It is difficult to decide whether the lowest position L IOs can reconstruct to is higher or lower than the VP internal subject position. What we can conclude is that it is lower than negation or a modal but higher than the highest A-position a quantificational DO can occupy. If (case #1) such a position is lower than the VP internal subject position, L could be higher than both. If (case #2) such a position is higher than the VP internal subject position, L would have to be VP external. Under the assumption that both DOs and IOs can A-scramble to the same “neighborhood”, the behavior of DOs could help. DO QPs can’t seem to A-scramble past the VP internal subject, as backwards binding (as *a friend of his<sub>k</sub> mother invited every child<sub>k</sub>*) triggers a WCO effect. So we are in case #1.

<sup>6</sup>Frozen scope can also be illustrated with impossible pronominal binding as in *Marta owed a peasant who raised it every horse* where trying to bind *it* with *every horse* triggers much stronger deviance than a Weak Crossover Effect.

association of IOs with extra functional structure (i.e. light applicative heads) in DOCs but not in PDCs.<sup>7</sup>

## 3.2 Consequences

### 3.2.1 Dative clitics

This conclusion is now informative about dative clitics. Indeed, if dative clitics could equally well stand for IOs in DOCs and PDCs, we would not expect scope freezing, since scope freezing is generally not found in PDCs, as (6b) illustrates for French, and English. I conclude that PDC IOs never cliticize as datives, only DOC IOs do.<sup>8</sup>

This corroborates a conjecture made in Charnavel & Mateu (2015) regarding antilogophoricity effects in clitic clusters. Charnavel & Mateu (2015) proposes the following descriptive generalization:

- (18) Logophoric Restriction (CLR): When a 3rd person IO clitic and a DO clitic co-occur in a cluster, the DO clitic cannot corefer with a logophoric center.

To account for the deviance of examples such as (19b), where the accusative clitic is coreferential with *Anna*, a logophoric center (here an attitude holder):

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<sup>7</sup>While the present article fundamentally agrees on the essentials of these conclusions, there may be some disagreement about details not affecting, in fact possibly further reinforcing, Anagnostopoulou's (2005) central conclusions.

Thus it is not entirely clear that IOs introduced by *à* always are DPs, rather than possibly ambiguous between DPs and PPs. This would agree both with Kayne (1975) and Vergnaud (1974) (and there may be variation among French speakers here). The debate hinges on the wellformedness of *à* introducing a bare DP conjunction. It seems to me that such coordinations oscillate between a mild intermediate status and fine cf. (i) *On a donné un livre à Jean et ?/ (à) Marie*. 'We gave a book to John and (to) Mary'; (ii) *On a donné un livre à Marie et son frère*. 'we gave a book to Mary and her brother'; (iii) *On donné un livre à l'homme et (à) la femme qui se sont vus hier*. 'We gave a book to the man and the woman who met yesterday'. In particular, the equivalent of (i) and (ii) with genitive introducing *de* are much worse, while the equivalent of (iii) with a relative clause is better. Finally, the repetition of *à* favors a distributive reading of the conjunction, and absence of it a group reading. This may play a role in Jaeggli's 1982 reported deviance of (iv) *\*Ils ont parlé à Marie et le directeur*. 'They talked to Mary and the director.' which I find overstated: its intermediate status improves substantially when it is read with the conjunction of DPs forming a single intonational phrase and a group reading is intended.

<sup>8</sup>This leaves open the question of how this generalizes to other cases not obviously involving DOCs or PDCs.

- (19) a. Anne<sub>i</sub> croit qu' on la<sub>i</sub> recommandera au patron.  
 Anna<sub>i</sub> thinks that s.o. her.ACC will recommend to the boss  
 Anna<sub>i</sub> thinks that they will recommend her<sub>i</sub> to the boss.
- b. Anne<sub>i</sub> croit qu' on la<sub>\*i/j</sub> lui<sub>k</sub> recommandera, [ au  
 Anna<sub>i</sub> thinks that s.o. her.ACC 3.DAT will recommend to the  
 patron ]<sub>k</sub>.  
 boss.  
 Anna<sub>i</sub> thinks that they will recommend her<sub>i</sub> to him, the boss.

They propose to derive (18) by assuming that (i) there cannot be two perspective centers within the same minimal syntactic domain; (ii) in (19)b, the accusative clitic is a perspective center by virtue of being coreferential with one (*Anna*) and (iii) the dative clitic is one inherently because the cliticized IO must correspond to the IO found in DOC.<sup>9</sup> Their point (iii) is exactly what we found independent evidence for.

### 3.2.2 Are French DOCs visible on the surface?

Although I did not distinguish high (benefactives/malefactives) from low (goals, possessors) applicatives, unambiguous scope (scope freezing) effects are found with both in CLLD cases. Low applicatives have already been illustrated, cf. (9). Here is a case with a high applicative:

- (20) a. DO c-commands IO in the order DO IO  
 ?On a préparé **chaque** / **aucun** plat de viande épicé à la cliente  
 we prepared each no spicy meat dish to the customer  
 qui I' a commandé.  
 who it asked for.
- b. DO cannot bind into IO in IO CLLD  
 \*À la cliente qui I' a commandé, on lui a préparé **chaque** /  
 to the customer who it asked for we to-her prepared each  
**aucun** plat de viande épicé.  
 no spicy meat dish.

**Low Applicatives** Anagnostopoulou (2005) uses contrasts reported in Oehrle (1976) to detect PDCs:

<sup>9</sup>That IOs in DOCs must be perspective/logophoric centers is independently justified by their being able to antecede logophors in Japanese, or in English for example.

- (21) a. The war years gave Mailer his first big success.  
b. \* The war years gave his first big success to Mailer.
- (22) a. Katya taught Alex Russian.  
b. Katya taught Russian to Alex.
- (23) a. This trip taught Alex patience.  
b. \* This trip taught patience to Alex.

This illustrates that the PDC requires agentive subjects while the DOC does not (an intriguing observation, unexplained I believe). Anagnostopoulou (2005) conjectures that the order V IO DO in French exemplifies the DOC but Oehrle's contrasts are inconclusive in French as the translation of the above examples yields pairs that are equally fine:

- (24) a. Les années de guerre ont donné à Mailer son premier gros succès.  
b. Les années de guerre ont donné son premier gros succès à Mailer.
- (25) a. Katya a appris à Alex le russe.  
b. Katya a appris le russe à Alex.
- (26) a. Ce voyage a appris à Alex la patience.  
b. Ce voyage a appris la patience à Alex.

Furthermore, if the order V IO DO exemplified a DOC construction, we would expect scope freezing. This is not observed as illustrated below:

- (27) a. DO c-commands IO in the order DO IO  
On a présenté **chaque** / **aucune** danseuse de ce nouveau ballet à  
We introduced each no dancer.F of this new ballet to  
**son** futur partenaire.  
her future partner
- b. DO c-commands IO in the order IO DO  
On a présenté à **son** futur partenaire **chaque** / **aucune** danseuse de  
We introduced to her future partner each no dancer.F of  
ce nouveau ballet.  
this new ballet

That the pronouns in the IO can be licitly bound by the quantified DO shows that the DO can outscope the IO. This can also be illustrated with two quantifiers:

- (28) a. On a présenté **chaque** / **aucune** danseuse de ce nouveau ballet à  
 we introduced each no dancer.F of this new ballet to  
**un** mentor de **son** futur partenaire.  
 a mentor of her future partner.
- b. On a présenté à **un** mentor de **son** futur partenaire **chaque** /  
 we introduced to a mentor of her future partner each  
**aucune** danseuse de ce nouveau ballet.  
 no dancer.F of this new ballet.

Here, the universal quantifier *chaque* ‘each’ can outscope the existential *un/a* thereby licensing pronominal binding.

The contrast between French (28b) and English DOCs ((28c)) is striking:

- (28) c. \* We showed a mentor of her future partner each / no dancer.F of this new ballet.

Finally, the order IO DO is most natural if DO has sufficient weight, an observation suggesting that Extraposition or Heavy NP shift is involved in shifting the DO to derive this order.

**High Applicatives** We now turn to (some) high applicatives, e.g. bene/malefactive introduced higher in the structure. The preferred option is for benefactive to be introduced by *pour/for* but they can appear introduced by *à* with variable acceptability results.<sup>10</sup> Both orders again (IO DO and DO IO) are allowed but binding is fine in either:

- (29) a. DO c-commands IO in the order DO IO  
 On a enlevé **chaque** / **aucun** enfant maltraité à ses parents.  
 We took away each no child mistreated from its parents
- b. DO c-commands IO in the order IO DO  
 On a enlevé à ses parents **chaque** / **aucun** enfant maltraité.  
 We took away from its parents each no child mistreated
- (30) a. DO c-commands IO in the order DO IO

<sup>10</sup>Because benefactives can use *pour*, benefactives can be slightly degraded, hence it is preferable to use malefactive. These constructions (with *à*) seem by no means to be productive, and results also seem sensitive to the nature of the direct object in ways that remain obscure. Results, however, are uniformly good and productive if the applied object is a dative clitic.

Elles ont joué [ **chaque** / **aucun** morceau qu'on leur a appris ]<sub>k</sub>  
 They played each no piece we to-them  
 à **son**<sub>k</sub> compositeur.  
 taught to its composer

- b. DO c-commands IO in the order IO DO

Elles ont joué à **son**<sub>k</sub> compositeur [ **chaque** / **aucun** morceau qu'on  
 They played to its composer each no piece we  
 leur a appris ]<sub>k</sub>.  
 to-them taught

From this, two conclusions are possible. Either the order V DO IO is ambiguous between a DOC structure and a PDC structure so that we cannot observe Oehrle's effects or scope freezing (since each tests one structure but the other structure is also available); and in fact this could also be true of the V IO DO order. Or DOCs in French cannot surface unless the IO is cliticized. In the case of low applicatives, the first option is reasonable as a PDC structure where the IO in fact instantiates a different thematic structure with the IO being e.g. a locative (cliticizing as *y*). In the case of high applicatives, however, it is hard to see what alternative thematic structure there could be. This suggests that the PDC realization of high applicatives is not ambiguous with a DOC and that, in turn, DOCs are not just applied objects. We are thus led to modify Anagnostopoulou's (2005) conclusion that the crucial property of DOCs is the association of IOs with extra functional structure such as light applicative heads. Rather, such structures may be necessary but not sufficient: IOs in DOCs are applied objects with an additional property.<sup>11</sup> This would explain why, whereas (Standard American) English IOs in DOCs do not tolerate being *wh*-moved, high applicatives, even though they are applied objects, are not subject to such a prohibition:

- (31) a. We gave Mary a book. / We baked John a cake.  
 b. \* Who did you give a book? / \*Who did you bake a cake?  
 c. On a fait un sale coup à Jean. / À qui on a fait un sale  
 we played a dirty trick to Jean / To whom we played a dirty  
 coup.  
 trick  
 'We played a dirty trick on Jean. / Who did we play a dirty trick on?'

<sup>11</sup>In the absence of this additional property, there may be Case differences between the two objects, but no deep c-command asymmetry in terms of binding or scope.

I tentatively conclude that PDCs do indeed realize high or low applicatives, but that they simply do not instantiate the in principle (surface) possible DOC realization (which, alone, would show a scope freezing effect).

This would mean that in French, there is no clitic-less candidate for a DOC realization of applicatives. This would make French similar to Spanish, in which IOs in DOCs must be clitic doubled (cf. Anagnostopoulou 2005 and references therein). Given the derivation in (16), the closest French correspondent to a DOC is the structure in which the IO has moved to the position  $XP_k^2$  in (16), a movement requiring the presence of an associate clitic, but to a position where French does not allow an XP to surface. This would explain why, just like IOs in English DOCs, CLRD-ed Datives (or Accusatives<sup>12</sup>) have to be specific, see Sportiche (2017a), a requirement imposed in French by the mandatory presence of the clitic.

This means that the closest equivalent to English DOCs in French is either CLRD (briefly mentioned earlier) where the IO is linearized to the right as in (32), or CLLD where the IO has moved to the left periphery of its clause:

- (32) a. On a présenté Jean à Pierre.  
          we introduced Jean to Peter  
      b. On lui<sub>k</sub> a présenté Jean, [ à Pierre ]<sub>k</sub>.  
          we him<sub>DAT</sub> have introduced Jean, to Pierre

But neither CLLD nor CLRD are exact equivalents of DOCs, even if they share with DOCs some properties characteristic of Topics (see Polinsky 1996). Indeed, CLLD-ed constituents are higher than subjects, and CLRD constituents must be understood as backgrounded Topics and thus can't be contrasted, unlike IOs in DOCs.

## 4 Conclusion

I have shown that French displays mandatory scope freezing effects in the presence of dative clitics in what superficially look like PDCs. I have attributed these effects to the presence of hidden DOCs in French, which alone allow an IO to cliticize as a Dative. I have further suggested that DOCs do not surface in French, but they constitute an intermediate derivational step involved in CLLD and CLRD.

Many questions, left unaddressed here, remain.

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<sup>12</sup>Conversely, we should expect to find all the properties associated with DOC IOs in English to also be available with DOs. In general, this is not going to be easy to detect since DOs, unlike IOs in DOCs, do not have to move so high: a plausible place to look is of course DOs in verb-particle constructions in the order V DO Part.



1. If the distribution of floated Qs off a DP reveals the presence of traces of this DP as in Sportiche (1988), the following type of data:

- (33) a. On leur        avait (à) tous montré le film.  
              we to-them had    to all    shown the movie.  
              we had shown the movie to them all
- b. On leur        avait montré le film    \*(à) tous.  
              we to-them had    shown the movie    to all  
              we had shown the movie to them all

suggests that the distribution of floated Qs off objects interacts with the derivational steps involved in DOCs (in a way reminiscent of what Sportiche 2017a, suggests for English).

2. The syntax of IO reflexives in some versions of French (or in Italian), where they trigger participle agreement, suggests that the derivational steps involved in IO reflexive cliticization display an A-movement syntax: a connection with French DOCs suggests itself that merits investigation.
3. If the conclusion above is correct, the distribution of French Dative Clitics only indirectly relates to PDCs; the connection is instead mediated by DOCs. One area on which this indirect connection should have a direct bearing is that of causative constructions.

## Abbreviations

3	third person	F	feminine
ACC	accusative	IO	indirect object
CLLD	clitic left dislocation	NEG	negation
CLRD	clitic right dislocation	PDC	prepositional dative construction
DAT	dative	WCO	weak crossover
DO	direct object		
DOC	double object construction		

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## **Part II**

# **Null syntax**



## Chapter 12

# Rethinking the ECP: Subject–object asymmetries as freezing effects

Luigi Rizzi

The ECP had a major explanatory role in GB syntax. Conceptual and technical difficulties with the principle diverted the focus of theoretical attention from core ECP effects in minimalism. Nevertheless, the empirical motivation for such effects remains robust across languages. In this article, I would like to rethink core ECP effects such as subject–object asymmetries in extraction contexts in terms of a different theoretical apparatus which emerged in recent years in connection with cartographic studies. Criterial positions determine freezing effects. If there is a Subject Criterion, subjects will undergo such effects, and will be unmovable, unless special devices are used by the language. We observe *that*-trace effects with subjects but not with objects because there is no general object criterion. This alternative theoretical apparatus can be shown to be empirically advantageous with respect to the ECP approach in connection with a number of phenomena discussed in the classical ECP literature.

### 1 The classical ECP approach

The Empty Category Principle (ECP) played a major explanatory role in Government-and-Binding (GB) analyses. First and foremost, it captured different kinds of subject–object asymmetries in extraction contexts: all other things being equal, subjects are harder to extract from embedded domains than objects (or other complements). The classical illustration is the *that*-trace effect. An object is extractable from an embedded declarative introduced by *that*, but a subject is not:

- (1) a. \* Who do you think [ that [ \_\_\_\_ will come ] ]?
- b. Who do you think [ that [ Mary will meet \_\_\_\_ ] ]?



Judgments gathered with controlled methods have confirmed such asymmetries, while revealing new facets of the phenomenon.<sup>1</sup> There are factors of empirical complexity, though: certain varieties of English admit (1a) as acceptable, so that in such varieties the asymmetry tends to disappear (Sobin 2002; Schippers 2012); nevertheless, the constraints on extractability are not simply subjected to arbitrary variation: for instance, the asymmetry reappears, also for speakers who accept (1a), in other contexts, such as the extraction from indirect questions (here the contrast is in terms of relative acceptability, as extraction from the weak island is always degraded to some extent):

- (2) a. \* Who do you wonder if \_\_\_\_ will come?  
b. ?? Who do you wonder if Mary will meet \_\_\_\_?

In other languages, things are even sharper. Subject extraction in (3a) appears to be systematically excluded in French, while object extraction in (3b) is possible (Berthelot 2017):

- (3) French  
a. \* Qui penses-tu que \_\_\_\_ va venir?  
    ‘Who do you think that will come ?’  
b. Qui penses-tu que Marie va rencontrer \_\_\_\_ ?  
    ‘Who do you think that Marie will meet ?’

So, the asymmetries are a real, robustly attested phenomenon. The ECP tried to capture the asymmetries by appealing to independent properties differentiating subjects and complements. According to the classical approach of Chomsky (1981), traces must be lexically governed (or antecedent-governed, an option that I do not discuss here). The object is governed by a lexical element, the verb, while the subject is governed by a functional head, the node Infl, or T, which is not sufficient to satisfy the requirement. So, the asymmetry follows from the nature of the governing element.

This analysis was extremely influential and gave rise to an important literature both on the cross-linguistic scope of the phenomenon, the ways of circumventing it (e.g. via complementizer deletion in English), the exact format of the principle, etc. (see, e.g., Pesetsky 1982; Kayne 1984; Rizzi 1982; 1990, a.o.) In spite of its

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<sup>1</sup>For instance also in case of object extraction the optimal case is from a clause not introduced by an overt complementizer, but a clear contrast with subject extraction persists: Schippers (2012).



empirical success and its capacity to generate important syntactic research, the ECP approach was abandoned in Minimalism.

I think the main problem which led to this step is conceptual: Minimalism permits a very limited variety of UG principles: principles operating at the interfaces with sound and meaning, and somehow enforced by the needs of the interface systems (e.g., linearization at the PF side, the Theta Criterion at the LF side, etc.), and principles of optimal computation, operating on the computing machine (including principles of economy, locality, labeling, etc.). The ECP does not naturally fit into any of these categories, so it has no natural place in the minimalist universe.

There were also technical problems, due to the reliance of the ECP on government, a structural relation not assumed in Minimalism. Personally, I never found such considerations compelling: government is minimal c-command, i.e., c-command constrained by locality, and Minimalism must assume both some form of c-command (perhaps derivatively from the extension condition or no tampering) and some form of minimality, so that the ingredients for government are there, even if a primitive government relation is not postulated. But, even if the technical argument may be unconvincing for these reasons, the conceptual argument remains compelling. So, research on the asymmetry was somehow demoted from center stage in Minimalism.

Nevertheless, the facts are clear, and cross-linguistically robust. True, some languages do not manifest the asymmetry, so that the phenomenon has sometimes been qualified as “language specific”, and, as such, not bearing on UG principles. But this kind of reasoning is highly questionable. On the one hand, systematic exceptions to *that*-trace effects have turned out to be amenable to independent principled explanations, such as the systematic absence of the asymmetries in Null Subject Languages (Rizzi 1982). On the other hand, the cross-linguistic distribution is clearly constrained: we don’t seem to find clear cases of the “mirror image” of English or French, i.e., a language freely allowing subject extraction across an overt complementizer and banning object extraction.

In classical discussions of such issues, poverty of stimulus considerations were typically invoked to support the necessity of a principled explanation. How does the learner of (the relevant variety of) English, or French, come to know that (1a), (2a), (3a) are excluded? Why don’t all language learners analogically generalize from cases of extraction they hear, (such as (1b)), to all cases of extraction, assuming no asymmetries? An anonymous reviewer observes that some qualification is needed here because through statistical learning techniques it may be possible to infer the ungrammaticality of a structure such as (1a) from its non-occurrence. The point is well-taken, even though one should make sure that such techniques

can be selective enough, i.e., do not generalize from cases like (1b) to cases like (1a), in the absence of any principled guidance. More importantly, a technical approach to these problems based on statistical learning would remain too “local”: why should the asymmetries be systematically found across languages, and always in the same direction? Somehow, the systematic higher difficulty with subject extraction, robustly attested language after language, must come from some internal pressure and be connected to a principled reason, exactly what the ECP approach assumed.

These considerations pave the way for the search of a principled alternative to the ECP to capture the asymmetries.

## 2 Criterial freezing and the subject criterion

According to the criterial approach to scope-discourse semantics, the initial periphery of the clause is populated of functional heads such as Q, Top, Foc, etc., which attract a phrase with matching feature, creating criterial (Spec-head) configurations, and guide the interpretation of such criterial configurations at the interfaces with sound and meaning (Rizzi 1997).

One salient property of such criterial configurations is that the attracted element is frozen in the criterial position, i.e., it cannot be attracted to a higher position. The canonical example is the case of a *wh*-phrase satisfying the Q-criterion in an embedded interrogative, selected by a verb like *wonder*. In such cases, the *wh*-element cannot be moved further:

- (4) Lasnik & Saito (1992), Bošković (2008)
  - a. Bill wonders [*which book* Q [ she read \_\_\_\_ ]]
  - b. \* *Which book* Q does Bill wonder [ \_\_\_\_ Q [ she read \_\_\_\_ ]] ?

While obvious options come to mind to rule out (4b) (one could invoke interface problems with the derived representations, or an “inactivation” analysis à la Bošković 2008), more complex cases discussed in Rizzi (2006; 2011) and much subsequent work suggest that the problem is deeper. So, a descriptive principle like the following seems to hold:

- (5) Criterial freezing: An XP meeting a criterion is frozen in place.

In fact the phrase meeting a criterion is not completely frozen: if the phrase is complex, part of it can be subextracted. E.g., taking Italian (6a) as baseline, focalization of the PP *di Piero* is possible, with subextraction and clefting:

(6) Italian

- a. Non è chiaro [[ *quanti libri di Piero* ] Q siano stati censurati ]  
 ‘It isn’t clear how many book by Piero Q have been censored’
- b. E’ *di Piero* che non è chiaro [[ *quanti libri* \_\_\_\_ ] Q siano stati censurati] (non di Gianni)  
 ‘It is by Piero that it is not clear how many books Q have been censored, not by Gianni’

The formulation in (5) should be refined to permit this kind of subextraction. In fact, the element of the specifier which is frozen is the carrier of the criterial feature, the criterial goal, if we assume that the criterial head enters into a probe-goal relation with the attracted phrase (Chomsky 2000). So, (5) should be refined as follows:

- (5') Criterial freezing: In a criterial configuration, the criterial goal is frozen in place.

See Chomsky (2013; 2015), Rizzi (2015a; 2015b; 2016) for attempts to derive the effects of (5') from the labeling algorithm. I will not address this important point here, and will just assume a descriptive formulation like (5').

Criterial Freezing separates specifier positions targeted by movement into two classes: HALTING positions, and TRANSITING positions. The criterial positions are halting positions, where movement stops; transiting positions are specifier positions from which movement can (and in fact must) continue, for instance the C-system of a verb like *think*, which can function as an escape-hatch for a wh-phrase, but not as the final landing site of wh-movement.

If we now turn to the system of A-movement, the typical halting position of A-movement chains is the subject position of finite clauses (as opposed to transiting A-positions, such as the subject positions of raising clauses, participial constructions, etc.). If halting positions are equated to criterial positions, these considerations lead us to assuming a criterial position for A-movement, a subject criterion (Rizzi 2006, and much subsequent work).

Criteria typically go with scope-discourse interpretive effects, such as the topic-comment or focus-presupposition articulations. So, what could be an analogous interpretive effect for subjects? Interpretively, the subject position designates the referent “about which” the event is presented. Active-passive pairs clearly differ in this aboutness property. The following sentences are both appropriate in “all new” contexts, e.g., as answers to questions like “What happened?”, or, with a narrower contextualization, “How did the battle start?”:

(7) Italian

- a. Un aereo ha attaccato un incrociatore  
'A plane attacked a cruiser'
- b. Un incrociatore è stato attaccato da un aereo  
'A cruiser was attacked by a plane'

Both sentences felicitously depict an attacking event in the given context, but (7a) depicts the event as being about a plane, the agent, and (7b) depicts it as being about a cruiser, the patient. The choice of the aboutness subject has consequences for discourse organization. For instance, as Calabrese (1986) pointed out, the choice affects anaphora resolution in null subject languages, in that a *pro* subject in the following sentence picks out the aboutness subject. So, if (8) is uttered immediately after (7a), the intended interpretation is that the plane asked for backup; if (8) is uttered after (7b), it's the cruiser which did (see also Belletti et al. 2007 on this effect):

(8) Italian

- ... poi, *pro* ha chiesto rinforzi  
'... then \_\_ asked for backup'

In much current work initiated in Rizzi (2006), and building on Cardinaletti (2004), I have assumed that a nominal head Subj is an obligatory component of the clausal spine. This head occurs immediately under the lowest head of the complementizer system Fin, hence higher than T, so that we have a partial map of the high part of the IP as follows:

- (9) ... Fin ... Subj<sub>[+N]</sub> ... T ...

In syntax, Subj<sub>[+N]</sub> attracts the closest nominal expression to its Spec. At the interface, it triggers an interpretive routine along the following lines: "interpret my Spec as the argument which the predicate is about, and my complement as the predicate".

### 3 +N as an attracting feature to the subject position

Why should +N be the relevant feature here? The obvious intuition is that the system needs a nominal expression, capable of referring to an argument, to trigger the appropriate aboutness interpretation. An alternative that comes to mind, perhaps more in line with standard assumptions, is that the attracting feature could be the set of Phi features.

One motivation for assuming +N to be the attractor is provided by the widespread existence of quirky subject constructions, in which a non-nominative nominal expression occupies a subject position (typically with psych-verbs and a few other verbal classes in some languages):

(10) Italian

A Gianni piacciono queste idee  
 ‘To Gianni please these ideas’

In such cases, it is not very plausible that the attracting features would be the Phi set, as the clause initial nominal does not enter into an agreement relation with the inflected verb, whereas if the attracting feature is +N, quirky subjects are expected. In languages like Icelandic, the quirky subject with an inherent case may be a KP, in languages like Italian it could be a KP or a PP, but in any event it plausibly is an “extended projection” the nominal element, in Grimshaw’s (1991) sense, hence accessible to being attracted by a +N attractor.<sup>2</sup>

The point is relevant in the context of this paper because the hypothesis that the attractor is +N may help explain other subject–object asymmetries originally ascribed to the ECP. One has to do with *en* cliticization in French. As was shown by Ruwet (1972), the clitic *en* can pronominalize both a PP (in partitive constructions such as [ *la première partie* [<sub>PP</sub> *de ce roman* ] ] ‘the first part of this novel’) and an NP (contained in a larger structure headed by a numeral, such as [ *trois* [<sub>NP</sub> *romans* ] ] ‘three novels’):

(11) French

- a. Jean *en* a publié [ *la première partie* \_\_\_\_ ] *en* 1968 (de ce roman : *en* = pro-PP)  
 ‘Jean of-it published the first part in 1968 (of this novel)’
- b. Jean *en* a publié [ *trois* \_\_\_\_ ] *en* 1968 (romans : *en* = pro-NP)  
 ‘Jean of-them published three in 1968 (novels)’

But if the DP is in subject position, e.g., in the passivized versions of (11), only PP extraction is possible, and NP extraction is barred:

(12) French (adapted from Ruwet 1972)

<sup>2</sup>That the dative experiencer is in subject position, and not a topic, is shown, among other things, by the fact that it does not interfere at all with A-bar extraction, whereas a genuine topic does: Calabrese 1986; Belletti & Rizzi 1988. The special properties of expletives as elements formally satisfying the subject criterion are discussed in Rizzi & Shlonsky (2007).

- a. a [ la première partie \_\_\_\_ ] en a été publiée \_\_\_\_ en 1968  
‘The first part of-it was published in 1968’
- b. \* [ Trois \_\_\_\_ ] en ont été publiés \_\_\_\_ en 1968  
‘Three of-them have been published in 1968’

Why this asymmetry? In Rizzi (1990: 37–38) I proposed an ECP analysis: in object position both traces are lexically governed, by the noun *partie* in (11a), and by the verb in (11b) (under the definition of government adopted there). In (12a) the trace is still lexically governed by the noun, but in (12b) there is no lexical governor available, hence the structure is excluded.

How can this asymmetry be captured without appealing to the ECP? Under the assumption that the attractor of subject is  $\text{Subj}_{[+N]}$ , the contrast between (12a) and (12b) also follows: in the derivation of (12a), after *en* has been extracted, the remnant DP still contains a nominal part, and can be attracted; in (12b), the nominal part has been entirely extracted by *en* cliticization, hence the remnant DP is not extractable any longer (under the copy theory of traces the trace of *en* is still there, but traces typically are not attractable elements).

It should also be noticed that the asymmetry shown by (12) disappears under  $A'$ -movement of the object after *en* cliticization:

(13) French

- a. [ Combien de parties \_\_\_\_ ] il en a publiées \_\_\_\_ en 1968?  
‘How many parts \_\_\_\_ he of-it published in 1968?’
- b. [ Combien \_\_\_\_ ] il en a publiées \_\_\_\_ en 1968?  
‘How many he of-them published in 1968?’

Here the +N analysis may have an advantage over the ECP analysis: according to the latter, there is no obvious reason why the lexical government requirement could be lifted in the case of the output of  $A'$ -movement, as (13b). By contrast, the alternative involving +N as an attractor captures the contrast between (12b) and (13b): in (13b) the attractor is +Q, and *combien* clearly carries the Q feature, so the fact that the NP has been extracted is irrelevant, and the remnant can undergo

A'-movement.<sup>3</sup>

A somewhat analogous, but also different case of an asymmetry previously connected to the ECP concerns the fact that *that* deletion cannot affect a moved sentential complement:

- (14) a. Bill didn't say (that) John could win  
       b. \* (that) John could win, Bill didn't say \_\_\_\_  
       c. \* (that) John could win wasn't said by anyone

Here, contrary to *en* extraction in French, both A- and A'-movement affect the structure. Stowell (1981) originally observed that the asymmetry in (14) recalls the ECP, and Pesetsky (1995) captured this intuition by assuming that the deleted complementizer is in fact (abstractly) cliticized to the main verb, so that the complementizerless clauses do involve a trace of head movement, arguably in the scope of the ECP.

An alternative to the ECP analysis, still based on the Stowell-Pesetsky insight, could be the following: the clause, in order to move in (14a)–b must be attracted, but its head, the complementizer, has already been attracted and incorporated into the verb; so, if traces are not attractable, the whole clause cannot undergo movement, and must remain in complement position, as in (14a). Notice that this analysis implies that head movement (however it is implemented) is part of narrow syntax, as argued for in Roberts (2010), against the frequently made assumption that head movement is post-syntactic. The difference between *that* deletion and *en* cliticization is that in the latter case the head of the construction (the numeral, or possibly a higher abstract determiner) is not affected by cliticization, so that there is no general ban on movement of the whole phrase, but only a selective ban linked to the +N attractor. In case of *that* deletion, the head of the whole construction has been moved and has become a trace, so that the whole configuration is unmovable.

<sup>3</sup>An anonymous reviewer observes that the contrast between (12a) and (12b) is reproduced if the clause is embedded under an “exceptional case marking” verb like *laisser* (let) in French:

- (i) \* Il a laissé [ trois \_\_\_\_ ] en être publiées.  
       ‘He let three of-them+to+be published’  
 (ii) Il a laissé la première partie en être publiée.  
       ‘He let [ the first part \_\_\_\_ ] of-it+to+be published’

The reviewer observes that the ECP would not draw the right distinction in this case because the trace of *en* would be lexically governed by *laisser* in (i). The contrast follows from the analysis proposed in the text if infinitival clauses of this kind also involve a Subj<sub>[+N]</sub> head.

## 4 Subject–object asymmetries in extraction contexts

We can now come back to subject–object asymmetries under A'-movement. If criterial configurations are frozen, and there is a subject criterion, nominal elements which reach Subj will be frozen there. I.e., the attempt of deriving a sentence like (1a) would go through an intermediate representation like (15):

- (15) You think [ that [ who Subj<sub>[+N]</sub> will come \_\_\_\_ ]]

Where *who* will be frozen and will become inaccessible to further movement. No similar effect arises in the case of object extraction (1b), as there is no object criterion. The asymmetry thus follows from criterial freezing and the subject criterion, which provide an alternative to the classical ECP analysis.

As usual, it is important to look for empirical differences between competing analyses. One class of facts (originally pointed out to me by Paul Hirschbühler) which seems to support the freezing analysis is the following. The *wh* operator *combien* in French can be extracted from an object, or pied-pipe the whole object, as in (16):

- (16) French
- a. Combien de personnes veux-tu rencontrer \_\_\_\_?  
'How many of people do you want to meet?'
  - b. Combien veux-tu rencontrer [ \_\_\_\_ de personnes ]?  
'How many do you want to meet of people?'

Extraction of *combien de NP* from an embedded subject position gives rise to ungrammaticality (as in (17a)), but subextraction of *combien* from subject position is only mildly degraded, as in (17b) (Obenauer 1976; Kayne 1984):

- (17) French
- a. \* Combien de personnes veux-tu [ que [ \_\_\_\_ Subj viennent à ton anniversaire ] ] ?  
'How many people do you want that come to your birthday?'
  - b. ? Combien veux-tu que [ [ \_\_\_\_ de personnes ] Subj viennent à ton anniversaire ] ?  
'How many do you want that of people come to your birthday?'

Under the ECP analysis, the ungrammaticality of (17a) is expected, but (17b) would be predicted to be equally ill-formed: if there is no lexical governor for a trace in subject position, a fortiori there should not be a lexical governor for a



trace in the specifier of the subject. So, the improvement manifested by (17b) is not expected.

The freezing analysis, by contrast, predicts the ill-formedness of (17a) as a violation of criterial freezing, whereas it makes no claim on (17b), which does not fall under the scope of formulation (2): only the criterial goal, the nominal part of the DP, is frozen in the criterial configuration with  $\text{Subj}_{[+N]}$ . The marginality of the example will be linked to other factors constraining extractions from left branches (on such factors, and their interplay with criteria, see Lohndal 2010, Berthelot 2017).

Other cases of special behavior of subjects may be amenable to the same analysis. The complex inversion construction in French (Kayne 1972; Rizzi & Roberts 1989, and subsequent work) involves a *wh* element (or a null yes/no operator), a subject DP and the inflected verb with an encliticized subject clitic, doubling the subject, as in (18):

- (18) French  
 Où Jean est-il allé?  
 ‘Where John did-he go?’

If the inversion is a reliable cue that I to C (or, in current terms, T to Fin) has occurred, the subject must sit in a special subject position higher than Fin, hence in the left periphery.

Among the many noticeable properties of the construction there is the fact that the left peripheral subject must be distinct from the *wh*-element, i.e., the following is impossible:

- (19) French  
 \*  
 Qui est-il parti?  
 ‘Who did-he leave?’

Rizzi & Roberts (1989), following a suggestion due to Marc-Ariel Friedemann, analyzed (19) as an ECP violation: movement from the left-peripheral subject position to the landing site of *wh*-movement would violate the head-government requirement of the ECP. How does this analysis translate into the system developed here?

Evidently, in this construction, an extra subject position is licensed in the lower part of the left periphery. One possible way to go is to assume that I-to-C movement can carry along the Subj head to the left periphery, where it remains active to license an A-specifier. If it is so, the subject criterion configuration is reconstituted in the left periphery, yielding a representation like the following:

(20) OÙ Foc [ Jean est+Subj+Fin [ il ... allé ]]

If this derivational option is taken, and the subject is a wh-element, we would obtain an intermediate representation like:

(21) Foc [ qui est+Subj+Fin [ il ... parti ]]

But here *qui* satisfies the subject criterion, therefore under criterial freezing it cannot move further to the landing site of a wh-element, Foc.<sup>4</sup> The impossibility of (19) can thus be captured, and another case for which the ECP had been evoked can fall under the freezing approach.

## 5 Conclusions

The ECP had a broad explanatory role in GB syntax, where it offered a coherent account of different constraints on movement across languages. The core case was the asymmetries between subject and object extraction from embedded domain, the former being more severely constrained than the latter, all other things being equal. Starting from the analysis of the core cases, a very large array of phenomena across languages turned out to be amenable to an ECP analysis.

Under minimalist guidelines, the ECP showed problematic features both conceptual and technical: on the one hand, it did not seem to naturally fit the principled typology of principles foreseen by minimalism; on the other hand, its crucial reliance on government was problematic in a framework explicitly attempting to do away with the government relation. So the principle was abandoned, and the vast body of empirical discoveries connected to the ECP fell out of center stage in the minimalist literature.

In this article I have tried to show that certain important effects analyzed in terms of the ECP in previous literature (including my own work) could be advantageously reanalyzed in different terms, relying on cartographic work and on the system of criteria in particular. Criterial configurations are Spec-head configurations which go with special interpretive instructions of the scope-discourse kind. So, criterial heads such as Top, Foc, Q, Rel, etc. attract phrases with matching features to the specifier position, and guide the interpretation of the structure, e.g., as expressing the topic-comment or focus-presupposition articulation, or explicitly marking the scope of operators. One remarkable syntactic property of criterial positions elucidated in the recent literature is the freezing effect: a

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<sup>4</sup>As for the possibility of local subject questions in general, *qui est parti?*, *who left?*, etc., one of the “skipping devices” assumed in Rizzi & Shlonsky (2007) must be operative.

phrase meeting a criterion (or, more accurately, the criterial goal) is frozen in the criterial configuration and cannot undergo further movement. criterial positions thus are “halting” sites for syntactic movement. In a number of articles starting from Rizzi (2006) I have argued that freezing plays a key role in the explanation of classical ECP effects. If there is a Subject Criterion, the halting character of subject positions is immediately captured. The difficulty of extracting subjects, the prototypical case of which is the *that*-trace effect, can be made to follow from freezing. Subject–object asymmetries follow from the fact that there is a subject criterion but not (in typical cases) an object criterion.

In certain cases, the freezing approach is empirically advantageous compared to the ECP approach. We have seen a number of syntactic phenomena showing asymmetries (*en* cliticization, *beaucoup* extraction in French, etc.) in which a requirement of lexical government seems to be too weak, whereas a freezing analysis correctly captures the facts.

No attempt is made here (or in related work of mine) to capture the whole array of ECP phenomena in terms of freezing. For instance, the whole chapter of ECP effects at LF, and many of the “ECP extensions”, in Kayne’s (1984) sense are not addressed. Nevertheless, it is important to stress that some core ECP effects are naturally and advantageously amenable to an explanation in terms of tools provided by recent syntactic theorizing. This offers the promise that also other aspects of the vast and varied ECP phenomenology may regain the focus of attention and offer new grounds to test the explanatory capacities of current syntactic theory.

## Abbreviations

ECP	Empty Category Principle	LF	logical form
GB	government-and-binding theory	PF	phonetic form
		UG	Universal Grammar

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## Chapter 13

# Rethinking Implicit Agents: Syntax cares but not always

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In this paper, I examine implicit control in Greek passives, both verbal passives and a passive-like construction in the nominal domain, namely complex event nominals with an agentive interpretation but a genitive theme DP as the only argument which is realised overtly. The availability of implicit control into temporal gerundival clauses depends on the features of the internal argument and the varying interpretation of the implicit argument. I argue that the implicit agent is only represented syntactically as a covert arbitrary pronoun and is thus able to exert implicit control as long as that pronoun does not trigger relativised minimality effects, blocking promotion of/Agree with the internal argument. The very existence of relativised minimality effects is a purely syntactic argument in favour of the syntactic reality of implicit arguments.

## 1 Introduction

The syntactic status of implicit arguments, especially in short passives, has been a controversial issue for decades (see Roberts 1985; 1987; Jaeggli 1986; Roeper 1984; Williams 1985; 1987; Bhatt & Pancheva 2006 and references therein). Recent approaches to passives (e.g. Bruening 2014; Schäfer 2012; Alexiadou et al. 2015) seem to converge in assigning no syntactic representation to the implicit agent (IA) and cast doubt on the syntactic nature of most of its alleged effects, reanalysing them as mainly semantic effects. In this light, an unequivocally syntactic diagnostic is needed and in this paper I will discuss such a potential diagnostic, namely the presence/absence of minimality effects in Agree/Move triggered by a demoted/unpronounced external argument. Such effects must be attributed to the varying, as it turns out, feature specification of implicit arguments. The



implications of these findings are twofold: (i) the syntactic, rather than merely semantic, identity/representation of implicit arguments which can control into non-finite subordinate clauses is reinforced, while at the same time (ii) not all non-active constructions with agentive readings have syntactically realised IAs.

In §2, I summarise the reasons why the arguments proposed so far regarding the syntactic representation of implicit argument can all be recast as purely semantic phenomena, including possibly even implicit control into infinitives. In §3 I outline the argument from Greek gerundival clauses and draw a distinction between manner and absolute/temporal gerunds, of which only the latter really involve syntactic control. In §4 I present the data from verbal and nominal passives, episodic and generic, and a Featural Relativised Minimality-based analysis. In §5, I conclude and present some implications and cross-linguistic considerations that emerge.

## 2 Questioning the syntactic status of implicit agents

The role, the presence and the position of the IA in short passives is often thought to become evident in two types of paradigms: (i) when a certain bit of structure is licensed, if that bit of structure cannot be licensed in non-agentive constructions, and/or (ii) when the implicit argument itself is part of a referential dependency. On different occasions, all types of evidence have been disputed, either through counterexamples or by suggesting that the mechanism involved does not have to be syntactic. To name four such cases, (a) unpronounced agents have been thought to license secondary predicates (1), (b) passives, but not unaccusatives or middles, license non-finite purpose clauses in which PRO is controlled by the IA (2), (c) the IA can be the antecedent of reflexive pronouns (with arbitrary reference) (3), and (d) internal arguments in passives cannot be coreferential with the implicit external argument (4), a restriction which can be analysed as a Principle B or C effect (Kratzer 1994; 2000), depending on the category of the covert element, or as a crossover violation, as in Baker et al. (1989).

- (1) The game was played nude.
- (2) Bhatt & Pancheva (2006, their grammaticality judgements/diacritics, adapted from Manzini 1983)
  - a. The ship was sunk [ PRO to collect the insurance ].
  - b. # The ship sank [ PRO to collect the insurance ].
  - c. \* The ship sinks easily [ PRO to collect the insurance ].



- (3) Baker et al. (1989: 228)  
Such privileges should be kept to oneself.

- (4) The children<sub>i</sub> were being washed IMP<sub>k/\*i</sub>.

The licensing of secondary predicates in English passives is very limited, in fact restricted to adjectives such as ‘nude’ and ‘drunk’. Landau (2010) provides more examples of adjectives which often function as secondary predicates but fail to do so when a co-indexation with the IA is intended (5).

- (5) a. Landau (2010: 3), adapted from Chomsky (1986: 120–121)  
The room was left (\*angry).  
b. \* The issue was decided unassisted.  
c. \* The game was played shoeless.

Similarly, Williams (1985) dismisses (1) on the grounds that “one may call a game nude if it is played by nude people”, therefore *nude* might in fact be (derivatively) predicated of *the game* (or the playing of the game). If one “modif[ies] the adjunct predicate suitably to make such a predication unreasonable, the sentence becomes unacceptable” (Bhatt & Pancheva 2006: 16). However, while these observations do suggest that English passives do not license secondary predicates predicated of the unpronounced agent, Alexiadou et al. (2015) suggest that such secondary predicates are possible in other languages, a necessary condition being that they are not required to Agree with their subject in phi-features. For instance, the German counterpart of (5a) is grammatical. Pitteroff & Schäfer (2017) propose that the semantics of depictives in Pytkänen (2008), combined with Bruening’s (2014) theory of passives, can account for this possibility.

The apparent binding effects illustrated in (3) and (4) have also been claimed to be analysable without resorting to binding-theoretic syntactic explanations. According to Alexiadou et al. (2015: 219), examples such as (3) could “find [...] a different explanation as they could arguably involve a logophor instead of an ordinary reflexive pronoun”. They further argue that anaphors bound by *by*-phrases, e.g. in impersonal passives in German, are default, invariable 3<sup>rd</sup> person forms, even when the antecedent is first person, unlike cases involving real syntactic binding, which requires person/number agreement between the anaphor and its antecedent (*ibid.*)<sup>1</sup>. As for the disjointness effect in (4), this could be made to simply follow directly from the semantics of the passive Voice head. Spathas

<sup>1</sup>As an anonymous reviewer points out, “a reflexivity based account also needs no syntactically realised IA to predict the facts”.

et al. (2015), partly following Bruening (2014), assume the *Pass* is merged with a Spec-less VoiceP and imposes existential quantification over the open argument of VoiceP, while they treat the disjointness as a presupposition in the denotation of *Pass*, not to be found in other types of non-active/middle Voice heads attested cross-linguistically (6).

- (6)  $\llbracket \text{Pass} \rrbracket = \lambda f_{\text{es},t} \lambda e \exists x. f(x)(e)$   
 Presupposition:  $\forall f_{\text{es},t}. f(x)(e) \rightarrow f \neq \text{theme}$

Control into infinitival purpose clauses is not uncontroversial either. Williams (1985) proposed that in examples such as (2) it is the whole matrix clause that controls the subject of the infinitival adjunct, i.e. the sinking of the boat causes the collection of the insurance and can even be referred to by the subject in sentences like *That will collect / earn you some insurance*. (Williams 1985, via Bhatt & Pancheva 2006: 573). When such a semantic relationship between the event in the matrix clause the one in the adjunct cannot be established, then control fails (7); likewise, similar S-control phenomena can be obtained even with unaccusative predicates, given appropriate additional context (8), or even with events disallowing the participation of an agent (9).

- (7) \* The boat was sunk [ PRO to become a hero ].
- (8) The boat sank in order to impress the queen and move her to murder her husband by the end of Act III.
- (9) Williams (1985)  
 Grass is green [ to promote photosynthesis ].

Nonetheless, this kind of argumentation does not easily carry over to implicit control into infinitival complements of (passivised) control predicates such as *decide/agree/promise* (10).

- (10) Landau (2010: 4)  
 It was decided [ PRO to leave ].

Among such predicates, ditransitives like *promise* are particularly interesting in that they disallow implicit control in goal passives (11a), as per Visser's (1973) generalization, while the corresponding impersonal passives are licit in e.g. Norwegian, as van Urk (2013) notes, but also in English (11b).

(11) Pitteroff & Schäfer (2017)

- a. \*Maggie was  $e_i$  promised [  $PRO_i$  to do the shopping ].
- b. It was  $e_i$  promised [  $PRO_i$  to do the shopping ].

In the light of contrasts like this, van Urk (2013) revises Visser's generalisation, suggesting that implicit control is only licit if no overt DP establishes an Agree relation with T, assuming that the expletive in impersonal passives does not enter such a relationship. Such a proposal is indeed akin to the idea pursued in this paper that the IA, if realised syntactically, should lead to minimality effects when intervening between T and an overtly agreeing DP. Van Urk (2013) does not quite analyse the ungrammaticality of (11a) as a minimality violation, but proposes that implicit control is a case of subject control, which is always mediated by agreement of T with both the controller and PRO. Thus, if T overtly agrees with an argument which is not the controller, as in (11a), control fails.

However, recall Landau's (2015) generalisation that only attitude predicates allow implicit control. Landau suggests that control with attitude predicates involves what he calls *logophoric* control, while control with non-attitude predicates involves *predicative* control, therefore only logophoric control can be exerted by an implicit controller. Based on Landau's (2015) idea that logophoric control does not directly involve predication between the controller and a clausal constituent, which would require syntactic representation of the controller, then perhaps implicit control with attitude predicates is no argument for the syntactic realisation of the IA.

Furthermore, Pitteroff & Schäfer (2017) dispute Landau's generalisation and argue that there is a split between languages that disallow implicit control with non-attitude predicates and languages that do. Interestingly, they attribute this split to the availability and the nature of "associative" expletive pronouns that can satisfy the EPP. Thus, given that their explanation relies on the associative pronoun functioning as the subject and valuing T's phi-features, van Urk's revision of Visser's generalization has to "find a different explanation from the one [...] where T in implicit control structures is valued by a syntactically projected (weak) implicit argument" (Pitteroff & Schäfer 2017: 38–39). Casting doubt on the IA's participation in Agree relationships also undermines the hypothesis that it has to be syntactically realised.

In the following sections, I will argue that IAs controlling into non-finite subordinate clauses may not themselves be able to enter any Agree relationships, however they can variably act as defective or transparent interveners in Agree relationships between a functional head and the overt DP that head licenses, de-

pending on the feature specification of the functional head but also the covert pronominal element realising the demoted argument.

### **3 Towards a new diagnostic: Control into gerundival adverbial clauses in Greek**

In the following sections, I put forward an argument that implicit control into absolute/temporal gerundival clauses is subject to syntactic restrictions, namely (featural) relativised minimality. In relation to the discussion above this means that, even if we cannot be sure about implicit control into infinitives, implicit control into absolute/temporal gerundival clauses has to be established in narrow syntax. The core tenet of the argument is that implicit control sometimes is successful and sometimes is not. All cases under discussion involve an A-dependency across the presumed position of an implicit argument. Those A-dependencies are obligatory: (a) promotion (to subject) of the internal argument in verbal passives, episodic and generic; (b) promotion (to a unique Case position) of the internal argument in passive nominals. Successful implicit control is in principle compatible with two explanations: (i) either the implicit argument is not syntactically represented and implicit control is semantic anyway; or (ii) implicit control is syntactic and therefore the implicit argument is indeed projected syntactically, but its features are such that they cannot give rise to minimality effects in Agree/Move dependencies across the implicit argument. The fact that implicit control is not successful in some other cases points towards the latter explanation: in such Agree/Move dependencies the features of the probe are such that the potential intervention of an implicit argument would trigger a minimality violation.

Therefore, the existence of such A-dependencies and the absence of implicit control in the latter cases is incompatible with the idea that implicit control is merely semantic, if “semantic” is to be understood as “possible in the absence of syntactic representation”. Syntactic representation of the implicit argument is indeed needed for implicit control and the failure of implicit control is simply due to the absence of a syntactically represented implicit argument in such cases. The fact that certain non-overt thematic relationships are achieved through syntactically projected covert pronominals does not preclude the satisfaction of certain relationships. In other words, we cannot categorically rule out as a possibility the existence of constructions in which the relevant thematic entailments follow from the denotation of the functional (Voice) heads involved, as in Spathas et al. (2015). Anticipating somewhat the discussion in later sections, it turns out that

the implicit agent is not projected syntactically in Greek episodic verbal passives. In such cases, the agentive interpretation, i.e. the existentially-bound reading, has to come from the semantics of the Voice head, as in (6') below (p. 320).

Before moving to the argument itself, a crucial distinction needs to be drawn first, regarding the control properties of gerunds in Greek, a rather murky area. I will adopt and adapt a broad bipartite classification of Greek gerunds (see e.g. Tsimpli 2000), which recognises absolute/temporal gerunds as one category and manner gerunds as the other relevant type. The former can usually be rephrased as an adverbial clause introduced by (the equivalent(s) of) 'while', whereas the latter can be rephrased as adjuncts introduced by phrases such as "by means/virtue of". With the exception of gerunds with overt nominative subjects (see Tzartanos 1989 [1946]; Kotzoglou 2016), absolute gerunds license null subjects which are obligatorily controlled by some argument of the matrix clause, usually the subject but not necessarily. According to Kotzoglou (2016), "[r]eferential null subjects that are totally thematically unrelated to the event denoted by the main clause predicate are hardly licit as subjects of gerunds". In fact, absolute gerunds can be controlled by any core or non-core argument of the matrix predicate. In (12), the null subject of the gerund can be co-indexed with either the null subject of the matrix clause or the (cliticised) object. In (13), it is co-indexed with the indirect object of the matrix, and in (14) it is shown that it can be co-indexed with object experiencers of any type, i.e. both dative and accusative experiencers are licit antecedents. Cliticisation of non-subject antecedents may be preferred or even required but I will put this aside for now, as well as the issue of gerund placement (but see Haidou & Sitaridou 2002).

(12) Greek

*pro<sub>i</sub> ton<sub>j</sub> pirovolisan, e<sub>i/(?)j</sub> vjenondas apo to peripoliko*  
 him shot.3PL getting-out of the patrol car  
 'They shot him, as he was / they were getting off the police car.'

(13) Greek

*e<sub>i</sub> telionondas ti thitia tu, pro tu<sub>i</sub> edhosan vradio ja tis ipiresies*  
 ending the term his him.DAT gave.3PL prize for the services  
*tu*  
*his*  
 'As he was ending his term, they gave him a prize in recognition of his work.'

- (14) Greek (adapted from Anagnostopoulou 1999)

$e_i$  akugondas afta, archise na mi  $\mu\mu_i$  aresi / na me<sub>i</sub> enochli afti i  
 hearing these started to not me appeal to me annoy this the  
 istoria  
 story

‘As I was hearing those things, that story started to bother/annoy me.’

Crucially, there is clear evidence that nothing prevents null subjects of such gerunds from taking IAs as their antecedents. In (15), the subject of the adjunct clause is obligatorily coreferential with the understood experiencer of the evaluative adjective of the matrix clause.

- (15) Greek (adapted from Kotzoglou 2016)

$e_i$  grafondas to vivlio, itan [ enoxlitiko EXP<sub>i</sub>] pu i aftoptes martires  
 writing the book was annoying that the eye-witnesses  
 dhen milusan ja ta mavra chronia tis hundas  
 not talked about the black years of-the dictatorship

‘While writing the book, it was annoying that the eye-witnesses did not talk about the dark period of the dictatorship.’

These examples suggest that absolute gerunds can indeed be controlled by any type of argument, regardless of its theta-role, and putting aside irrelevant considerations regarding the feature makeup/size of overt antecedents. If this is so, then the fact that existentially bound understood agents of episodic verbal passives, as well as overt *by*-phrases, cannot be the antecedent of gerundival subjects is a noteworthy exception (16).

- (16) Greek

$pro_i$  pirovolithike (apo tus astinomikus<sub>k</sub>/ARB<sub>m</sub>),  $e_i/*_k/*_m$  vjenondas  
 was-shot by the policemen getting-out  
 apo to peripoliko.  
 from the patrol car

‘He was shot as he was getting out of the police car’

Kotzoglou (2016) provides a number of examples which appear to threaten this neat picture, as they feature understood subjects of gerunds of all types controlled by understood participants of the matrix event. His conclusion then is that “felicitous null subjects of Greek gerunds might in fact be controlled by an (implicit) argument of the matrix middle [(17)], passive [(18), (19)], ergative [(20)], or psych predicate [(15)]”.

- (17) Greek  
 To portokali katharizete kratondas macheri ke pirouni.  
 the orange is-cleaned/cut holding knife and fork  
 ‘Oranges peel / are peeled using knife and fork.’
- (18) Greek  
 Kaliptondas tis thesis ergasias me ikano prosopiko afksanete  
 covering the vacancies with competent staff is-increased  
 i paragikotita.  
 the productivity  
 ‘Productivity is increased by covering the vacancies with competent staff.’
- (19) Greek  
 Epichirithike perigrafi tis glosas prosegizondas tin sinolika  
 was-attempted description of-the language approaching it holistically  
 os fenomeno.  
 as phenomenon  
 ‘A description of the language as a whole was attempted.’
- (20) Greek  
 I porta tu banju aniji jir nondas afto to klidi.  
 the door of-the bathroom opens turning this the key  
 ‘The door to the bathroom opens by turning this key.’

Crucially, with the exception of the implicit experiencer in (15), the examples involving “implicit” external arguments are all examples of manner gerunds. So, we either have to assume that there is some level of representation in which even unaccusatives take implicit agent arguments or to draw a distinction between manner and temporal/absolute gerunds and show that apparent control into clauses of the former type is not a syntactic dependency.

The first argument that manner gerunds may not allow syntactic control comes from partial control. Landau (2010) argues in detail that partial control cannot be reduced to analyses compliant with “the locality of lexical relations” (Landau 2010: 361), hence controllers in partial control constructions have to be syntactically realised and control dependencies that also allow for partial control have to be syntactic. As shown below, if possible at all, partial/split control is marginally possible with absolute gerunds (21) and (22), but completely ruled out with manner gerunds (23) and (24).

(21) Greek

?Proigumenos, (vjenondas<sub>j+m</sub> apo to ksenodochio) o Janis<sub>j</sub> tis<sub>m</sub>  
 earlier getting-out from the hotel the John her.CL  
 kratise (tis Marias<sub>m</sub>) tin porta (vjenondas<sub>j+m</sub> apo to ksenodochio).  
 held the Mary.DAT the door getting-out from the hotel  
 ‘Earlier, when leaving the hotel, John held the door for Mary.’

(22) Greek

(Ksekinondas<sub>j+m</sub> tin karjera tus<sub>j+m</sub> os glosoloji), o Janis<sub>j</sub> synergastike  
 starting the career their as linguists the John collaborated  
 poli me ti Maria<sub>m</sub> (?ksekinondas<sub>j+m</sub> tin karjera tus<sub>j+m</sub> os glosoloji).  
 a-lot with the Mary starting the career their as linguists  
 ‘When starting their careers as linguists, John collaborated with Mary a lot.’

(23) Greek

O Janis<sub>j</sub> ke i Maria<sub>m</sub> synergastikan sto pirama isoropias,  
 the John and the Mary collaborated at-the experiment of-balance  
 kratondas<sub>j+m</sub> tis dio akres tu skinju.  
 holding the two ends of-the rope  
 ‘John and Mary collaborated for the balance experiment, holding the two ends of the rope.’

(24) Greek

O Janis<sub>j</sub> synergastike me ti Maria<sub>m</sub> sto pirama isoropias,  
 the John collaborated with the Mary at-the experiment of-balance  
 kratondas<sub>j+m</sub> tis dio akres tu skinju.  
 holding the two ends of-the rope  
 ‘John collaborated with Mary for the balance experiment, by holding the two ends of the rope.’

Second, if we take the temporal/manner distinction into consideration, then it turns out that the null subject of an absolute gerund can only pick out as its antecedent arguments which are independently known to be syntactic objects. Tsimpli (2000) observes that manner gerunds are obligatorily subject-oriented and, despite the exceptions noted above (17) and (20) that Kotzoglou observes, Tsimpli’s observation is still correct in that manner gerunds can never be controlled by (overt) non-subjects (25).



(25) Greek

*pro*<sub>i</sub> *ton*<sub>k</sub> *enochlusan* *akugondas*<sub>i/\*k</sub> *dinata* *musiki*, *tin opia*  
 him.CL bothered.3PL listening/hearing loud music the which  
*evazan* *mes* *sta mesanixta*  
 put.3PL during the (mid)night  
 ‘They annoyed him, listening to music at top volume in the middle of the night.’

This restriction brings manner gerunds closer to subject-oriented manner adverbials rather than real clausal elements. Similarly to manner gerunds, and unlike absolute ones, manner adverbials are never “controlled” by non-EA subjects, their controller can only be an external argument, either overt or understood, and they do not allow this control to be partial. Thus, in e.g. (26), there must be complete and not partial overlap between the culprit(s) and the person(s) who wanted the event to take place.

(26) *Ta stichia parapiithikan ithelimena*  
 the evidence was forged purposefully / willfully

Therefore, manner gerunds are just EA-oriented adverbials, potentially taking overt internal arguments, i.e. with some *vP* structure, rather than elements with clausal structure. Compared to absolute gerunds, they are known to be truncated (cf. Tsimpli 2000), lacking an inflectional layer (hence they cannot be negated). They probably lack Voice too, or whatever licenses external arguments syntactically. We can assume that they are interpreted as predicated of some external argument at a post-syntactic level. If an external argument is not provided by the syntax/LF, then it must be inferred/provided by the context, as in the case of anticausatives (18, 20). To conclude this section, there is enough evidence that control into manner gerundival clauses does not have to be syntactic, which leaves us with absolute gerunds as the only construction in which control may indeed be established syntactically.

## 4 Different types of IA in different types of passive

The data from control into absolute/temporal gerunds seem to suggest that a crucial variable is the interpretation of the implicit pronominal element. Covert pronominal elements of the sort discussed here have arbitrary reference and it appears that Cinque’s (1988) broad distinction between two types of arbitrary pronominal elements is reflected in the facts under discussion. Thus, the success

of implicit control often depends on the extent to which the interpretation of the presumed implicit argument falls under each of the two interpretations that Cinque distinguishes: (i) *quasi-existential* ARB, which is compatible with the existence of a unique referent (cf. the interpretation of *they* in *They have called for you; I think it was your brother*) or (ii) *quasi-universal* ARB, the interpretation of generic arbitrary arguments that necessarily includes more than one individual, potentially every relevant individual (cf. the interpretation of *you* in *When you eat in Spain, you eat well*).

Existentially bound agents in (short) episodic verbal passives have the properties of Cinque's (1988) "*quasi-existential*" arbitrary pronominal elements (ARB): (i) they are compatible with specific time reference (27a), (ii) they are compatible with the existence of a single individual satisfying the description (27b), (iii) they are incompatible (on the existential interpretation) with generic time reference, (iv) they are restricted to external argument roles, and (v) they are necessarily [+human] (27c).

(27) Adapted from Roberts (2014)

- a. This question was answered yesterday afternoon.
- b. This question was answered rudely (I think it was Fred).
- c. Strangers were barked at for fun.

These properties are all present in the agentive readings of non-active constructions of transitive predicates in Greek. But, as shown in (16) above, such understood agents fail to control into absolute gerunds. To make sure that they are not syntactically realised in such constructions and that there is no mysterious/independent ban on control by this specific type of implicit argument in Greek, it would suffice to find some other construction with demoted/unpronounced agents that does allow them to control into a non-finite clause. Indeed, event nominalizations with objects occupying a (unique) functional genitive position can license absolute gerunds whose null subject is successfully controlled by the understood agent (28).

(28) Greek

Etia tu xtesinu distiximatos itan ... i katanalosi megalon  
 cause-of-the yesterday's car accident was the consumption-of-large  
 posotiton alkool [ PRO odigondas ]  
 amounts of-alcohol driving  
 'The cause of yesterday's car accident was the consumption of large  
 amounts of alcohol while driving.'

Alexiadou et al. (2015), who concede that implicit agents of nominals need to be syntactically projected, note that “nominals differ from [episodic] passives in that the implicit argument cannot be existentially bound” (Alexiadou et al. 2015: 238). IAs in nominals seem to behave more like Principle B pronouns, they can be bound by a referring expression outside their binding domain or they can serve as variables bound by a quantifier (29).

- (29) Bruening (2014), via Alexiadou et al. (2015: 238)  
 Every journalist<sub>i</sub> hopes that a conversation IA<sub>i</sub> with the president will be forthcoming.

Notwithstanding Alexiadou et al.’s observation regarding binding, we can establish a certain striking similarity between quasi-existential ARB in episodic verbal passives and syntactically projected null pronominal IAs in Greek nominals: they are both restricted to external theta-roles. As we show in (30), the internal argument of an unaccusative predicate is not a licit controller.

- (30) Greek  
 Pliroforithika enan thanato [ PRO diefthinontas orchistra]  
 learnt / heard-of.1SG a death conducting orchestra  
 ‘I heard of a death while conducting the orchestra.’ (PRO=hearer/\*the deceased)

Crucially, non-agents can control only as long as the interpretation is generic rather than episodic (31).

- (31) Greek  
 O thanatos [ PRO diefthinontas (tin) orchistra ] ... ine to kalytero telos  
 the death conducting the orchestra is the best end  
 ja enan / ton maestro  
 for a the conductor  
 ‘The best death for a conductor is while conducting the orchestra.’

In fact, in generic nominals, PRO can be controlled by agent and non-agent implicit arguments alike.

- (32) Greek

To prosektiko klidhoma tis portas PRO vjenondas apo to ktirio  
the careful locking of-the door getting-out from the building  
ine aparetito.  
is necessary  
‘The careful locking of the door/carefully locking the door when getting  
out of the building is necessary.’

The contrast between generic and episodic nominals points to the different categorial/featural status of implicit arguments in the former. Arguably, the controller in (31) is an arbitrary, non-referential element, and more specifically a *quasi-universal* ARB, following Cinque’s (1988) dichotomy. Such ARB elements are known to be (i) compatible with all theta-roles/not restricted to external arguments, (ii) compatible with generic time reference, and (iii) incompatible with specific time reference. All of these properties are manifested in (31). Roberts (2014) derives the thematic restrictions (and the absence thereof) on arbitrary arguments from potential intervention effects between ARB and its licenser. Specifically, he proposes that quasi-existential ARB elements (e.g. IAs in episodic verbal passives) are licensed by T, while quasi-universal ARB is licensed by a generic operator (GEN) in C. Thus, GEN can license the closest ARB in its domain, i.e. anything that ends up in subject position, Spec-TP, whereas T can only license elements in Spec-vP (33a); according to Roberts, there can be no dependency between T and ARB if the latter is (i) in an internal argument position of the passive, as the external argument in Spec-vP would intervene (33b); (ii) in an internal argument position of a non-stative unaccusative, as an Event argument would intervene (33c), or (iii) in an internal argument position of a stative unaccusative, as a Loc argument would intervene (33d).

(33) Roberts (2014: 5)

- a.  $T_i$  [<sub>vP</sub> arb<sub>i</sub> [<sub>VP</sub> ...
- b. \*  $T_i$  [<sub>vP</sub> EA [<sub>VP</sub> ... arb<sub>i</sub> ...
- c. \*  $T_i$  ... Ev ... [<sub>VP</sub> ... arb<sub>i</sub> ...
- d. \*  $T_i$  ... Loc ... [<sub>VP</sub> ... arb<sub>i</sub> ...

That (31) is no exception to Roberts’ licensing principle is shown by the fact that such nominals, containing an ARB internal argument, would be illicit in object position. Such a dependency between GEN in C and ARB within DP would violate the Phase Impenetrability Condition (which version of the PIC is operative here, i.e. Chomsky’s (2000) “strong” or his (2001) “weak” formulation depends

on whether DP/*n*P is a phase). In (34), PRO cannot be interpreted as bound by a quasi-universal ARB; in fact, in this context the gerund cannot be part of the object nominal at all and PRO can only be bound by the matrix subject.

(34) Greek

O Mitropulos<sub>m</sub> fovotan / ksorkize / innuse to thanato (\*ARB<sub>i</sub>)

the Mitropulos feared exorcised extolled the death

PRO<sub>m/\*i</sub> diefhtynondas tin orchistra

conducting the orchestra

‘Mitropulos feared / exorcised / extolled death when conducting the orchestra.’

The fact that non-generic IAs in nominals are subject to the same restriction as quasi-existential IAs of episodic verbal passives suggests that a similar licensing mechanism is at play. I propose that the relevant licensing head is the lowest functional projection c-commanding the agent in event nominals, arguably *n* (35). Then the same intervention effects arising in the possible verbal configurations in (33) will have to arise within nominals. Also, if T as a licenser is responsible for some of the interpretive effects of the IA in episodic verbal passives (e.g. existential binding), the absence of T in the DP also explains the lack of such readings for IAs in passive nominals.

(35) [<sub>*n*P</sub> (R-argument) *n* [<sub>*v*P</sub> EA *v* ... ]]

To sum up our findings so far, in Greek nominals both generic and non-generic IAs can be licensed and both can control into temporal gerunds. On the contrary, in episodic verbal passives, existentially bound IAs cannot be controllers of null subjects in temporal gerunds. We have not explored the status of generic/quasi-universal IAs in verbal passives yet. Interestingly, generic verbal passives are *not* incompatible with an IA controlling into absolute gerunds. Such IA arbitrary elements are clearly quasi-universal:

(36) Greek

(?Didaskontas), I antidrasis ton mathiton prepi na lamvanonde  
teaching the reactions of-the students must be-taken

ipopsi (?didaskontas)

into-account teaching

‘When teaching, the students’ reactions must be taken into account’

Even more interestingly, notwithstanding the ban on existentially bound IA controllers, episodic sentences like (37) below the following, are also possible.

(37) Greek

Afti i fotografia travixtike [ PRO fevgontas apo tin poli ]  
 this the picture was-taken leaving from the town  
 ‘This picture was taken when leaving the town.’

For most speakers, if there is an obligatory control relation there, then the unpronounced arguments that get co-indexed both refer to an unspecified set of people *including the speaker*. Even (16) paraphrased below as (38) can have a similar reading for some speakers, if actually uttered by the policeman who shot the suspect or someone who was with him:

(38) Greek

%O ipoptos pirovolithike [ PRO pijenondas na ton silavume ]  
 the suspect was-shot going to him.CL arrest.1PL  
 ‘The suspect was shot as we were approaching him to arrest him.’

This surprising effect is reminiscent of so-called non-argumental impersonal *si* in Italian. Non-argumental *si*, being compatible with non-external theta-roles is necessarily quasi-universal (Cinque 1988). However, in the context of specific temporal reference, a paradoxical, first plural, interpretation arises (39b).

(39) Italian

- a. Oggi, a Beirut, si nasce senza assistenza medica.  
 ‘Today, in Beirut, one/babies can be born with no medical assistance.’
- b. # Oggi, a Beirut, si è nati senza assistenza medica.  
 ‘Today, in Beirut, we were born with no medical assistance.’

So, this 1PL interpretation arises when the arbitrary argument typically receives a quasi-universal interpretation but this is blocked by factors such as specific time reference (see Cinque 1988 and Roberts 2014 for explanations of this phenomenon). Thus, combining our two variables, i.e. verbal vs nominal passive and generic vs. non-generic, we get the four-way typology illustrated in Table 1.

Nevertheless, looking more closely at the properties of genitive/possessivised themes in Greek, it turns out that they are not always possible in the presence of an IA. Implicit control is licit when the genitivised theme is a full lexical DP ((40a), (41a)), but this kind of co-indexation is impossible when the theme is realised by

Table 1: Control into absolute gerunds

	Verbal passives	“passive” event nominals
Quasi-existential/non-generic ARB	*	Yes
Quasi-universal ARB	Yes	Yes

a clitic attaching to an adjective within the DP, typically the leftmost one ((40b), (41b)).<sup>2</sup>

(40) Greek

- a. I sixni xrisi narkotikon IA<sub>i</sub> tote PRO<sub>i</sub> telionondas ti diatrivi  
the frequent use drugs.GEN then writing-up the thesis  
‘The frequent use of drugs back then, when writing up the thesis ...’
- b. \*I sixni tus xrisi IA<sub>i</sub> tote PRO<sub>i</sub> telionondas ti diatrivi  
the frequent 3PL.CL.GEN use then writing-up the thesis  
‘Their frequent use back then, when writing up the thesis ...’

(41) Greek

- a. To aprosekto klisimo tis portas<sub>p</sub> IA<sub>i</sub>, PRO<sub>i</sub> vjenondas apo to  
the mindless shutting of-the door leaving from the  
spiti, epetrepse stus kleftes na bun anenoxliti  
house allowed to-the thieves to enter easily  
‘The mindless shutting (e.g. without locking) of the door, when  
leaving the house, let the thieves enter easily.’
- b. \*to prosektiko / dhiko tis<sub>p</sub> klisimo IA<sub>i</sub>, PRO<sub>i</sub> vjenondas apo to  
the careful own her.CL shutting leaving from the  
spiti kratise tus kleftes makria  
house kept the thieves away  
‘Its careful / own locking when leaving the house prevented the  
thieves from entering.’

<sup>2</sup>An anonymous reviewer takes issue with the judgements reported in this section regarding control from the implicit argument of nominals into such absolute gerunds, which she finds ungrammatical (regardless of the realisation of the internal argument of the nominal, I suppose). Apart from myself, 6 other native speakers were consulted, who all agree with the judgements reported here.

On the other hand, in generic contexts, implicit control by the implicit (quasi-arbitrary) agent is possible in the presence of both genitive DP themes (see (32) above) and themes realised as genitive clitics:

(42) Greek

To prosektiko tis klidhoma  $IA_i$   $PRO_i$  vjenondas apo to ktirio ine  
the careful its locking getting-out from the building is  
aparetito.  
necessary  
‘Its careful locking (=of the door) is necessary when getting out of the building.’

In Greek process nominals, only one argument can be realised as a genitive DP, unlike e.g. in German or Latin. This suggests that there is a unique functional projection licensing such genitives (see Alexiadou et al. 2007 and references therein) and therefore a unique probe for DPs above the thematic domain. Attraction of a genitive argument to the relevant functional projection is followed by movement of the head noun (or  $nP$ ) immediately above the genitive.

(43)  $[ \dots n F_{GEN}^0 [_{nP} \# [ \text{ext.argument} [ \text{int.argument} \dots \# \dots ] ] ] ] ]$

Apart from the genitive realisation of one of the arguments, Greek also allows for the realisation of adnominal arguments as possessive clitics. In fact, a (unique) genitive DP, which realises one of the arguments, can co-occur with a possessive clitic, realising an additional argument. Such co-occurrence obligatorily obeys Superiority, such that the higher argument is realised as a clitic, while the genitive DP necessarily realises a lower, internal argument (44).

(44) Greek

I proti mu perigrafi tis Marias  
the first my description the.GEN Mary.GEN  
‘my first description of Mary / \*Mary’s first description of me’

When two overt arguments co-occur, the clitic is realised higher than the head noun. Therefore, the probe for possessive clitics is higher than the landing site of the moved head noun (45).

(45)  $[ \dots F_{POSSCL}^0 [ n F_{GEN}^0 [_{nP} \# [ \text{ext.argument} [ \text{int.argument} \dots \# \dots ] ] ] ] ] ]$



Movement of an internal argument genitive DP to  $F_{\text{GEN}}$  across the external thematic position ((40a), (41a)) seems to be fine, but movement of a clitic ((40b), (41b)) is out. This indicates that the intervention of the implicit agent gives rise to minimality effects relativised to the features of the probe.  $F_{\text{GEN}}$  can attract full lexical DPs, so its probe consists of both phi-features, i.e. number and gender, and some additional feature, probably [+D] or [+NP].  $F_{\text{POSSCL}}^0$  instead, which can at most attract clitics, comprises no more than a bundle of phi-features. Following Featural Relativised Minimality (Starke 2001; Rizzi 2001; 2013), summarised in (46) below, the features of the IA must be such that they make it an offending intervener when the probe is  $F_{\text{POSSCL}}^0$ , but not when the probe is  $F_{\text{GEN}}^0$  (47). In other words, the feature makeup of a non-generic IA is that of a (possessive) pronominal clitic.

(46) Featural Relativised Minimality:

A local relation cannot hold between X and Y when Z intervenes, and Z is somehow a potential candidate for the local relation. The features of X should not be a subset of the features of Z.

	X ...	Z ...	Y	
a.	+A ...	+A ...	$\langle +A \rangle$	*
b.	+A+B ...	+A ...	$\langle +A+B \rangle$	ok

(47)	$F_{\text{POSSCL}}^0$	$F_{\text{GEN}}^0$	ext.arg.	int.arg.	
	+ $\phi$		IA <sub>+<math>\phi</math></sub>	clitic <sub>+<math>\phi</math></sub>	*
	+ $\phi$			clitic <sub>+<math>\phi</math></sub>	ok
		+ $\phi$ , +D/+NP	IA <sub>+<math>\phi</math></sub>	DP <sub>+<math>\phi</math>, +NP</sub>	ok

Turning to verbal passives, it is necessary to explain the contrast between quasi-existential and quasi-universal arbitrary IAs. The feature makeup of existentially bound IAs is arguably the same as that of non-generic IAs in nominal passives, namely a simple bundle of phi-features. This is in line with the fact that Greek is a null subject language and, thus, its T should be able to attract non-lexical/weak pronominal elements such as *pro*. It appears then that quasi-existential ARB fully matches T's uninterpretable features,<sup>3</sup> thus blocking fur-

<sup>3</sup>In fact I am assuming that the only kind of goal that matches T's features is *pro*. Thus, in line with Alexiadou & Anagnostopoulou (1998), it follows that any overt DP subjects are either CLLDed topics (when preverbal), with *pro* serving as a clitic in the relevant sense, or the result of CLRD/clitic doubling (when postverbal).

ther probing downwards (48a)<sup>4</sup>. Quasi-universal probes on the other hand must have a reduced/defective feature makeup (48b). Indeed, unlike episodic passives, generic passives do not allow the IA to be co-indexed with a *by*-phrase. Also ARB in such (generic) passives can marginally bind an anaphor, but that has to be (generic) second person singular (which is also its default person when realised overtly) or first person plural (49a), as opposed to non-generic IAs which are compatible with any [Person] value (49b). Thus, it can be argued that quasi-universal ARB lacks an interpretable/lexically valued person feature (and possible also gender), as its person is valued by default. This makes its feature specification a proper subset of T's probing features and its intervention is not enough to block T from probing and matching the internal argument.

- |      |    |                                     |   |
|------|----|-------------------------------------|---|
| (48) | T  | SpecvP                              | Object  |
| a.   | +φ | qu-∃ IA <sub>+φ</sub>               | pro <sub>+φ</sub> /DP <sub>+φ, +D, +NP</sub> *  |
| b.   | +φ | qu-∀ IA <sub>+number, uPerson</sub> | pro <sub>+φ</sub> /DP <sub>+φ, +D, +NP</sub> ok |

(49) Greek

- a. ?i antidrasis ton allon prepi na lamvanonde ipopsi  
the reactions of-the others must to be-taken into-account  
milondas ja ton eafto su / mas / \*tu / \*tus  
talking about the self your our his their  
‘The reactions of the others must be taken into consideration when  
talking about yourself/ourselves/himself/themselves.’
- b. i efarmoji tis therapias IA<sub>i/j/k/l/m/n/p</sub> ston eafto mu<sub>i</sub> /  
the application of-the therapy to-the self my  
su<sub>j</sub> / tis<sub>k</sub> / tu<sub>l</sub> / mas<sub>m</sub> / sas<sub>n</sub> / tus<sub>p</sub> itan terastio lathos.  
your her his our your.PL their was huge mistake  
‘Applying the therapy to myself / yourself / herself / himself /  
ourselves / yourselves / themselves was a huge mistake.’

To conclude this section, when manipulating a number of variables concerning the behaviour or implicit arguments intervening in an Agree relationship, namely their generic/non-generic interpretation and the nature of the probe, it turns out that IAs do cause relativised minimality effects, thus providing a clear argument that they are syntactically projected whenever Agree goes through.

<sup>4</sup>Recall that, unlike other null subject languages (e.g. Italian/Spanish), Modern Greek lacks participial passives, which may provide a mechanism of circumventing the intervention of the IA, i.e. Collins's (2005) “smuggling”.

Table 2 presents all the conceivable combinations of the different states of the variables discussed in this section and their Relativized Minimality-based analysis.

Table 2: Possible and impossible combinations of probes and covert ARB pronouns

Passive Nominals				
$F_{\text{POSSCL}}$	$F_{\text{Gen}}$	External argument	Internal argument	
$+\varphi$		non-generic, $+\varphi$	clitic $_{+\varphi}$	*
$+\varphi$		generic/qu- $\forall$ , iNumber, 0Person	clitic $_{+\varphi}$	OK
$+\varphi$		not projected	clitic $_{+\varphi}$	OK
	$+\varphi$ , +D	non-generic, $+\varphi$	DP $_{+\varphi, +D}$	OK
	$+\varphi$ , +D	generic/qu- $\forall$ , iNumber, 0Person	DP $_{+\varphi, +D}$	OK
	$+\varphi$ , +D	not projected	DP $_{+\varphi, +D}$	OK
Verbal passives				
T		External argument	Internal argument	
$+\varphi$		Qu- $\exists$ , $+\varphi$	pro $_{+\varphi}$	*
$+\varphi$		Qu- $\forall$ , iNumber, 0Person	pro $_{+\varphi}$	OK
$+\varphi$		not projected	pro $_{+\varphi}$	OK

## 5 Conclusions, implications for the theory of passives, open questions

In this paper, a new argument was put forward for the syntactic realisation of some implicit agents, based on relativised minimality effects in Agree which can only be explained if an IA is indeed projected. Given the patterns observed, IAs that control into non-finite (adjunct) clauses are real syntactic objects, and at the same time constructions with passive readings may in fact not contain syntactically represented IAs, given that their presence would cause an irreparable minimality violation and block licensing of the promoted internal argument.

The latter scenario is exactly what happens with existentially bound agents in Greek short episodic verbal passives. This has certain implications for the theory of passives. A truly passive, i.e. agentive, interpretation is possible even when the language lacks a dedicated passive Voice. Generalising a bit, it can be argued that demoted theta-roles must be represented if the grammar allows

them to be represented. For instance, there can be no agentive reading for a construction lacking both an external argument subject and passive morphology, if passive morphology is independently available in the language. However, if the grammar does not provide a syntactic slot for an understood argument, another related operation/construction (e.g. the homophonous middle/reflexive in Greek) is employed as some sort of last resort and the demoted theta-role can, in fact, have to be inferred. Greek does not lack agentive readings, as shown by the felicitous use of agent-oriented adverbials (50) -- which is therefore not to be taken as a safe diagnostic for syntactically realised agents).

- (50) Greek  
 To plio vithistike epitides.  
 the ship was-sunk deliberately

Nevertheless, in the absence of such an adverb or a related expression specific to agentive readings, the Greek construction is ambiguous between the passive and other intransitive readings (e.g. anticausative or reflexive). Therefore, in the absence of mechanisms that would allow verbal constructions in which a quasi-existential IA can survive, Greek has to make do with a middle Voice, as proposed by Spathas et al. (2015), which allows the understood agent to be anyone, including the individual referred to by the internal argument (see also Alexiadou & Doron 2012). In other words, the denotation of the relevant Voice head in Greek is the one proposed in (6) above, without the presupposition that derives disjointness – repeated (and adapted) here as (6'). (51a,b) illustrates the relevant contrast between English and Greek. It remains to be seen if natural languages do this more widely, i.e. whether in the absence of a syntactic mechanism that can be used for the grammaticalisation, i.e. the obligatory expression, of a meaning, related constructions are employed and the otherwise grammaticalised meaning is only an inferred meaning.

$$(6') \quad \llbracket \text{Middle} \rrbracket = \lambda f_{es,t} \lambda e \exists x. f(x)(e)$$

- (51) a. They<sub>i</sub> were being killed e\*<sub>i</sub> t<sub>i</sub>.  
 b. Skotonondusan  
 'They were being killed / they were killing themselves / they were killing each other.'

The unavailability of an English-like syntax for existentially-bound agents is due to the feature specification of null subjects and of intervening implicit arguments, as well as the absence of other mechanisms that can circumvent

the intervention of the external argument (e.g. participial passives may allow Collins's (2005) smuggling). As opposed to quasi-existential covert pronouns, quasi-universal ones can be projected causing no minimality effects, therefore Greek also has an agentive passive Voice which may only host a (reduced)  $\varphi$ -bundle in its Spec (Legate 2014). This configuration gives rise to generic passives or to episodic passives with a paradoxical first plural interpretation of the understood agent. Generic passives also subsume dispositional middles in Greek, which have independently been argued by Lekakou (2005) to involve syntactically projected agents.

It would also be interesting to explore whether in some languages the possibility for syntactically expressed implicit arguments is suppressed in a subset of argument-demoting constructions only, thus forcing such argument relationships to be inferred. If extended to examples such as (10a-b), then the present account would also reduce Visser's generalization to Relativised Minimality: passivisation of the indirect object is impossible exactly because Agree with T is blocked by an intervening IA which controls into a non-finite complement clause. Such an explanation would have wider implications for the analysis of goal passives more generally, but I will leave this issue open for future research. Finally, another set of predictions of the present account that needs to be tested concerns languages with partial pro drop, especially subject drop which is available only for some person values but not others; the prediction is that the same arbitrary element should exhibit variable minimality effects, depending on the person feature of the promoted/agreeing internal argument. This is also something that I will put aside now and hope to address in future work.

## Abbreviations

1	first person	GEN	genitive
3	third person	IA	implicit agent
CL	clitic	PIC	phase impenetrability condition
CLLD	clitic left dislocation		
CLRD	clitic right dislocation	PL	plural
DAT	dative	POSS	possessive
EA	external argument	SG	singular
EPP	extended projection principle		

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## Chapter 14

# Rethinking Implicit Control

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This paper discusses Visser's Generalization effects in light of the question of whether control involves a direct relation between the embedded PRO subject and a matrix controller, or an indirect relation mediated by a functional head in the matrix clause. Based on certain case restrictions and effects of additional *by*-phrases, it is suggested that both types of licensing may be necessary.

Approaches to control which assume an embedded PRO subject differ regarding the relation PRO has with the argument supplying the interpretation. The traditional view is that PRO is licensed *directly* by a matrix DP via some form of binding. More recent approaches postulate a mediated form of binding: PRO is only *indirectly* connected to the actual controller in that it is identified/bound by a functional head of the matrix clause (e.g., T or *v*) which itself is licensed by the controller. In this squib, I suggest based on data involving implicit control that both forms of identification of PRO exist.

In van Urk (2013) evidence for a mediated approach to control is provided via a novel observation regarding Visser's *Generalization* effects in languages that have been assumed to not show such effects. As shown in (1), Dutch and German allow implicit matrix agents of verbs like *promise* to control PRO. The interpretation of these sentences is such that the person promising is also the person initiating the embedded event.



(1) IMPLICIT.AGENT DP.DAT V [<sub>INF</sub> PRO ... ]

a. Dutch (van Urk 2013: 171, (8))

Er werd mij beloofd / aangeboden om me op de hoogte te  
 there was I.DAT promised offered COMP me on the height to  
 houden.  
 keep.INF

‘It was promised/offered to me to keep me informed.’

b. German (van Urk 2013: 171, (9a))

Mir wurde versprochen, mir noch heute den Link für das Update  
 I.DAT was promised I.DAT still today the link for the update  
 zu schicken.  
 to send

‘It was promised to me to send me the link for the update today.’

Such implicit control in ditransitive matrix contexts is restricted, however, to predicates like *promise* in (1) that combine with a dative argument (in addition to the infinitive). Implicit control is impossible when the matrix predicate combines with a structurally case marked object realized as accusative in the active and nominative in the passive. This is shown in (2) for Dutch and (3) for German. The (a) examples illustrate that in active statements, subject control is possible in appropriate contexts with these predicates. The same interpretations are lost, i.e., implicit control is impossible, when the matrix predicate is passivized as in the (b) examples.

(2) \*IMPLICIT.AGENT DP.ACC → NOM V [<sub>INF</sub> PRO ... ]

a. Dutch (P. Fenger, p.c.)

De kinderen hebben de leraren overtuigd om ze te mogen  
 the children have the teachers<sub>L</sub> convinced COMP them<sub>L</sub> to may  
 kietelen.  
 tickle

‘The children convinced the teachers to be allowed to tickle them.’  
 (PRO=children ✓)

‘The children convinced the teachers that they (the children) would  
 be allowed to tickle them (the teachers).’

## b. Dutch (van Urk 2013: 171, (10b))

\*De leraren werden overtuigd om ze te mogen kietelen.

the teachers<sub>L</sub> were convinced COMP them<sub>L</sub> to may tickle

Lit. 'The teachers were convinced to be allowed to tickle them.'

'The teachers were convinced that they/someone would be allowed to tickle them (the teachers).'

(3) \*IMPLICIT.AGENT DP.ACC → NOM V [<sub>INF</sub> PRO ...]

## a. German (personal knowledge)

Die Kinder haben den Lehrer gebeten, ihn kitzeln zu dürfen.

the children have the.ACC teacher<sub>L</sub> begged him<sub>L</sub> tickle to may

'The children begged the teacher to be allowed to tickle him.'

(PRO=children ✓)

'The children begged the teacher that they (the children) would be allowed to tickle him.'

## b. German (van Urk 2013: 171, (10b))

\*Der Lehrer wurde gebeten, ihn kitzeln zu dürfen.

the.NOM teacher<sub>L</sub> was begged him<sub>L</sub> tickle to may

Lit. 'The teacher was begged to be allowed to tickle him.'

Given that implicit control is, in principle, possible in these languages, a direct control approach faces the question of how to distinguish between (1) and (2)/(3) if implicit control is established as a direct dependency between an implicit argument (e.g., *pro*) and PRO. On the other hand, if control is mediated by matrix T, the difference can be implemented since, as suggested in van Urk's *Revised Visser's Generalization* in (4), a difference arises in whether T agrees, (2)/(3), or does not agree, (1), with a matrix argument not connected to the control dependency.

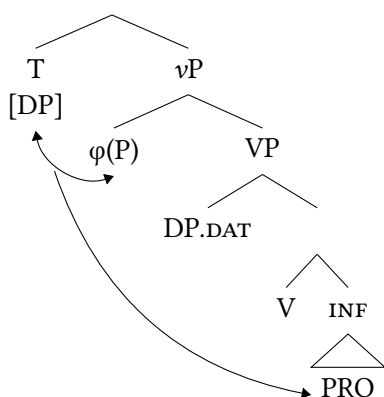
(4) *Revised Visser's Generalization* (van Urk 2013: 172, (12))

Obligatory control by an implicit subject is impossible if an overt DP agrees with T.

A possible account of (4) (this is a modified version of van Urk's suggestion) is illustrated in (5). I assume that implicit passive arguments are syntactically represented as weak deficient pronouns, and, more specifically, as  $\varphi$ -feature bundles without a D-layer (see among many others Cardinaletti & Starke 1999; Déchaine & Wiltschko 2002; Landau 2010; Roberts 2010b,a). I leave open here whether these  $\varphi$ -bundles are projected as independent arguments or as part of *v* (see Legate 2012; 2014 for the latter). Due to the lack of D-layer, which is required to

receive a referential interpretation, implicit passive arguments are not able to control (or bind) on their own. Instead, following the works in Biberauer et al. (2010), I assume that weak pronouns can acquire referential properties or grounding through an Agree dependency with T, for instance, via a D-feature in T as indicated in (4), or via referential anchoring to the speech context through the dependency with T.<sup>1</sup> In other words, although the implicit subject lacks a D-layer and can thus not refer on its own, referential properties can be transmitted from T or C through the Agree relation with T. After the features of the implicit subject are strengthened by T (i.e., they acquire a D-property through T), either of these elements can control PRO, depending on one's ultimate control mechanism. Thus, similar to agreement-based approaches to control as suggested in Borer (1989) and developed in Landau (2000 et seq.), Agree with T is essential for an implicit argument to control PRO.

(5)

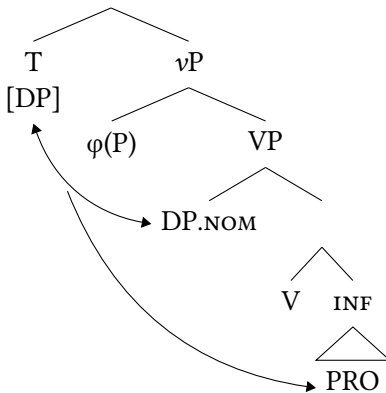


The failure of implicit control in (2) and (3) is illustrated in (6). Since the matrix argument in these constructions is not a lexical dative DP but a structurally Case marked DP, it has to Agree with T in passive contexts. This relation with T, I suggest, then precludes any further dependency between T and another argument. In other words, in (6) T cannot enter an additional Agree relation with the implicit subject since this would lead to referential identity between the nominative argument and the implicit subject (i.e., a non-existing reflexive interpretation – ‘the teachers begged/convinced themselves’ in (2)/(3)). Similarly, T cannot Agree with the implicit subject first since this would either leave the object without

<sup>1</sup>The latter option may be preferred, since the languages under consideration here (German and Dutch) are not null-subject languages for which the D-feature in T has been proposed in the works cited in the text.

Case or create two conflicting referential dependencies. As a result, implicit control is impossible and the only control relation that can be established in these contexts is control by the nominative argument (which is in general possible in passive contexts such as (2)/(3); in the specific examples above, it would be excluded due to the resulting binding violation between PRO and the embedded pronouns).

(6)



In both Dutch and German, the difference in the availability of implicit control between (1) and (2)/(3) disappears when an overt *by*-phrase corresponding to the implicit agent is present. As shown in (7) and (8), the interpretation that is impossible in (2) and (3) becomes available when PRO can be understood to be controlled by the *by*-phrase.

(7) a. Dutch (P. Fenger, p.c.)

De leraren werden door de kinderen overtuigd ze te mogen  
 the teachers<sub>L</sub> were by the children convinced them<sub>L</sub> to may  
 kietelen.  
 tickle

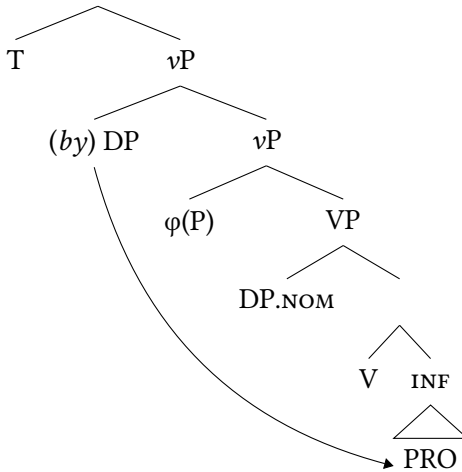
‘The teachers were convinced by the children that they (the children)  
 would be allowed to tickle them (the teachers).’

- b. German  
 Der Lehrer wurde von den Kindern gebeten, ihn kitzeln zu dürfen.  
 the.NOM teacher<sub>L</sub> was by the children begged him<sub>L</sub> tickle to  
 may  
 Lit. 'The teacher was begged to be allowed to tickle him.'
- (8) a. Dutch (P. Fenger, p.c.)  
 De leraar werd door de kinderen gesmeekt niet weer hun best te hoeven doen.  
 the teacher was by the children begged not again their best to  
 have do  
 'The teacher was begged by the children that they wouldn't have to do their best again.'
- b. German  
 Der Lehrer wurde von den Kindern angefleht, nicht wieder ihr Bestes geben zu müssen.  
 the.NOM teacher was by the children beseeched not again  
 their best give to must  
 'The teacher was beseeched by the kids that they wouldn't have to give their best again.'

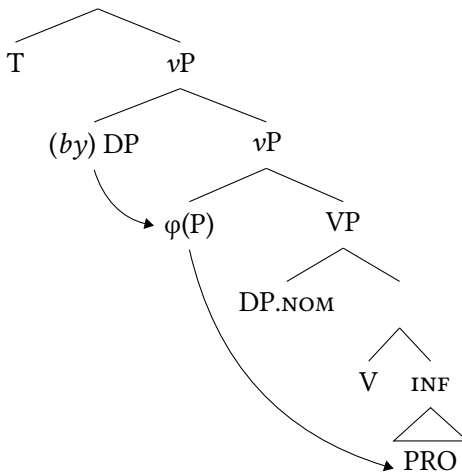
There are two ways control by *by*-phrase agents could be achieved—directly via the DP within the *by*-phrase or mediated by an implicit Agent (which I assume is present in passive independently of whether there is a *by*-phrase agent or not). The first option, direct licensing by the *by*-phrase DP, is given in (9a). The c-command relation could be established by covert movement of the DP outside the *by*-PP, by assuming that the *by*-PP is transparent for c-command (e.g., by treating the *by*-PP as a DP in syntax and the preposition as a pure PF element which is inserted as a last resort to license the DP), or by a strict left-to-right branching structure for PPs as in Pesetsky (1995). The second option in (9b) is for the *by*-phrase DP to anchor the deficient implicit argument referentially (e.g., via binding), which would then make the implicit subject strong enough to license PRO.

(9) *by* AGENT DP.ACC  $\rightarrow$  NOM V [<sub>INF</sub> PRO ... ]

a.



b.



Importantly, both options in (9) involve *direct control* which cannot be mediated by T. In the examples in (7) and (8), T is still engaged in a Case and agreement dependency with the overt DP argument of the matrix clause, which is referentially independent from the implicit/*by*-phrase Agent and PRO. Thus, T cannot be involved in the control relation in these cases, and control is established directly by the antecedent.

At this point, one may wonder whether it is possible to have a unified mechanism for control based on direct licensing. Taking the option in (9b), one could

imagine that it is always the implicit passive subject that licenses PRO directly, however, it can only do so when supplied with a D-property through Agree with T or association with a *by*-DP. While this is attractive for its uniformity, the data below may suggest that there is still a difference between licensing of PRO mediated by T vs. the *by*-phrase Agent. As shown in (10), in both Dutch and German implicitly controlled PRO in a *promise* context (i.e., a context where the implicit argument can be associated with T) cannot bind lower possessive pronouns, as would be required in the *to do one's best* construction.<sup>2</sup> In (11a) it is shown that even when the implicit Agent is contextually very salient, the interpretation in which the possessive pronoun (and PRO) refer to the implicit matrix subject is impossible. In contrast, if the matrix clause includes a *by*-phrase Agent, the implicit control and binding relation becomes possible again.

(10) a. Dutch (P. Fenger, p.c.)

\*Mij werd beloofd (om) zijn / haar / hun best to doen.

I.DAT was promised COMP his her their best to do

lit. 'I was promised to do his/her/their best.'

'I was promised that they would do their best.'

b. German

\*Mir wurde versprochen / angeboten, sein / ihr Bestes zu

I.DAT was promised offered his her=their best to  
geben.

give

intended: 'I was promised/offered that they would do their best.'

(11) John just returned from a meeting with his boss. What happened?

<sup>2</sup>The same restriction is also found in simple passive statements like (i). As in the case of control discussed below in the text, bound possessors become possible when an overt *by*-phrase Agent is added as in (ii). For a comparison of binding in the *to do one's best* construction with other binding relations (apparently) established by an implicit passive argument, see Wurmbrand (2016).

(i) German

Wie haben sich die Kinder heute verhalten?

a. \*Es wurde sein / ihr Bestes gegeben.

it was his their best given.

intended: 'They did their best.'

b. Es wurde von jedem sein Bestes gegeben.

it was by everyone his best given

'Everyone did their best.', literally 'The best was given by everyone.'



a. German

Dem Hans wurde angeboten / versprochen, seine Beleidigung  
the.DAT John was offered promised his insult  
zurückzunehmen / nächstes Mal sein Bestes zu geben.  
away.to.take next time his best to give

possible: 'John was offered/promised to retract his (=John's) insult/do  
his (John's) best next time.'

\*intended: 'John was offered/promised that he (the boss) would  
retract his (the boss') insult/do his (the boss') best next time.'

b. German

Dem Hans wurde von seinem Chef angeboten / versprochen, seine  
the.DAT John was by his boss offered promised his  
Beleidigung zurückzunehmen / nächstes Mal sein Bestes zu geben.  
insult away.to.take next time his best to give

'John was offered/promised that he (the boss) would retract his (the  
boss') insult/do his (the boss') best next time.'

One way to derive this difference is to differentiate between direct control by a referential DP vs. control by a non-referential argument which is (merely) anchored to the context via T. This then allows us to formulate the following generalizations:

- (12) a. Implicit passive arguments cannot control on their own.  
b. Implicit passive arguments can control when anchored to the context via an Agree dependency with T, but such control does not transmit referential properties.  
c. Overt DPs can control and transmit referential properties.

The above thus points to a hybrid approach—control is established either as a direct (syntactic and semantic) binding relation between a referential DP and PRO, or a non-referential  $\phi$ -feature dependency between a weak implicit subject pronoun (or subject features on  $v$ ) and PRO, which is only possible when the subject is anchored to the context via T.<sup>3</sup>

In conclusion, the data presented in this squib support the view of deficient pronouns as  $\phi$ -bundles, the relevance of T in referentially licensing weak subject

<sup>3</sup>As pointed out by a reviewer, this approach may be extended to implicit control (as in *It is/was difficult to catch an early train*) which shows differences in the interpretation of the embedded subject (generic or specific) depending on the value of matrix tense (present vs. past).

pronouns, and the involvement of T in certain cases of control. More specifically regarding control, the least it seems we can conclude from the data presented here is that control does not always require a dependency between PRO and matrix T but can also be established as a direct relation between the reference supplying DP and PRO. Whether control can always be established as a direct antecedent–PRO dependency is left for another occasion.

## Abbreviations

ACC	accusative	INF	infinitive
COMP	complementizer	NOM	nominative
DAT	dative		

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## Chapter 15

# Rethinking partial control: New evidence from finite control clauses

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In this squib, we provide evidence that finite control languages like Greek and Romanian display partial control (PC), albeit in very limited contexts, contrary to what has previously been claimed in the literature. This fact poses problems for existing theories of control which predict a fundamental incompatibility between PC and [+Agr] complements. These findings can be considered welcome, however, inasmuch as the ban on PC in [+Agr] contexts appears stipulative in the context of Landau's (2015) approach. They are also consistent with the claim that European Portuguese inflected infinitives, which are also [+Agr] also permit obligatory control (Sheehan 2018a,b).

## 1 Introduction

Partial control (PC) is a phenomenon whereby a singular subject is able to function as the controller of a reciprocal verb which, where matrix, would require a semantically plural subject (see Landau 2000).<sup>1</sup> Consider the contrasts in grammaticality in (1a,b):

- (1) a. The couple / John and Mary / \*John broke up.
- b. John didn't want to break up.

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<sup>1</sup>In fact, even non-reciprocal verbs can be “coerced” into the PC interpretation, e.g. “John wanted to apply for the grant together”. We limit ourselves to reciprocal verbs here as it makes PC into a matter of grammaticality rather than interpretation.



Whereas both the semantically plural group noun *the couple* and the syntactically plural co-ordination *John and Mary* can function as the subject of ‘break up’ in a simple monoclausal environment, the semantically and syntactically singular *John* cannot. This restriction is suspended in the control context in (1b), however, where the interpretation of the embedded null subject (PRO) is such that it comprises John plus some other unspecified person or persons, recovered from the context. PC has been described in a number of languages (e.g. Russian, European Portuguese, Icelandic, German and more controversially French and Italian) as illustrated by the following examples:

- (2) Russian (Landau 2008: 909)  
 Ona poprosila predsdatelja [ sobrat'sja vsem/\*vsex v šest' ].  
 she.NOM asked chair.ACC gather.INF all.DAT/\*ACC at six  
 ‘She asked the chair to all gather at six.’
- (3) European Portuguese (Sheehan 2018b: 34)  
 Os professores persuadiram o director [ a reunir(em)=se  
 The teachers persuaded the headteacher A meet.INF.3PL=SE.3  
 mais tarde].  
 more late  
 ‘The teachers persuaded the headteacher to meet later on.’
- (4) Icelandic (Sheehan 2018b: 149)  
 Hann bað Ólaf [að hittast einir/\*eina]  
 he asked Olaf.ACC to meet.ST alone.NOM.M.PL alone.ACC.M.PL  
 ‘He asked Olaf to meet alone.PL.’
- (5) German (Landau 2000: 45)  
 Hans sagte der Maria dass er es bedauerte letzte Nacht [ gemeinsam  
 Hans said the Maria that he it regretted last night together  
 gearbeitet zu haben ]  
 worked to have  
 ‘Hans told Maria that he regretted having worked together last night.’
- (6) French (Landau 2000: 85)  
 Jean a dit à Marie qu’ il veut correspondre plus souvent.  
 Jean has said to Marie that he wants correspond more often  
 ‘John told Mary that he wants to correspond more often.’

(7) Italian, adapted from (Landau 2000: 46)

Maria pensava che Gianni avesse dimenticato di esser=si baciati  
 Maria thought that Gianni had.SBJV forgotten of be=SE.3 kissed.PL  
 alla festa.  
 at.the party

‘Maria thought that John had forgotten having kissed at the party.’

In all of these languages the acceptability of PC appears to be sensitive to the matrix control predicate.<sup>2</sup> Following Landau (2000; 2004), we can thus make a distinction between *PC predicates*, which permit either partial or exhaustive control into their complements and *exhaustive control predicates*, which permit only exhaustive control (ExC).

In Landau’s Agree-based model (2000; 2004 et seq.) the difference between PC and ExC predicates is regulated by their ability to support independent temporal reference in their non-finite complement: PC predicates (including desideratives, factives, interrogatives and epistemics) allow this and so are [+T], whereas ExC predicates (aspectuals, modals and implicatives) do not and so are [-T]. Pearson (2016) however, claims that PC predicates are better defined as attitude predicates reporting on the mental state or a communicative act of some individual (e.g. *believe*, *want*, *hope* but also *say*, *promise* and *claim*):

(8) Non-attitude predicates

- |                                |               |
|--------------------------------|---------------|
| a. * John started to break up. | [aspectual]   |
| b. * John must break up.       | [modal]       |
| c. * John managed to break up. | [implicative] |

(9) Attitude predicates

- |                                       |                 |
|---------------------------------------|-----------------|
| a. John hoped to break up.            | [desiderative]  |
| b. John hated to break up.            | [factive]       |
| c. John wondered whether to break up. | [interrogative] |

There is a class of languages, however, which is claimed not to permit PC at all, namely those languages which make extremely restricted use of non-finite complementation and instead display finite control. Amongst these are the languages

<sup>2</sup>The controversy surrounding the status of PC in French and Italian concerns the fact that in addition to being sensitive to the matrix control predicate, these languages also show sensitivity to the embedded controlled predicate. In French at least the generalisation seems to be that PC is only possible where the embedded verb is comitative (Sheehan 2014; Authier & Reed 2018; Pitteroff & Sheehan 2018). Pitteroff et al. (2017b,a) argue that German also shows such a sensitivity.

of the Balkan Sprachbund (e.g. Greek, Romanian, Bulgarian etc.). In this paper, we re-evaluate this claim, providing data which calls it into question. While it is generally the case that obligatory control in finite-control languages is limited to the complements of ExC predicates, we nonetheless show that, under the root modal ‘can’, obligatory control complements permit PC for many speakers. The structure of the squib is as follows. §2 reviews the treatment of finite control in previous analyses, notably Landau (2004; 2015). §3 reviews the evidence for PC in Greek. §4 identifies similar such cases in Romanian. §5 concludes by discussing the theoretical implications of the existence of partial control in finite control languages.

## 2 Finite control in previous approaches

It is often claimed that Balkan languages lack PC (see Alboiu 2007 on Romanian). With the exception of Spyropoulos (2007) to whom we will return shortly, this claim is echoed with respect to Modern Greek (see Alexiadou et al. 2010: 95, citing Varlokosta 1994 on Greek).<sup>3</sup> Indeed, Landau’s (2004; 2015) analyses of obligatory control attempts explicitly to derive the fact that PC is not possible in these languages.

In all of its instantiations, Landau’s (2000; 2004; 2015) model distinguishes two types of control: PC and ExC. In earlier versions of the theory, these are the result of two different operations: direct control of PRO by an antecedent from the main clause in the cases of ExC, and control of PRO via C in the cases of PC. Crucially, the distribution of the two kinds of control is claimed by Landau to be regulated by the features [+/-T] and [+/-Agr]. ExC arises in [+/-Agr, -T] contexts and PC in [-Agr, +T] contexts. As finite complements in languages like Greek and Romanian are characterised by being [+Agr], these languages are therefore expected to lack PC as they lack [-Agr] clauses altogether. Landau (2015: 7) summarises the findings of his early work in the “Obligatory Control–No Control” generalization in (10):

- (10) The obligatory control–no control generalization  
In a fully specified clause (in a clause in which the I head carries slots for both [T] and [Agr])
- a. If the I head carries both semantic tense and agreement, [no control] obtains.
  - b. Elsewhere, [obligatory control] obtains.

---

<sup>3</sup>When discussing Greek, we refer to Standard Modern Greek, unless stated otherwise.



He presents evidence in support of this prediction from finite control in Balkan languages. Building on Varlokosta (1994), he argues that Balkan subjunctives come in two types: *controlled* and *free* subjunctives (C- and F-subjunctives respectively, exemplified below) distinguished by the interpretation of their subjects, expressed here as the distinction between PRO and *pro*. As Landau (2004: 827) further notes, C-subjunctives display the diagnostic properties of obligatory control, despite their finiteness:

- (11) C-subjunctive, Greek  
I Maria<sub>1</sub> kseri PRO<sub>1/\*2</sub> na diavazi  
the Mary know.3SG PTCL read.3SG  
‘Mary knows how to read’
  
- (12) F-subjunctive, Greek (Varlokosta 1994: (21))  
O Yianis<sub>1</sub> elpizi *pro*<sub>1/2</sub> na figi.  
the John hopes.3SG PTCL wins.3SG  
‘John<sub>1</sub> hopes that he<sub>1/2</sub> will win’
  
- (13) C-subjunctive, Romanian (Alboiu 2007: 6)  
Victor<sub>1</sub> încercă [ să PRO<sub>1/\*2</sub> cânte ].  
Victor try.PRS.3SG SBJV sing.SBJV.3SG  
‘Victor is trying to sing.’
  
- (14) F-subjunctive, Romanian  
Ionuț<sub>1</sub> vrea [ să *pro*<sub>i/j</sub> cânte ].  
Ionuț wants SBJV play.SBJV.3SG  
‘Ionuț wants him/PRO to sing.’

As Landau notes, many ExC predicates seem to require C-subjunctives whereas PC predicates usually take F-subjunctives and hence fail to display obligatory control. This follows if their complements are [+Agr, +T], leading to the possibility of referential subjects.

Landau (2015) revises his early approach to the PC/ExC distinction, drawing on Pearson’s (2016) idea that the defining property of PC predicates is that they are attitudinal (*hope, want, regret*) unlike ExC predicates which are not (*start, manage, try*). He proposes that whereas attitude predicates select a larger non-finite complement containing a logophoric *pro* in its edge which mediates control, ExC predicates select a smaller complement and control arises from direct predication. The generalization in (10) now equates to that in (15):

(15) The OC–NC Generalization (final)

[+Agr] blocks logophoric control but not predicative control.

Landau proposes to derive (15) from the fact that variable binding requires feature sharing and this is blocked where a pronoun is involved. In finite control languages, then, logophoric control will always be blocked as every clause is [+Agr].

### 3 Partial control in Greek

The phenomenon of PC in Greek has been discussed very little in the literature. This is because, as noted above, PC predicates tend to select F-subjunctives and so apparent instances of PC can always, in principle, be cases of accidental (partial) co-reference between main and embedded subject.<sup>4</sup> Consider, by way of example, the apparent cases of PC given by Spyropoulos (2007), cited also by Kapetangianni (2010), with object control verbs like *pitho* ‘to persuade’ and *diatazo* ‘to order’:

(16) Greek

o Yianis<sub>i</sub> epise ti Maria<sub>j</sub> na pane ec<sub>i+j</sub> jia  
the John.NOM persuade.3SG.PST the Mary.ACC SBJV go.3PL for  
psonia tin Triti  
shopping the Tuesday  
‘John persuaded Mary to go (John and Mary) shopping on Tuesday.’

(17) Greek (Spyropoulos 2007: (34a), ((35a))

episa ti Maria<sub>i</sub> na pane ec<sub>i+</sub> jia psonia tin  
persuade.1SG.PST the Mary.ACC SBJV go.3PL for shopping the  
Triti  
Tuesday  
‘I persuaded Mary that they should go for shopping on Tuesday.’

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<sup>4</sup>The following Greek verbs take what Landau calls “F-subjunctive complements”: *elpizo* ‘hope’, *pistevo*, ‘believe’, *nomizo* ‘think’, *apofasizo* ‘decide’, *protimo* ‘prefer’, *thelo* ‘want’, *perimeno* ‘expect’, *efchome* ‘wish’, *sxediazō* ‘arrange’, *prospatho* ‘try’, *frontizo* ‘arrange’, *kataferno* ‘succeed’, *pitho* ‘persuade’, *zito* ‘ask’, *apagorevo* ‘forbid’, *diatazo* ‘order’. Verbs taking “C-subjunctive” complements include aspectuals (*arxizo* ‘start’, *teliono* ‘finish’, *sinexizo* ‘continue’) and other ExC verbs (*distazo* ‘hesitate’, *dokimazo* ‘try’, *matheno* ‘learn’), but also a set of verbs which one expect be PC predicates, including: *xerome* ‘be pleased’, *ipofero* ‘suffer’, *fovame* ‘fear’, *ksero* ‘know’, *erchome* ‘come’, *ime ipochreomenos* ‘be obliged’, *ekana to lathos* ‘make the mistake’ (Varlokosta 1994: Ch. 4).

The problem with these examples is that, as Varlokosta (1994) notes, these verbs take F-subjunctive rather than C-subjunctive complements: they permit overt nominative subjects, strict and sloppy readings under ellipsis, and non *de se* readings.

Looking beyond these examples, however, we find that Greek displays PC with modal *mporo* ‘can’ which selects a C-subjunctive:

(18) Greek

Chthes **mporusa** akoma na sinandithume tin alli Triti  
yesterday could.1SG still SBJV meet.SBJV.1PL the other Tuesday  
‘Yesterday I was still able for us to meet next Tuesday.’

In (18), we see not only that the embedded subject of the subjunctive clause can be interpreted as partially controlled by the main subject, but also that the two clauses are indeed temporally distinct, as they allow two separate temporal adverbials “yesterday” modifying the main clause event, and “the following Tuesday” modifying the embedded clause event. Data like this appear to challenge the link between PC and attitude-predicates: example (18), an apparent case of PC in a finite control language is found in a case of temporal independence (and therefore a +T environment) under a non-attitude predicate.

One of the key diagnostics that we use to distinguish between F-subjunctives and C-subjunctives and hence between PC and accidental partial co-reference (NC), following Varlokosta (1994) and Landau (2004) is the possibility of an overt or covert nominative subject with disjoint reference from any matrix argument. Example (19) is ungrammatical in Greek (as it is in Romanian, cf. §4), suggesting that (18) is a genuine instance of PC:

(19) Greek\**Mporo* na fas

can.1SG SBJV eat.2SG

intended: ‘I can you to eat.’

There is certainly a difference between *mporo* and verbs which freely permit an F-subjunctive complement, such as those listed in footnote 4. It is possible, however, to coerce a disjoint reading with *mporo*, as suggested to us by Vina Tsakali and Despoina Oikonomou (p.c.).

(20) Greek

Mporis na erthi i Pinelopi sto parti tu Felix?  
can.2SG SBJV come.3SG the Penelope.NOM to.the party the Felix.GEN  
‘Can you arrange / allow for Penelope to come to Felix’s party?’

In fact, an anonymous reviewer suggests that this is even possible in (21) if we add ‘at my home’ to the example:

- (21) Greek  
 Mporo na fas spiti mu  
 can.1SG SBJV eat.2SG home my  
 ‘It is possible for me that you eat at my place.’

One possible conclusion, then is that *mporo* allows for a complement clause with a disjoint reference subject, and therefore an F-subjunctive, so that (18) is not an instance of PC after all. There are however, two objections to this line of argumentation: firstly such examples are indeed quite labored and require a very elaborate context. As an anonymous reviewer notes, such contexts usually involve some relationship between a matrix argument and something in the embedded clause, something which is not required with verbs which freely select for F-subjunctives. Moreover, partial control verbs always seem to allow coercion of this kind with overt subjects: unlike ExC predicates. Consider for example the following example from English:

- (22) I persuaded Mary for her children to wear a coat.

In (22), *persuade*, which usually favours an obligatory control reading, permits disjoint reference in exactly the same kind of context discussed as in (20) and (21). The fact that *mporo* permits coercion of this kind therefore actually makes it look like a PC predicate from a comparative perspective. To this extent, then, examples like (20) and (21) do not undermine the point made here about a finite control language exhibiting PC. A remaining question is why can PC be coerced into allowing for disjoint reference whereas ExC cannot. This seems to point towards treating the two phenomena as distinct, and not one as a subclass of the other, but a detailed formulation of this intuition lies beyond the scope of this work for reasons of space (though see Cinque 2006; Landau 2000; 2008; 2015; Sheehan 2018b for different implementations of this idea).<sup>5</sup>

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<sup>5</sup> An anonymous reviewer notes that if languages with finite control permit coercion more easily than languages with non-finite control, then this might be taken to support a weakened version of Landau’s (2015) proposal. The facts are not so clear to us, though, as English appears to allow coercion with PC verbs just as easily as Greek does. In any case, a problem remains for Landau’s general approach if there is a [+Agr, +T] context in which the default reading is control.

## 4 Partial control in Romanian

In Romanian too, the vast majority of matrix verbs selecting a *C-subjunctive* (with forced co-reference) are ExC predicates in Landau's (2000) sense (*ști* 'know', *începe* 'begin', *încearca* 'try' and *reuși* 'manage'). Conversely, the vast majority of PC predicates select an *F-subjunctive* in Romanian with a referential subject, which, given the lack of obviation effects, can also be co-referential with the matrix subject, but need not be (see Alboiu 2007; Alexiadou et al. 2010; Hill 2012; Nicolae 2013 on Romanian) (see examples (13) and (14) above). *F-subjunctive* complements can optionally be introduced by the subjunctive complementiser *ca* (cf. Grosu & Horvath 1987; Hill 2012). The *ca să* subjunctive complements display typical Romance obviation effects but, the bare *să* complements do not (Alexiadou et al. 2010):

### (23) Romanian

- a. Ionuț<sub>i</sub> vrea *să* EC<sub>i/j</sub> cânte            la violoncel  
 Ionuț wants SBJV            play.SBJV.3SG at cello
- b. Ionuț<sub>i</sub> vrea *ca să* EC<sub>\*i/j</sub> cânte            la violoncel  
 Ionuț wants that SBJV            play.SBJV.3SG at cello

As in Greek, the *C-subjunctives* display the properties of obligatory control (Landau 2004; Alboiu 2007; Alexiadou et al. 2010; Hill 2012; Nicolae 2013):

### (24) Romanian

- \*Victor încearcă [ Mihai *să* cânte            ]  
 Victor try.PRS.3SG (\*Mihai) SBJV sing.SBJV.3SG  
 'Victor is trying (\*Mihai) to sing.'

This is not restructuring, however: the embedded clause can contain negation, can be modified by an adverb and does not always permit clitic climbing (Alboiu 2007; Alexiadou et al. 2010):

### (25) Romanian (Alboiu 2007: 8)

- a. Li=a                            putut            vedea?  
 CL.3SG.M.ACC=AUX.3SG could.PTCP see.3SG  
 'Could s/he see him?'
- b. Nu (\*li)-a                            încercat [ *să*-li                            *vadă*            ].  
 not CL.3SG.M.ACC=AUX.3SG try.PTCP SBJV=CL.3SG.M.ACC see.3SG  
 'S/he didn't try to see him.'

There is disagreement in the literature over whether this is raising or control (see Nicolae 2013). We assume they at least *can* be obligatory control contexts here, partly on the basis of the PC evidence below.

It has been claimed that Romanian lacks partial control. Alexiadou et al. (2010) claim that Romanian lacks partial control based on the following data ('learn' is an obligatory control verb, as in Greek):

(26) Romanian

- a. \*Eu am învățat să inotăm  
I have learnt SBJV swim.SBJV.1PL  
b. \*Ion a zis ca tu ai învățat să inotati.  
John has said that you.SG have learnt SBJV swim.SBJV.2PL

Alboiu (2007: 10) claims the same thing on the basis of the following examples:

(27) Romanian

- \*Eu vreau [ să plec împreună ]  
I want.1SG SBJV leave.SBJV.1SG together

(28) Romanian

- \*Vreau [ să plecăm eu împreună ]  
want.1SG SBJV leave.SBJV.1PL I together

There are, however, independent explanations as to why these examples are ungrammatical. In (27), a predicate with a singular subject is modified by together and in (30) there is a mismatch between the plural verb form and singular subject. Alboiu also notes that the following is permitted:

- (29) Romanian (Alboiu 2007: 10)

Eu vreau [ să plecăm împreună ]  
 I want.1SG SBJV leave.SBJV.1PL together  
 ‘I want (us) to leave together.’

The problem is that, as noted in relation to Greek, and as she notes, we cannot tell whether (29) involves partial control or accidental co-reference as *a vrea* ‘to want’ (like other desiderative predicates) takes an F-subjunctive which does not force obligatory coreference:

- (30) Romanian (Alboiu 2007: 11)

*pro*<sub>1</sub> vrea [ *pro*<sub>1/2</sub> să plece ]  
 want.PRS.3SG SBJV leave.SBJV.3  
 ‘S/he wants (for her/him/them) to leave.’

The problem, then, is that the vast majority of obligatory control verbs in Romanian happen to be exhaustive control predicates, which fail to allow partial control in any language (see Landau 2000; 2004; 2015 and the discussion above).

Like in Greek, however, there is one ExC predicate which takes C-subjunctive complements and nonetheless permits PC: the modal *putea* ‘can’. Example (31) shows that *putea* takes a C-subjunctive and not an F-subjunctive. Examples (32) and (33) show that partial control is nonetheless permitted here with either a 1SG or 3SG subject controlling a 1PL verb form (based on judgments from four speakers):

- (31) Romanian

\*Tu poți să mergă mâine.  
 you can.2SG SBJV go.SBJV.3 tomorrow

- (32) Romanian

Pot să ne întâlnim mâine.  
 can.1SG SBJV SE.1PL meet.SBJV.1PL tomorrow  
 ‘I can meet tomorrow.’

- (33) Romanian

Pot să ne căsătorim doar la anul, când fac 18 ani.  
 can.1SG SBJV SE.1PL marry.SBJV.1PL only to year.DEF when make 18 years  
 ‘I can marry only next year, when I turn 18.’

- (34) Romanian  
 Ea poate să ne căsătorim doar la anul, când face 18  
 she can SBJV SE.1PL marry.SBJV.1PL only to year.DEF when makes 18  
 ani.  
 years  
 ‘She can marry only next year, when she turns 18.’

This is particularly interesting because, unlike Greek, Romanian retains limited usage of non-finite clauses and one context where the latter occur is precisely under this same verb:

- (35) Romanian (Pană Dindelegan 2013: 136)  
 El poate alerga  
 he can run.INF  
 ‘He can run’

Bare infinitives of this kind probably involve restructuring as clitic climbing and long passives are permitted here (Dragomirescu 2013: 194, 196):

- (36) Romanian  
 Cartea o pot citi acum  
 book.DEF.ACC CL.ACC.F.3SG can.1SG read.INF now  
 ‘I can read the book now’
- (37) Romanian  
 Cartea se poate citi de către oricine într-o zi  
 book.DEF.NOM CL.REFL.PASS can.3SG read.INF by anyone in=one day  
 ‘The book can be read by anyone in one day’

Until the 19th century, *putea* also freely selected an infinitive complement introduced by *a*, but nowadays this possibility is restricted to complements which are negated (Dragomirescu 2013). No clitic climbing is possible where *a* is present:

- (38) Romanian (Pană Dindelegan 2013: 194, citing Jordan 2009: 60)  
 El putea a nu-l primi  
 he can.IPFV.3SG A not=CL.ACC.M.3SG receive.INF  
 ‘He could not receive it.’

Even where *a* is present, however, PC is not possible with a non-finite complement:



(39) Romanian

\*Tu poți a vă căsători la anul.  
 you can.2SG A SE.2PL marry.INF to year.DEF  
 ‘You can marry next year.’

This minimal contrast between finite and non-finite complements suggests that this is a matter of syntax and not semantics as presumably the modal has the same meaning in both contexts. Like in Greek, then, there is at least one ExC predicate which appears to permit PC in finite control contexts.

## 5 Theoretical discussion and tentative conclusions

A very important question is whether the examples of PC in Greek and Romanian mentioned above are genuine instances of PC. Poole (2015) notes that a similar phenomenon is possible also in English with the root modal ‘can’, but he claims that it is not an instance of PC (pace Rodrigues 2007). He proposes, rather, that apparent instances of PC under ‘can’ in English actually involve a covert comitative, based on the fact that only comitative verbs can surface in the complement to *can* in instances of PC:

(40) Poole (2015: 14)

- a. \*John can gather tomorrow.
- b. \*John can disperse next week.

He therefore proposes the following analysis (see also Sheehan 2014 on “fake PC” in some Romance languages):

(41) Modal-meet construction schema (Poole 2015: 15)

XP<sub>1</sub> can [ t<sub>1</sub> meet (with y) ]

The core idea here is that the plural reading of *meet* arises from the exceptional possibility of a covert comitative and not from partial control. In fact, *can* is analysed as a raising predicate on his analysis.

This account however clearly does not carry over to the Romanian and Greek facts. In these languages, the embedded subject clearly differs in  $\phi$ -features from the matrix subject so the effect cannot reduce to raising (or ExC). Moreover, the plural reading of the embedded predicate marry/meet cannot be attributed to the presence of a covert comitative as the embedded verb is itself inflected as plural.

Finally, note that examples involving an overt comitative are possible with these verbs, but the comitative cannot be omitted in these contexts.

Many verbs in Romanian undergo the comitative alternation (*a se certa* ‘to argue’, *a se întâlni* ‘to meet’, *a se săruta* ‘to kiss’, *a se împăca* ‘to make up’):

- (42) Romanian  
\*Alex se întâlnește  
Alex SE meet.3SG
- (43) Romanian  
Alex se întâlnește cu Adina  
Alex SE meet.3SG with Adina
- (44) Romanian  
Alex și Adina se întâlnesc  
Alex and Adina SE meet.3PL

These verbs can occur in control contexts with a singular antecedent, but the 3SG and 3PL forms of the subjunctive are identical, so it is impossible to tell whether the comitative can be omitted in the equivalent to (45):

- (45) Romanian  
Vrea să se întâlnească mâine (cu ea)  
wants.3SG SBJV SE meet.SBJV.3 tomorrow with her  
‘He wants to meet (with her) tomorrow.’
- (46) Romanian  
Vrea să se certe din când în când (cu ea)  
wants.3SG SBJV SE argue.SBJV.3 from when to when with her  
‘He wants to argue (with her) from time to time.’
- (47) Romanian  
Vrea să se sărute curând (cu ea)  
wants.3SG SBJV SE kiss.SBJV.3 soon with her  
literally ‘He wants to kiss (with her) soon.’

(48) Romanian

Vrea să se împace (cu ea)  
wants.3SG SBJV SE make.up.SBJV.3 with her  
'He wants to make up (with her) soon.'

If the subject is first or second person, however, the number distinction is morphologically expressed and it is clearly not possible to omit the comitative in such cases (based on a survey of 21 speakers):

(49) Romanian

Vreau să mă întâlnesc mâine \*(cu ea)  
want.1SG SBJV SE.1SG meet.SBJV.1SG tomorrow with her  
'I want to meet (with her) tomorrow.'

(50) Romanian

Vrei să te întâlnești mâine \*(cu ea)  
want.2SG SBJV SE.2SG meet.SBJV.2SG tomorrow with her  
'You want to meet (with her) tomorrow.'

This shows that the kind of PC observed in Romanian does not involve a covert comitative. The situation in Greek is exactly the same, with agreement interacting with the comitative alternation where the presence of a comitative phrase induces singular agreement on the verb (49), but the lack of the comitative phrase is only allowed when the verb has plural agreement (50):

(51) Greek

\*O Yianis sinantithike  
the John met.3SG

(52) Greek

O Yianis sinantithike me ton Petro  
the John met.3SG with the Peter  
'John met with Peter.'

(53) Greek

O Yianis ki o Petros sinantithikan  
the John and the Peter met.3PL  
'John and Peter met.'

Greek has the full agreement paradigm in subjunctive forms, so examples like Romanian (47)–(52) display no ambiguity. Indeed, PC cases with *thelo* ‘want’ cannot involve a covert comitative exactly because the embedded verb appears in the singular when there is a comitative phrase and in the plural without it.<sup>6</sup>

(54) Greek

Thelo / mporo na sinantithume avrio  
 want.1SG can.1SG SBJV meet.1SG tomorrow  
 ‘I want to meet (plural) tomorrow’, ‘I can meet (plural) tomorrow.’

(55) Greek

Thelo / mporo na sinantitho me tin Stefania avrio  
 want.1SG can.1SG SBJV meet.1SG with the Stefania tomorrow  
 ‘I want to meet with Stefania tomorrow’, ‘I can meet with Stefania tomorrow’

To sum up, in this squib we have provided some preliminary evidence that finite control languages like Greek and Romanian display PC in very limited contexts, contrary to what has previously been claimed in the literature. Moreover, the very existence of this phenomenon inside [+Agr], [+T] complements of non-attitude predicates is incompatible with any mainstream theory of PC that predicts it to be incompatible with [+Agr]. Data problematic for this claim can also be found in European Portuguese, which appears to permit obligatory control into inflected infinitives, at least for some speakers (Sheehan 2018a,b), though this is somewhat controversial (see Barbosa 2017). We have dismissed, somewhat tentatively, the idea that apparent cases of PC in Greek and Romanian might be instances of coercion of a C-subjunctive into an F-subjunctive or of ExC with a covert comitative. The next step for this investigation is to survey the extent of this phenomenon in Greek and Romanian and establish whether it can be unambiguously found with predicates other than ‘can’. If this can be established, then an alternative theory of control must be explored which captures the fact that PC is in fact compatible with [+Agr] clauses, without overgenerating. It is worth noting in this regard that the incompatibility is somewhat stipulative in Landau’s (2015) approach, so this may not be as difficult as first appears.<sup>7</sup>

<sup>6</sup>We use a verb which selects an F-subjunctive here because it is our intention to show that comitatives cannot be omitted in subjunctive contexts. The patterns are the same if the matrix verb is *can*. Thanks to an anonymous reviewer for querying this.

<sup>7</sup>There are, for example, other verbs which Varlokosta claims take C-subjunctives which appear

## Abbreviations

1	first person	M	masculine
2	second person	NOM	nominative
3	third person	OC	obligatory control
ACC	accusative	PASS	passive
AUX	auxiliary	PC	partial control
CL	clitic	PL	plural
DAT	dative	PRS	present
DEF	definite	PST	past
ExC	exhaustive control	PTCL	particle
F	feminine	PTCP	participle
FUT	future	REFL	reflexive
GEN	genitive	SBJV	subjunctive
INF	infinitive	SG	singular
IPFV	imperfective		

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to allow PC:

- (i) Greek  
 Tha charo      na    vrethume  
 FUT please.1SG SBJV meet.1PL  
 ‘I will be pleased us to meet tomorrow...’

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## Chapter 16

# Absolutive control and absolute universals

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It is widely held, across frameworks, that complement control universally targets the subject function, cross-cutting major alignment divisions. Whether case follows an accusative or ergative or other alignment, it is consistently the subject of a non-finite complement clause that is normally unexpressed and understood as coreferent with a matrix argument. This squib examines a recent challenge to that characterization from Belhare [byw], a Kiranti (Sino-Tibetan) language, which is alleged to have a pattern of control targeting the absolutive argument of the complement clause, regardless of its grammatical function. I argue that the challenge from Belhare is mis-characterized, and that even on the primary description of the relevant Belhare data, the facts are consistent with the universal characterization of control as syntactically targeting subjects.

## 1 Introduction

Across a variety of theoretical traditions, something along the following lines has been held to constitute a syntactic universal:

- (1) When case and grammatical function diverge, it is the function SUBJECT and not a case category (nominative, absolutive, ergative, etc.) that determines which argument in a non-finite clause is subject to control.

In this squib, I will examine an alleged counter-example, from Belhare (Sino-Tibetan), which has been taken (Bickel & Nichols 2001; Malchukov 2014) to show an instance of control on an ergative–absolutive alignment, and thus that (1) represents only a strong trend, and not a true universal. I argue that the conclusion



is hasty, and that even on Bickel's own analysis, the data do not in fact challenge (1).<sup>1</sup>

## 2 Control is not case

To begin, it may help to have a brief review of the standard evidence for (1).

In the canonical control configuration, a designated argument in a non-finite complement is obligatorily unexpressed, and obligatorily coreferent with an argument in a higher clause. A long established tradition represents the controlled element as PRO. In English, PRO is always the subject, never the object of the non-finite clause. There are of course also ways of representing this dependency without a null element in the syntax, but for current purposes, the important observation is that it is the subject of the non-finite clause that is shared/coreferent with an argument (subject in (2) or object, as with *ask*, *tell*, etc.) of the matrix clause.

- (2) a. Leo tried [ PRO<sub>NOM</sub> / \*Mika / \*himself to win ].
- b. Leo tried [ PRO<sub>NOM</sub> to choose his teacher<sub>ACC</sub> ].
- c. \* Leo tried [ his teacher<sub>NOM</sub> to choose PRO<sub>ACC</sub> ].

In a canonical nominative–accusative alignment, where there is a direct correspondence between nominative case and the grammatical function subject, it is not possible to decide on simple empirical grounds whether the distribution of PRO should be stated in terms of case or subjecthood. Famously, Vergnaud (2008); Chomsky (1980) proposed that the distribution of control is reducible to the distribution of case: English nominative case is restricted to finite subjects,

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<sup>1</sup>I restrict the discussion here to Belhare. Bickel & Nichols (2001) argue that Chechen shows a similar pattern to Belhare, but is subsumed under the same analysis, without the complicating factor of morphological deponence. In her survey of complement control cross-linguistically, Stiebels (2007) presents Austronesian and Mayan as showing a different type of challenge to (1). In these languages, control may single out either the grammatical subject or the logical subject (agent/actor/external argument) on her analysis, sometimes with variation across constructions in a single language (see also Kroeger 1993; Wurmbrand 2013 on Tagalog). Whether these challenge (1) as phrased depends in large part on how “subject” is defined, a matter of no small controversy in particular in Austronesian. I am unable to address these examples within the confines of a squib, but my narrow goal here is to defend the claim that case is never the determining factor as to which argument will be PRO, and the Austronesian and Mayan examples are thus orthogonal to that narrow point. For additional discussion of control in ergative languages, and some important additional qualifications, see Polinsky (2016: 104–109).

thus lexical subjects are excluded from the subject position of non-finite clauses (unless they are “exceptionally” assigned case by a higher verb or preposition). If this view were correct, one would expect to find that variation in case patterns – which is amply attested – would correlate with variation in the distribution of PRO. That expectation, it turns out, is resoundingly false.

For example, in an ergative–absolutive alignment, the transitive subject bears ergative case while the object and intransitive subject share the typically unmarked absolutive case. Case and subjecthood do not align: there is no case that is assigned to all and only subjects. If Vergnaud were right, and the account of control was that some designated case is unavailable in non-finite contexts, then the control pattern should track case, rather than subjecthood. For example, an absolutive pattern of control would look like the following, with PRO as the object, but not the subject, of a transitive infinitive:

- (3) a. Leo tried [ PRO<sub>ABS</sub> to win ].  
 b. \* Leo tried [ PRO<sub>ERG</sub> to choose his teacher<sub>ABS</sub> ].  
 c. Leo tried [ his teacher<sub>ERG</sub> to choose PRO<sub>ABS</sub> ].

Such a pattern has been prominently claimed not to exist. For example, in an important survey of ergativity, Dixon (1994: 134–135) notes:

Whenever [concepts such as ‘can’, ‘try’, ‘begin’, ‘want’ “and similar verbs”] are realised as lexical verbs, taking an object complement clause construction which involves another verb, the two verbs must have the same subject (S or A) irrespective of whether the language is accusative or ergative at morphological and/or syntactic levels...

This is a universal, relating to the universal category of subject.

There are, of course, many questions one can ask about which constructions should and shouldn’t fall under the scope of such a universal (for example, where to draw the line between control and raising, and whether adjunct control and complement control should be grouped together, and whether this should include control by the matrix object). For the narrow goals of this squib, we may abstract away from some of these important issues.

The Tsez (Nakh-Dagestanian) examples in (4) from Polinsky (2016: 319) illustrate Dixon’s observation nicely. Tsez has an ergative alignment in case and agreement, but the distribution of PRO cannot be characterized uniquely in terms of case. It is neither all-and-only ergative NPs nor all-and-only absolutive NPs that correspond to PRO. Rather, PRO corresponds to the NP that stands in the

subject function of the infinitive complement to *-et-* ‘want/need’, whether that NP would be ergative (4a) or absolutive (4b).<sup>2</sup>

(4) Tsez

- a. ...pro<sub>i</sub> [ PRO<sub>i</sub> gulu b-exad-a ] r-eti-n.  
 ...1SG.LAT PRO.ERG horse.ABS.III III-slaughter-.INF .IV IV-want-NW  
 ‘I need to slaughter the horse.’
- b. Dä-r<sub>i</sub> [ PRO<sub>i</sub> žek’u-de kec-a ] r-eti-n.  
 1SG.LAT PRO.ABS man.APUD sleep-INF .IV IV-want-NW  
 ‘I needed to sleep with a man.’

And even in nominative–accusative languages, it is known that case and grammatical function can sometimes diverge, as famously documented for “quirky” (i.e., non-nominative) subjects in Icelandic (Andrews 1976; Zaenen et al. 1985; Sigurðsson 1991). When the subject would be dative and the object nominative, it is the subject, not the nominative NP, that is obligatorily suppressed and coreferent with a higher NP, i.e., PRO:<sup>3</sup>

(5) Icelandic (Jónsson 1996: 116)

- Jón vonast til [ að PRO líka þessa bók ].  
 Jon.NOM hopes for to PRO.DAT like this book.NOM  
 ‘Jon hopes to like this book.’

The evidence from Icelandic and ergative languages provides a compelling reason to believe that it is quite generally subjecthood, not case, that determines the distribution of control effects regardless of language type.<sup>4</sup>

<sup>2</sup>I reproduce Polinsky’s glosses here; see Polinsky (2016: 319) on the different readings of *-et-* as ‘want’ versus ‘need’.

<sup>3</sup>That PRO here is indeed dative is well documented; Sigurðsson (1991) showed for example that elements which agree with the unexpressed subject, such as floating quantifiers, are obligatorily dative exactly when PRO replaces a subject that would be dative if it were overt, and analogously for all other cases.

<sup>4</sup>Legate (2008) defends a version of Case Theory with its roots in the Vergnaud–Chomsky approach. Legate concedes that Case is not responsible for the distribution of PRO, but argues that there is nevertheless a connection between Case and finiteness that includes ergative languages. Space precludes a full engagement with Legate’s proposals, but it is relevant to observe that the majority of her arguments show that non-finite clauses in ergative languages distinguish absolutive subjects from absolutive objects. From this, she concludes that absolutive subjects are actually nominative (and objects aren’t), maintaining a role for Case. However, in all of the languages she considers (with an additional qualification for some, but not all, speakers of Warlpiri) the absolutive subjects pattern together with ergative subjects wherever testable, reflecting, as Dixon maintained, that it is the (possibly derived) notion of subject that is relevant for the effects considered, rather than a case category.

### 3 Object unification and restructuring

In the context of the quoted passage above, Dixon notes that there are two patterns shown across languages by this class of predicates. The canonical complement control pattern, in which the subjects are shared, is one such pattern. There is a second pattern, which could be described as unification or sharing of the entire argument structure of both predicates, i.e., as clause union or restructuring. In such contexts, in addition to a shared subject, if the lower predicate is transitive, the embedded object may behave in various ways as if it is the object of the matrix predicate (see Wurmbrand 2001). As we will see below, this patterning of the embedded object in a restructuring configuration will turn out to be the key to understanding the alleged Belhare counter-example to (1).

A famous example of a clause union effect, cited by Bickel & Nichols (2001), is clitic-climbing in Romance. In (6), the object clitic corresponding to the object of the subordinate clause attaches to the matrix verb *quiero* ‘I want’, in this sense behaving as if it were the matrix object.

- (6) Spanish  
 Lo=quiero                    [ ver    a    Juan ].  
 3SG.M.ACC=want.1SG    see.INF ACC Juan  
 ‘I wanted to see Juan.’

In addition to clitics, long-distance agreement in restructuring clauses is attested for languages that display object agreement. In Itelmen, the modal *utu* ‘be.unable’ may (optionally) inherit the argument structure of its complement, inflecting intransitively if the complement is intransitive (7a) or transitively, if the complement is transitive (7b):

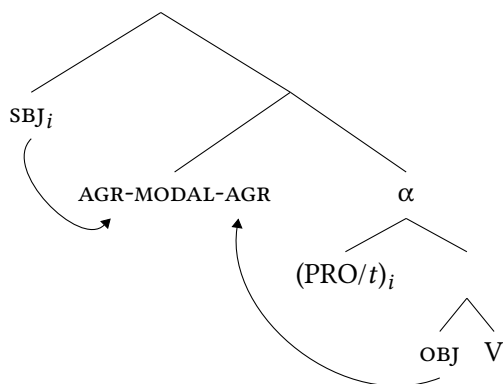
- (7) Itelmen
- a. kəmma t’-utu-s-kičən                    [ ŋekse-kaz ].  
 I            1SG-be.unable-PRS-1SG.SBJ    sleep-NFIN  
 ‘I can’t sleep.’ (Field notes: SA6-A)
- b. kəmma t’-utu-z-in                    [ əlčqu-ał-ił ].  
 I            1SG-be.unable-PRS-2SG.OBJ    see-FUT-NFIN  
 ‘I can’t see you.’ (Field notes: S3:19)

Note that this restructuring construction is a special case of control;<sup>5</sup> the subjects are shared in both the transitive and intransitive contexts. A quirk of Chukotko-Kamchatkan languages is the curiously absolutive-like agreement suffix

<sup>5</sup>Or raising, if modals are always raising configurations, see Wurmbrand (1999).

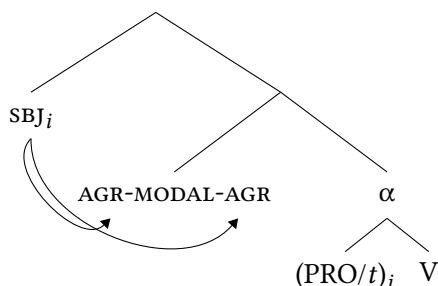
position on the matrix predicate: in (7b), the matrix verb inflects transitively, and the suffix agrees with the object (of the embedded clause), while in (7a), the suffix (as well as the prefix) agrees with the local subject. This is not particular to restructuring – the double agreement in intransitives is a regular feature of Chukotko-Kamchatkan verbs (Bobaljik 1998). As a result of this morphological quirk, the matrix suffix comes to agree with the object of a transitive complement, but the subject of an intransitive complement, an apparently absolutive pattern in a language that otherwise lacks an ergative alignment. But the absolutive pattern is epiphenomenal: the analysis of (7b) proposed in Bobaljik & Wurmbrand (2005) is given in (8). Subject sharing is represented, as is standard, as control (PRO) or raising (*t*), but this is not crucial to the argument and a representation without a null subject argument in the embedded infinitive would work just as well. What is important, following Wurmbrand (2001; 2015) and many others, is the proposal that what sets restructuring complements apart from non-restructuring complements is that the infinitival clause ( $\alpha$ ) is transparent to clause- (or phase-) bounded phenomena, such as clitic movement and agreement (and others).

(8)



The intransitive complement is represented as in (9), with the characteristic double agreement with the intransitive subject:

(9)



Again, despite the morphological pattern on the matrix subject, there is no absolute pattern of control here. Both arguments of the embedded clause are in effect shared – the subject is controlled and the object becomes a matrix object by clause union/restructuring. The apparent absolute alignment is an artifact of how agreement works generally in Chukotko-Kamchatkan.

Belhare, which we will turn to in the next section, also shows predicates like Itelmen *utu-*, in which transitivity of the matrix predicate is determined by the transitivity of its non-finite complement. The complement is uninflected (non-finite), and the matrix predicate agrees with the subject and with the embedded object as if it were its own:

(10) Belhare

- a. [ hit mett-a ] { ka-hiu-ka / \*hiu-ka } i?  
 look CAUS-SBJV 1SG-be.able-2.s be.able-2.s Q  
 ‘Can you show me the way?’
- b. unna han lu-ma n-lapt-he-ga i?  
 3SG.ERG 2SG.ABS tell-INF 3.A-be.about.to-PST.2.s Q  
 ‘Was s/he about to tell you?’

Bickel & Nichols (2001) refer to this as “agreement climbing” to highlight the parallel to clitic-climbing, citing examples from other languages as well. Their analysis is not expressed in phrase structure terms, but is directly comparable to (8). They treat the matrix predicate as a light verb whose argument structure is labile, and which thus inherits its arguments via unification with its non-finite complement, and in addition, they argue that the embedded object remains in the embedded clause, as in (8). Within the notation of Bickel & Nichols (2001), (8) corresponds to the following (their (13a)). Working up from the bottom: *hir-* ‘be.able.to’ in (10) has a labile argument structure. In this example it is bivalent  $\langle A, O \rangle$ , which unifies with the bivalent argument structure of its complement

$\langle a, o \rangle$  (capital versus small letters are simply for keeping track of matrix versus embedded frames). In the syntax, *hir-* is transitive, with A (subject) and O (object) corresponding to the shared arguments with the embedded predicates. The morphology (agreement) is faithful to the syntax, and both arguments of the embedded predicate are expressed on the matrix predicate.

(11)	Morphology:	A	O
	Syntax:	A	O
	Arg Str:	$\langle a, o \rangle + \langle A, O \rangle$	$\langle A=a, O=o \rangle$

The key correspondences among the frameworks are that subject “sharing” is implemented as control or raising and that unification is represented phrase structurally as a transparent domain ( $\alpha$ ). Object “sharing” is not represented directly in (8) although it could have been. In (8), I have represented the object as remaining in the embedded clause, and syntactically related to the matrix verb via agreement, but the transparency of the node  $\alpha$  effectively encodes the effect that the embedded object stands in the object-of relation to both verbs simultaneously.

It is not central to the argument here that the object remain in the embedded clause, or that the subject raise – the object could raise (as in Bobaljik & Wurmbrand 2005) or both subject and object could in principle remain in the embedded clause with matrix agreement targeting both, as in backwards raising/control. Bickel (2004: 159-160) presents the following examples to argue that the object of a light verb remains in the embedded clause (a), while expressing it in the matrix clause (b) results in “questionable grammaticality”. This contrasts with the shared subject in a related light verb construction, which may occur in the matrix clause (c). The data provided are sparse and open to other interpretations.

(12) Belhare

- a. [  $\eta ka$   $lu\text{-}ma$  ]  $nui\text{-}ʔ\text{-}\eta a$ .  
 1SG tell-NFIN may-NPST-EXCL  
 ‘I may be told.’
- b. ? [  $t_i$   $lu\text{-}ma$  ]  $\eta ka_i$   $nui\text{-}ʔ\text{-}\eta a$ .  
 $t_i$  tell-NFIN 1SG may-NPST-EXCL  
 ‘I may be told.’



- c. [ lu-ma     ] ŋka kheɪ-ʔ-ŋa.  
       tell-NFIN 1SG must-NPST-EXCL  
       ‘I must tell him/her.’

To this point, everything presented has been consistent with (1). The important interim conclusion is this: control (or possibly control and raising) always involves subject sharing, with a subset of control constructions also involving a sharing-like dependency between the matrix predicate and the embedded object. The subject is always shared, and if transparency obtains, then the embedded object may also behave as local to the matrix clause.<sup>6</sup>

#### 4 Belhare – absolutive control?

Bickel (2004) identifies a range of light verbs in Belhare, with meanings corresponding to: ‘may’, ‘must’, ‘begin’, ‘stop’, ‘finish’, ‘can’, ‘forget’, ‘know’, ‘be about to’, ‘already’, ‘be able to’, ‘want’, ‘think’. These fall squarely in the cross-linguistically expected class of raising and restructuring predicates. A number of these verbs behave as illustrated above in (10) – that is, they are unexceptional restructuring or clause union (or transitive raising) predicates: in one way or another both arguments of the embedded predicate are treated as arguments of the matrix predicate. Bickel notes in addition that two of the Belhare modal light verbs in the list above have a slightly different morphological pattern, illustrated here with *nus-* ‘may’:

- (13) a. Khon-ma nui-ka  
       play-INF may.NPST-2.S  
       ‘You may play.’  
       b. Lu-ma nui-ka  
       tell-INF may.NPST-2.S  
       ‘I/she/he/they may tell you.’ or ‘You may be told.’  
       Not: ‘You may tell someone/them.’

It is this pattern that is held to show an absolutive pattern of control, contravening (1). I understand the relevant observation to be this: the matrix predicate *nui-ka* ‘may’ agrees with only the 2SG argument, which corresponds to the absolutive NP in the infinitive – the subject in (13a) and the object in (13b). The

<sup>6</sup>It may be possible to have transparency of the infinitive without control, a point I leave for future discussion.

ergative argument is not expressed via agreement on the modal, even when the paradigm has (non-zero) affixes to do so.

Note that the object (and subject) may be overt in the embedded clause (14), but apparently resists expression in the matrix clause, as we have seen above. Thus considering this in terms of control requires relaxing one of the canonical criteria (that the argument be obligatorily unexpressed) and that this be considered a case of “backwards control”. I return to this observation in the final section, but set it aside for now.

- (14) han lu-ma nui-ka  
 2 tell-INF may.NPST-2.s  
 ‘[They] may tell you.’ (Bickel 2004: 156)

So the question is: is this an absolutive pattern of control, in the sense that is relevant for (1)? Bickel & Nichols (2001) contend that it is, with specific reference to Dixon’s quoted passage above. Following them, Malchukov (2014) refers to this pair to argue that control may, if rarely, follow an ergative alignment.

Yet Bickel’s and Nichols’s analysis of the facts gives room for pause. Syntactically, their analysis is in relevant respects analogous to the analysis of Itelmen in (8) in which the apparent ergative–absolutive pattern is a quirk of agreement morphology and not a matter of the syntax of control. Bickel (2004) and Bickel & Nichols (2001) argue that *nus-* in (13) shows in fact the same argument unification pattern as the other light verbs considered above in (10). What sets *nus-* and (on one reading) *khes-* ‘must’ aside from the other light verbs is a morphological quirk – although they undergo argument unification, they are morphologically deponent, a notion familiar from Latin and Greek (Baerman et al. 2007): syntactically transitive, but morphologically intransitive. More specifically, their agreement follows an absolutive alignment. Their analysis of the representation of *nus-* with a transitive complement, (13b) is given here:

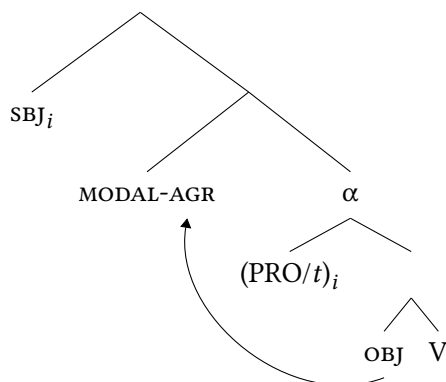
- (15) Morphology:  $\begin{array}{c} O \\ | \\ O \end{array}$   
 Syntax:  $\begin{array}{cc} A & O \\ | & | \end{array}$   
 Arg Str:  $\langle a,o \rangle + \langle A,O \rangle \quad \langle A=a, O=o \rangle$

This represents the following claims: *nus-* has a bivalent argument structure  $\langle A,O \rangle$ , which unifies with the bivalent argument structure of its complement  $\langle a,o \rangle$ . On their analysis, in the (line labeled) syntax, *nus-* is bivalent, i.e., transitive, with A (subject) and O (object) corresponding to the shared arguments with

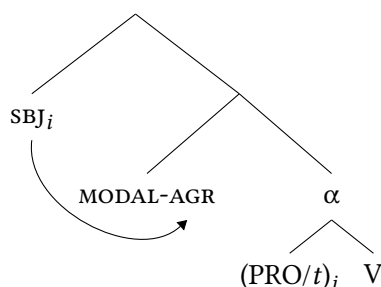
the embedded predicates. But in the morphology, where verbs like *hir-* in (10) would express both arguments via agreement, *nus-* is deponent, and only cross-references one argument, namely the absolutive (the normal pattern for a verb in an ergative alignment that cross-references a single argument, see Bobaljik 2008).<sup>7</sup>

The key observation here is that in (15), there is no ergative (or absolutive) alignment in the syntax, i.e., the portion of the notation that represents control. Leaving out the Morphology line, (15) is indistinguishable from (11). Using the same correspondences across frameworks, the phrase structure implementation of Bickel and Nichols's analysis is (16a), identical to (8) except that it lacks agreement with the transitive subject. The corresponding intransitive is given in (16b) (cf. (9)).

(16) a.



b.



<sup>7</sup>Bickel & Nichols (2001) note in support of this analysis that Belhare has other deponent verbs, including experiencer predicates that take two syntactic actants but inflect intransitively and other light verbs which show the reverse morphology–syntax mismatch, inflecting transitively whether they have one or two arguments. They note also that case patterns support a deponent analysis of *nus-* and *khes-*, which would otherwise be the only instances of a transitive case array (ERG–NOM) with an intransitive predicate.

Expressed in terms of phrase structure, as in (16), nothing in this pattern falls afoul of (1), as can readily be seen by examining the structures. In all relevant examples, the unexpressed, referentially dependent element in the non-finite clause is the subject. Restructuring/clause union/ $\alpha$  transparency makes available an additional morphosyntactic dependency between the matrix predicate and the embedded object. Agreement is free to follow an ergative-absolutive pattern, even in clause-union configurations and it is independently known to do so. But (1) is not intended to be read so as to constrain agreement relations, and so no issue arises if the ergative-absolutive agreement sits atop a clause-union configuration which itself shows sharing (i.e., control) of the subject. As far as I can see, this is indeed the state of affairs that Bickel & Nichols (2001) argue for, namely, that the apparent ergative (absolutive) alignment in the Belhare control configuration is a property of the morphosyntax of agreement, not of the syntactic representation of control.<sup>8</sup> The Belhare facts (and for that matter the Itelmen suffixes) challenge (1) only if the various aspects of the morphosyntactic representation are not factored out in this way, and (1) is held to range over all aspects of the representation, including agreement.

## 5 Postscript: Belhare control

Above, I have argued that the alleged absolutive alignment in Belhare control is an artifact of agreement morphology and not a property of the syntactic representation of control. Since Bickel observes that the “controlled” NPs are not obligatorily unexpressed, and may remain in the embedded clause in the light verb

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<sup>8</sup> Andrej Malchukov asks whether the “passive” paraphrases such as ‘You may be told’ in (13b) indicates a kind of passive syntax in which the embedded object is syntactically represented as the matrix subject. Note that this is not a property of the analysis in Bickel & Nichols (2001) or Bickel (2004), nor in my translation of their analysis into phrase structural terms. In all these analyses, the embedded object remains in the embedded clause. Bickel glosses examples of this sort variously as ‘I/she/he/they may tell you.’ or ‘You may be told.’ or ‘Someone may tell you.’ Of these, the passive version seems to most closely convey the meaning of an impersonal matrix subject, but at the cost of an unfaithful rendering of the Belhare (morpho-)syntax. The passive construction in English allows *you* to be the subject of *may*, associating it with the deontic force of the modal. However, this syntax is not required. We know from English and other languages that the deontic force of a modal need not be directed to the matrix subject, as illustrated by examples such as *The cookies may/must be eaten (by Paul)* (Warner 1993; Wurmbrand 1999). In the absence of counter-evidence, I take it that the choice of paraphrase here represents an attempt to render the meaning in English as closely as possible, given that a literal paraphrase of this construction (with or without an overt matrix subject) would be ungrammatical in English, but that no particular syntactic analysis should be read into the paraphrase.

constructions, the discussion was predicated on allowing “control” to include “backwards” control, a configuration involving apparent argument-sharing, but in which the shared argument is in the embedded, not the matrix clause. As it happens, Belhare does have non-finite contexts which show a more canonical control configuration: a designated argument is obligatorily unexpressed and is coreferent with a matrix argument, i.e., PRO. These are the non-finite verb forms apparently in adverbial or purpose-clause function, marked by the suffixes *-sa* or *-si*. Under Bickel’s description, these show exactly the Tsez-like pattern expected of control in a language with an ergative case system: neither an S (absolutive) nor an A (ergative) argument may be overt, while any other argument, including the absolutive object, may be overt. The PRO gap is necessarily understood as coreferent with an argument of the matrix clause.

- (17) a. [ *\*(un) khatd-e yuŋ-sa* ] mai-lur-he.  
           3   bed-LOC sit-ss   1SG.U-tell-PST  
           ‘He told it to me while (\*he) sitting on the bed.’  
       b. [ *\*(un-chik-ŋa) dhol teĩ-sa* ] la    ŋŋ-us-e.  
           3-NSG-ERG drum beat-ss   dance 3.NSG.S-dance-PST  
           ‘They danced (\*they) beating the drum.’ (Bickel 2004: 147)

Thus, while Belhare has a rich array of light verb constructions, some of which have intriguing agreement patterns, it also has far more canonical syntactic control constructions, with an obligatory gap (PRO), and these adhere, without any complications, to the universal pattern that it is the function SUBJECT and not a case category (nominative, absolutive, ergative, etc.) that determines which argument in a non-finite clause is subject to control.

## Abbreviations

1	first person	AGR	agreement
2	second person	APUD	apudessive (case)
3	third person	CAUS	causative
III	III gender	DAT	dative
IV	IV gender	ERG	ergative
A	agent-like argument of a canonical transitive verb	EXCL	exclusive
		FUT	future
ABS	absolutive	INF	infinitive
ACC	accusative	LAT	lative

LOC	locative	PST	past
M	masculine	Q	question particle
NFIN	non-finite	s	single argument of a canonical intransitive verb
NOM	nominative	SBJ	subject
NPST	non-past	SBJV	subjunctive
NSG	non-singular	SG	singular
NW	non-witnessed	SS	same subject
OBJ	object	U	undergoer
PRS	present		

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## Chapter 17

# Parametric variation: The case of Brazilian Portuguese null subjects

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This chapter revisits comparative and diachronic studies of linguists analysing Brazilian Portuguese (BP) with regard to the NSP, especially in view of recent debates on the existence of the so-called Partial Null Subject languages. It will be shown that BP is losing the properties of a prototypical NSL like European Portuguese (EP), with a rich inflectional paradigm, but, as the change is very recent, there is still not a consensus regarding the target of the change. Our question is whether BP classifies as a PNS language like Finnish, Hebrew or Marathi, as was recently claimed in Holmberg (2010), and Holmberg & Sheehan (2010). Methodologically, it is our purpose to observe the overt and null subjects in real data so as to check whether eventual optionality of null and overt pronouns can be attributed to a grammatical competition from a diachronic perspective (Kroch 1994) or to some licensing possibility within a single type of grammar, which is normally a view taken by formal linguists analyzing synchronic data. Using acquisition data we will show that while null non-referential subjects are part of Brazilian core grammar, null referential subjects are not, and their existence in the production of Brazilian literate adults results from instruction through schooling. The chapter suggests that from a typological view BP is a semi-NS language like Icelandic.

## 1 The Null Subject Parameter: A background

Since the advent of the Principles and Parameters model within the Government and Binding theory (Chomsky 1981; Rizzi 1982, a.o), the Null Subject Parameter



(NSP) has received the widest range of discussions and refinements. Not only did its formal formulation deserve a lot of attention, but its typological binary concept (Chomsky 1981, based on Taraldsen 1978) gave rise to a new way to do comparative and historical linguistics. But Rizzi (1982: 144) soon pointed to the fact that what was considered a single parameter should be decomposed into two sub-parameters, distinguishing languages allowing both null referential and expletive subjects from those licensing only null expletives (what he calls *semi-pro-drop* languages)<sup>1</sup> (e.g. Italian vs. German).

Further studies in the 1980s and 1990s would show that morphological richness<sup>2</sup> was not sufficient to explain licensing and identification of null subjects. Huang's (1984) classic article showed that null subjects were also licensed in systems like Chinese, without any inflection for mood, tense, number and person, which led to a new hypothesis (Jaeggli & Safir 1989), according to which what licenses null subjects is not a "rich" inflectional verbal paradigm but its morphological uniformity. In the case of a paradigm consisting of different affixes, identification would occur through agreement markers; in the case of a paradigm consisting of a single stem, identification would be possible through a discursive topic. In the first case the NS would be a pronominal category; in the second, a variable. If, however, a paradigm is mixed, the NS would not be licensed.

Roberts (1993b) would bring new contributions to the discussion based on diachronic evidence from medieval French. He argued that a "functionally" rich paradigm, i.e. with a zero ending and two identical forms for different grammatical persons, could act as a "formally" rich one. Roberts, however, pointed out the fact that the limit of syncretic forms could not be exceeded. This proposal has been used to explain licensing of null subjects in European Portuguese and Brazilian Portuguese before the latter underwent a change in its inflectional paradigm, as we will show in §2.2.

The cluster of properties, which has been crucially related to the null-subject language (NSL) since the classical formulation of the NSP, has not been thoroughly confirmed in more than thirty years of research, which has led to negative conclusions and certain scepticism with respect to the Principles and Parameters Theory, according to Roberts & Holmberg (2010).

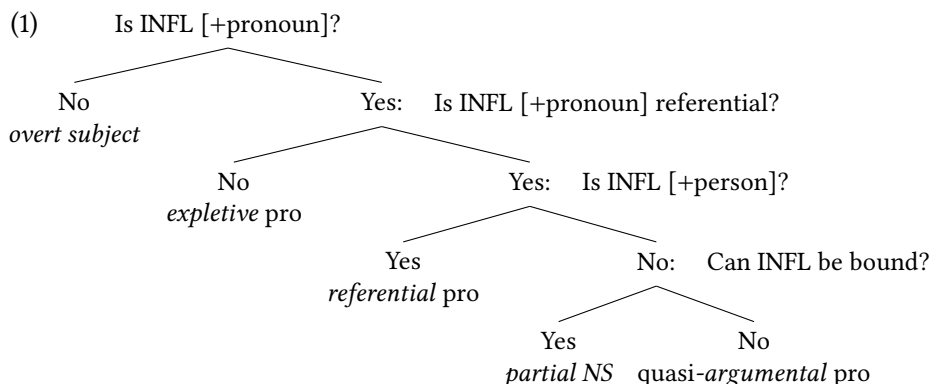
In recent years, in the light of new theoretical and empirical evidence, the notion of "partially" null subject (PNS) languages has been introduced (cf. Holmberg 2005; works in Biberauer 2008; Biberauer et al. 2010, a.o.), which draws a much

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<sup>1</sup>Which we will later call semi-[non-NS] languages, after Biberauer (2010).

<sup>2</sup>"The intuitive idea is that where there is overt agreement, the subject can be dropped, since the deletion is recoverable" (Chomsky 1981: 241).

more complex picture, leading to a proposal of parameter hierarchies, able to accommodate different parametric values. The representation in (1), still covering languages with some sort of agreement, includes such PNS systems (cf. Holmberg & Sheehan 2010; Sheehan 2014: 6, a.o.):



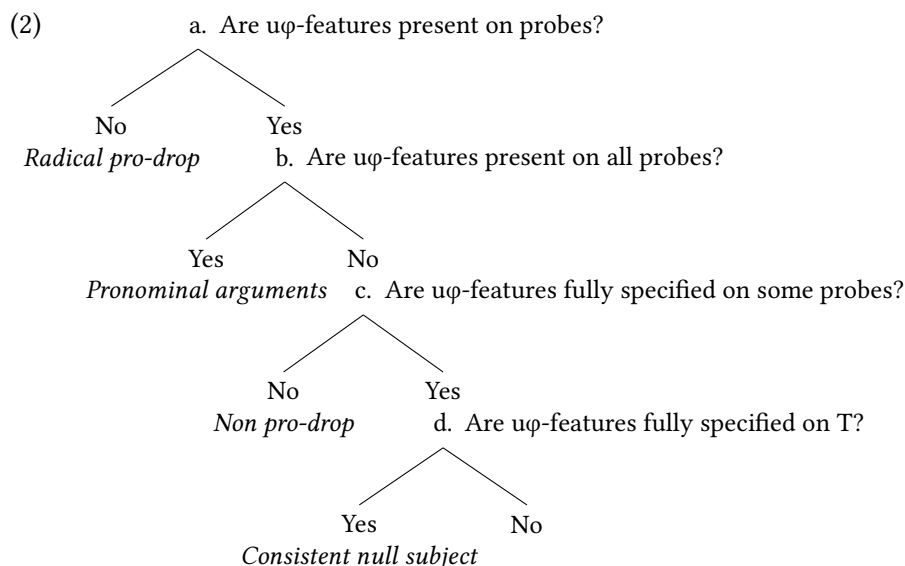
Based on evidence coming from a number of languages of different families, Roberts & Holmberg list, beside non-null subject languages,<sup>3</sup> the following types of NSLs: consistent NSLs, such as Italian, Greek and Turkish, with “rich” inflection; null expletive languages (also referred as *semi pro-drop*), which do not allow referential NSs, among which we can find German and some varieties of Dutch and many creoles, such as Capeverdian, Haitian, and Jamaican; radical null subject languages (*discourse pro-drop*), such as Chinese, Japanese and Thai, with no agreement marker, which allow null subjects and objects in appropriate discursive conditions; and finally, partial null subject languages, including Finnish, Hebrew, Icelandic, Russian, Marathi (a variety spoken in western India) and Brazilian Portuguese. According to the authors, they constitute a more difficult type to define because the languages under this label may show a very diverse range of characteristics. Brazilian Portuguese (BP), on the contrary, instead of creating a lexical expletive like French, shows a competition between a null subject, and a prominent constituent moved to the structural subject position, resembling constructions of discourse configurational languages.

The proposal of parameter hierarchies can be related to the notion of *micro-parameters* (Kayne 1996), which could explain small differences among similar

<sup>3</sup>We must keep in mind that non-null subject languages do not admit null subjects in neutral contexts. We do not ignore the fact that such systems can exhibit null subjects, pragmatically identified in non-neutral contexts (see, for instance, null 1st person subjects in English diaries, Haegeman 1990).

systems. According to Roberts (2012), each formal feature defines a distinct parameter, and he also argues that parameters move from “macro” to “micro” levels; thus, it would be natural to expect lower layers in the hierarchy to become more marked, showing a more complex behaviour than upper layers. The relevance of the parameter hierarchy for acquisition should be the prediction that higher options would be preferred as they are less marked; as more marked options appear in the primary data, the learner moves to lower levels, until the definition of a parametric setting compatible with the data is accomplished. The distinction between *micro*- and *macro*-parameters would not be, according to Roberts (2012: 310), part of Universal Grammar (UG), but a property that emerges as a result of the interaction of the learner with the primary data and UG. These hierarchies also include some predictions about diachronic changes: they should happen in the direction of upper hierarchies, less marked, driven by functional pressures or linguistic contact.

Finally, refining (1), Roberts & Holmberg (2010) proposed the NSP hierarchy in (2), suggesting that each functional head defines its parametric hierarchy:



In sum, the attempt to accommodate different hierarchies, keeping the binary values of each parameter, is in itself evidence that it is not an easy enterprise. As for the label NSP in the interpretation it has in the theory of Principles and Parameters today, it seems to include several sub-types of languages, as argued

by Biberauer (2010). We will see that BP exhibits a very peculiar behaviour in this regard.

## 2 Preliminaries

### 2.1 Our aims

The aim of this chapter is to revisit the comparative and diachronic studies of linguists analysing BP with regard to the NSP, especially in view of recent debates on the existence of the so-called PNS languages. It is a well known fact that BP is losing the properties of a prototypical NSL, like European Portuguese (EP), with a rich inflectional paradigm, but, as the change is very recent, there is still not a consensus regarding the target of the change. Our question is whether BP classifies as a PNS language like Finnish, Hebrew or Marathi, as was recently claimed in Holmberg (2010) and Holmberg & Sheehan (2010). Methodologically, it is our purpose to observe the overt and null subjects in real data so as to check whether eventual optionality of null and overt pronominals can be attributed to a grammatical competition from a diachronic perspective (Kroch 1994) or to some licensing possibility within a single type of grammar, which is normally a view taken by formal linguists analysing synchronic data. Using acquisition data (Magalhães 2003 and Kato 2011), we will try to see how the Brazilian child selects their grammar, and will follow the hypothesis that null referential subjects in the Brazilian literate adult are not residues of the old grammar, but the result of instruction through schooling.

Our upcoming sections are organized as follows: §2.2. describes the BP diachronic facts; §3 brings some considerations on acquisition data; §4 contains a comparative analysis of BP with four types of languages: §4.1 with EP, a consistent NSL, with rich Agr inflection; §4.2 with Japanese, a radical type, or a discourse configurational language type, with no Agr inflection; §4.3 with Finnish, a Partial NSL; §4.4 with English, a [–NS] language; and §4.5 with Icelandic, the so-called *semi[NS]* language.

In the conclusions we will summarize the findings of the article, namely that BP core grammar is set to a [–NS] language with referential subjects and to a [+NS] language with regard to non-referential ones. With regard to the literate Brazilians' E-language it will be shown to exhibit a competition with regard to referential subjects, between overt pronominal subjects of the English type, and NSs, of the radical type. With regard to non-referential subjects, the literate adult maintains the same types of NSs exhibited by the child.

## 2.2 From Old Portuguese to Modern Brazilian Portuguese

As is well known among Romanists, Old French (OFr) was “a sort of V2 type of language” (cf. (3a)) and also a NSL (cf. (4a) (Adams 1987, Roberts 1993b, a.o.)). The latter property was lost when OFr lost this characteristic. According to Ribeiro (1995), Old Portuguese (OP) was also a NSL and a “sort of V2 type of language”<sup>4</sup> (cf. (3b)). EP retained both properties, while BP lost both the same way OFr did.

- (3) a. Old French V2  
Eisint revindrent li mesage en la ville.  
then returned the messenger to the town  
‘Then the messenger returned to town.’
- b. Old Portuguese V2  
Maravilhosas **son** estas cousas que co’ntas, padre...  
beautiful are these things that tell.2SG, father  
‘Beautiful are the things that you tell us, father.’

However, contrary to Germanic languages, OFr and OP could both exhibit the V1 pattern (cf. Kaiser 1999; Ribeiro 1995), which in French was restricted to VS, while in Portuguese it exhibited a null subject:

- (4) a. Old French V1  
**Respundi** li evesches.  
answered the bishop  
‘The bishop answered.’
- b. Old Portuguese V1  
**Quero** que m’o digas e desejo mui de coraçõ a saber...  
want.1SG that me=it tell.2SG and wish.1SG much of heart to know  
‘I want you to tell me, and I strongly wish to know...’

If we take fronted Focus structures (FocusVS) as a diagnostic of V2 structures in older periods of Portuguese, we can say that these started to disappear in the 18th century in the BP variety (Kato & Ribeiro 2009). On the other hand, the optionality between NS and overt pronominal subjects in BP started to appear by the end of the 19th century (Tarallo 1985; Duarte 1993). It is clear, therefore, that V2 structures started to disappear one century before the NS began to decline,

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<sup>4</sup>Cf. Ribeiro (1995) for OP and Torres Moraes (1993) for the Classic period. Brazilian authors acknowledge that Romance V2 is not exactly like the Germanic V2. See also Kaiser (1999) and Rinke (2009) against Old Portuguese as a V2 language.

suggesting that the two changes were independent in BP, contrary to what has been observed in French.

A number of investigations on the morphosyntax of Brazilian Portuguese point to the conclusion that variable phenomena have a very regular distribution in the country. In fact, the polarization to which Lucchesi (2009) refers should be related particularly to variation in the use of agreement markers. The author, in a recent overview of sociolinguistic polarization in Brazil (Lucchesi 2015), distinguishes those processes of variation and change that reach all sectors of Brazilian society *in the same direction* from those processes which take opposite directions, setting apart high and middle sectors from those at the base of the social pyramid. In spite of that, the author recognizes a sort of “leveling” towards non-standard variants.

In fact, the alleged contrast may be valid when we consider the rural–urban *continuum*. Results for contemporary Brazilian morphosyntax show that, when we take into account Brazilian Portuguese spoken in the cities, many so-called “non-standard” variants have reached all sectors of society, in such a way that it has become inappropriate to use the distinction standard/non-standard to refer to spontaneous speech produced by people with fewer or more years of school attendance. A possible explanation for that could be in the successive migration flows from 1940, which would give rise to intense contact among a wide range of linguistic varieties from all over the country and might, thus, be among the causes of the implementation of non-standard variants in the city, moving towards a new concept of the “standard norm”.<sup>5</sup> The fact is that, as far as the cities are concerned, descriptions of BP morphosyntax do not allow us to set a boundary to separate varieties.

In an attempt to trace the expression of referential subjects, Duarte’s (1993; 2012) diachronic analysis shows the loss of the “Avoid Pronoun Principle” (Chomsky 1981) in popular theatre plays, written in Rio de Janeiro in the 19th and the 20th centuries. The results for referential subjects can be seen in Figure 1.

The rates of null subjects across the periods analysed suggest three stages in the process of change, which coincide with changes in the inflectional paradigm triggered by apocope in the second person singular, a very common phenomenon, and third person plural, a socially constrained phenomenon, as well as by two important changes in the set of nominative pronouns, shown in Table 1.<sup>6</sup>

<sup>5</sup>The rural exodus, with data from the Brazilian Institute of Geography and Statistics, shows the deep transformation related to those intense migration flows. Brazil, an eminently rural country in 1940, reached the year of 2000 with 80% of its population in the cities.

<sup>6</sup>Considering that the first author was born in 1815 and the fourth in 1884, we could assume that the change took place at the turn of the century. We are aware of the fact that tracing linguistic

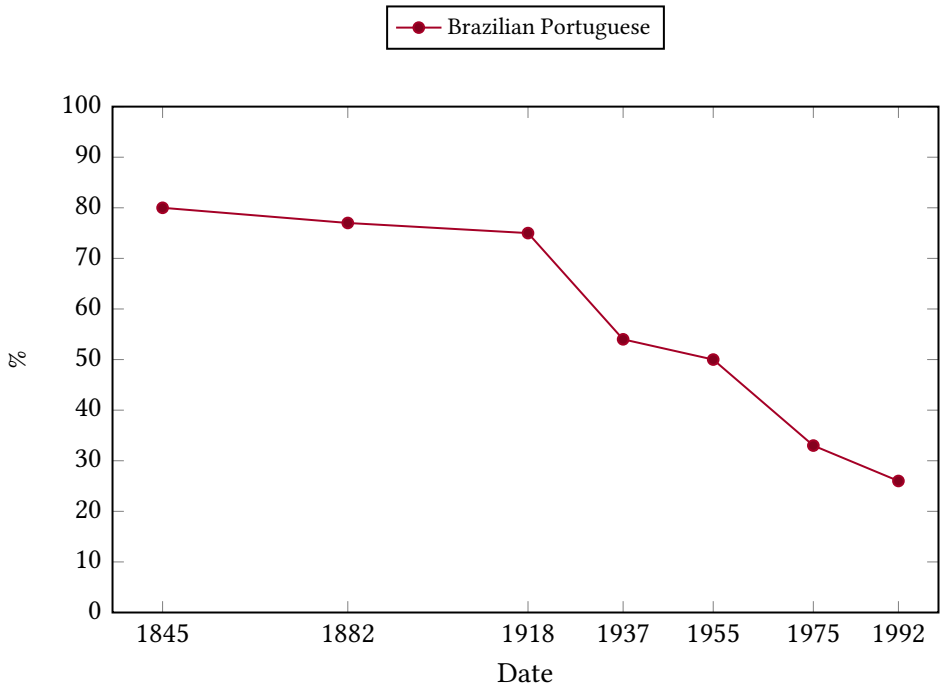


Figure 1: Null subjects in Brazilian Portuguese in two centuries (from Duarte 1993)

Table 1: Evolution of verbal inflectional paradigm in BP – *cantar* ‘to sing’ (adapted from Duarte 1993)

	Nominative pronouns	Paradigm 1 19th century	Paradigm 2 20th century/1	Paradigm 3 20th century/2
1SG	eu	canto	canto	canto
2SG	tu	cantas	cantas	canta(s)
	<i>ocê</i>	—	cantaØ	cantaØ
3SG	ele, ela	cantaØ	cantaØ	cantaØ
1PL	nós	cantomos	cantomos	cantomos
	<i>a gente</i>	—	cantaØ	cantaØ
2PL	vós	cantais	—	—
	<i>ocês</i>	cantam	cantam	canta(m)
3PL	eles, elas	cantam	cantam	canta(m)



The plays written in the first three periods, exhibit six and sometimes five different forms, with a syncretism, represented by the address forms *o(a) senhor(a)* ‘the lord’, ‘the lady’ and *Vossa Mercê* ‘Your Grace’, which all combine with third person unmarked form for singular. This is what we attest for European Portuguese. The reduction of null subjects in the 1930s and the 1950s is triggered by the grammaticalization of *Vossa Mercê* as *você*, which is fully inserted in the pronominal system as second person reference, while the pronoun *tu* is abandoned by some authors.<sup>7</sup> Those who insist in keeping *tu* and *você* in the paradigm usually mix both forms to address the same person, not only in nominative function but in accusative and dative functions as well.<sup>8</sup> This change was further aggravated by the entry of *a gente* (the folks, the people, similar in meaning to French ‘on’), in Paradigm 3, replacing first person plural *nós* (we), also requiring the unmarked third person singular agreement, due to its nominal origin.

We have enough evidence from diachronic research, according to which both processes started before the 19th century. With respect to *a gente*, Lopes (2003) shows that after a transitory period of ambiguity between a nominal reading or its interpretation as a pronoun, it is at the end of the 19th century that its full implementation is attested in variation with the conservative pronoun *nós* (we), which has an exclusive ending {-mos}. With respect to *você* (you), Lopes (2003) claims that its variation with *tu* (you) in letters, very sporadic in the 19th century, enters the system slowly in the 20th century. A side effect of this pronominalization is attested in the mixture of oblique and possessive pronouns of second and third persons in letters and plays written from the 1930s on. Today, *você* (in variation with *tu*) and *a gente* are preferred not only for definite reference but for generic reference as well, in which case the former may or may not include the speaker and the addressee, the latter must include the speaker.

Such changes have been the most significant trigger for the “impoverishment” of BP’s paradigm. Differently from the variable use of {-s} and {-m}, related to a

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change over long periods of time implies using documents that do not capture the vernacular of their writers. Quoting (Labov 1994: 11), “historical linguistics can then be thought of as the art of making the best use of bad data”.

<sup>7</sup>For some reason to be investigated, the most popular authors of this type of “light” plays written in Rio de Janeiro made a choice in favor of *você*. The city population has not abandoned the use of *tu* but it was more restricted to the suburban areas, with a number of new textile industries, where people born in the city were concentrated.

<sup>8</sup>This is real evidence of the grammaticalization of *você*; the loss of courtesy, originally distinguishing *você*, is kept in European Portuguese, which maintains the complementary distribution between *tu*, for family and close friends, and *você*, usually null, for other social relations. Explicit *você* coming from a stranger is not well accepted by older Portuguese. See Lopes & Brocardo (2016) with respect to current grammaticalization processes in BP.

phonological process (apocope) and constrained by social factors, there is no variation in the use of the unmarked verb form with the new pronouns derived from DPs. The consequence was the loss of the *functional richness* of the inflectional paradigm, in Roberts's (1993b) terms. For Galves (1993), this reduction entails the loss of the semantic feature in the category *person*. Associated with the feature *number*, the paradigm was reduced to four possible combinations:

- (5)
- |         |   |         |   |      |
|---------|---|---------|---|------|
| +person | / | −plural | > | −o   |
| +person | / | +plural | > | −mos |
| −person | / | +plural | > | −m   |
| −person | / | −plural | > | −∅   |

Such an *impoverished* or *weakened* paradigm would certainly affect the identification of an empty category.

The empirical evidence of the late implementation of the two new pronouns does not sustain the claim that it could actually be the case that the set of pronouns changed as a consequence of the changes in the inflectional paradigm. The cases of apocope shown in the chart above were certainly a consequence of contact. However, additional evidence that African slaves and their descendants did not reduce the verbal paradigm drastically comes from important written documents produced by Africans, who learned Portuguese as a second language in the State of Bahia. Such documents, written in the 19th century – along the decades of 1830 and 1840 – consist of 53 Acts of the *Sociedade Protetora dos Desvalidos* (Protecting Society of the Helpless), a fraternity founded by Africans to protect one another, who kept minutes (memoranda) of their regular meetings, written by five members. Almeida & Carneiro (2009) analysed the expression of pronominal subjects and their results show the preference for null subjects with rates of 68% for 1SG, 89% 1PL, 89% for 3SG, and 93% for 3PL. The paradigm used in the memoranda includes the pronoun *nós* for 1PL reference, with the canonical inflection ⟨−mos⟩. The cases of non-agreement are restricted to the apocope of 3PL inflection ⟨−m⟩. This discursive tradition does not favour the use of second person. All the constraints pointed out as favoring null subjects, such as co-reference and non-animate antecedents, are confirmed. The only oscillation attested in the data is related to individual performances – only one of the five authors shows a low rate of null subjects (33%); the other four exhibit overall rates above 77%.

The analyses of spoken Portuguese acquired by African descendants are not different from those obtained by Brazilians. Lucchesi's (2009) analysis of the expression of subjects based on the vernacular speech of four isolated rural Afro-Brazilian communities in the state of Bahia, with different historical and socio-

economic backgrounds, shows the same rates attested by Duarte (1995) for contemporary Portuguese spoken in the city of Rio de Janeiro.

Returning to the results in Figure 1, Duarte shows that the course of change is different with respect to first and second person on one hand and to third person on the other. In the last quarter of the 20th century null first and second person subjects reach a mean of 20%. Third person, thanks to the interaction of [+human] and [–human/–animate] referents, exhibits a slow descending curve (see Cyrino et al. 2000). Such results would be confirmed by Duarte's (1995) analysis of spoken variety of Rio de Janeiro. Referential pronominal subjects in root clauses are preferentially overt (Duarte 1995).<sup>9</sup> Second person singular, which triggered and led the change, reveals 10% of null subjects, usually pragmatically identified (6a); first person singular null subjects reach 25%, particularly when preceded by a functional category, such as a NegP, and AspP (6b):

(6) Brazilian Portuguese

- a.  $\emptyset_{2SG}$  sabe o que é pinho de riga?  
           know what is pine of riga  
           'Do you know what riga pine is?'
- b.  $\emptyset_{1SG}$  não gosto de boxe.  
           not like of boxing  
           'I don't like boxing'

Third person subjects, as mentioned, are constrained by animacy and structural patterns. In root clauses Duarte (1995) attested 36% of null subjects, usually identified by an antecedent bearing the same function in the adjacent clause or by an antecedent with discursive prominence (cf. Barbosa et al. 2005; Kato & Duarte 2014b):

(7) Brazilian Portuguese

- a. Ela<sub>i</sub> gosta de cozinhar.  $\emptyset_{3SG_i}$  Aprende com as amigas.  
           she likes of to.cook.           learns with the friends.  
           'She likes to cook. She learns with her friends'
- b. [O meu irmão ]<sub>i</sub>?  $\emptyset_{3SG_i}$  Mudou pros Estados Unidos.  
           the my brother?           moved to.the United States.  
           'My brother? He's moved to the United States'

<sup>9</sup>In short answers we can have an apparent NS with third person, but we analyse this sort of structure as resulting from the fronting/focalization of the inflected verb eventually accompanied by its adjuncts, followed by the remnant movement of the TP (cf. Kato 2016).

In embedded clauses, co-reference still plays an important role (Modesto 2000; Figueiredo Silva 2000; Duarte & Soares da Silva 2016, a.o.), with a regular distribution between overt and null subjects. Duarte's (1995) data show 32% of null subjects in this control pattern with [+human] and 44% with [–animate] referents:

(8) Brazilian Portuguese

- a. mas **ele**<sub>i</sub> sentiu [ que  $\emptyset_{3SG_i}$  era o único novo ali,  
but he<sub>i</sub> felt that was the only young there,  
recém-casado ...]  
newly-married  
'But he felt he was the only young guy there, newly married....'
- b. [ **Esse filme** ]<sub>i</sub> emocionou muita gente quando (ele)<sub>i</sub> ficou pronto  
That film<sub>i</sub> touched many people when he was ready  
'That film touched many people when it was shown'

A null subject in a subordinate clause without co-reference with the subject of the main clause is still attested if the verb of the main clause has an epistemic verb. In such contexts, which have the antecedent in an A'-position, overt subjects are also far more frequent: (Moreira da Silva 1983; Figueiredo Silva 1996; 2000, a.o.):

(9) Brazilian Portuguese

- [ **O armazém** ]<sub>i</sub> (...) quer dizer, acho [ que  $\emptyset_{3SG_i}$  já é  
the grocery-store I mean think.1SG that already is  
extinto ] né? ]  
extinct, see?  
'The grocery store... I think it's now extinct'

One significant difference between French and Brazilian Portuguese noted by Duarte (1995) was the fact that, although the two Romance languages have lost null referential subjects, French also lost the null expletive with the development of the expletives *ce* and *il* while BP retained it:

- (10) a. French  
Il fait froid.  
it is cold
- b. Brazilian Portuguese  
 $\emptyset_{EXPL}$  Faz frio./  $\emptyset_{EXPL}$  Está frio.  
does cold is cold

- (11) a. Middle French (apud Roberts 1993b: 151)  
 Il i avoit bien .xxiiij.M. archiers a piet  
 there were about 24.000 archers marching
- b. Brazilian Portuguese  
 Ø<sub>EXPL</sub> havia bem uns 24.000 arqueiros a pé  
 was about 24.000 archers marching

With the loss of the generic clitic *se*, BP shows a NS in generic constructions,<sup>10</sup> while French has the indefinite pronoun *on*.

- (12) a. French  
 On ne voit plus de rémouleurs.
- b. Brazilian Portuguese  
 Ø Não vê mais amolador-de-faca.  
 'One doesn't see knife sharpeners any more.'

However, in both languages, these constructions have nominative pronouns as variants, largely preferred in BP:

- (13) a. French  
 Vous / On ne voyez plus de rémouleurs. Nous ne voyons plus de rémouleurs.
- b. Brazilian Portuguese  
 Você / A gente não vê mais amolador-de-faca  
 'You / we don't see knife sharpeners anymore.'

There are even contexts, as illustrated in (14), where a null generic is ungrammatical in BP:

- (14) Brazilian Portuguese  
 Quando a gente / você / \*Ø<sub>GEN</sub> é menor, a gente / você não dá  
 when the people you are little, the people you not give  
 muito valor a essas coisas.  
 much value to these things  
 'When we /you are young, we / you do not value such things'

<sup>10</sup>Since the arbitrary clitic *se* is also extinct in speech, BP also exhibits a null arbitrary subject (Rodrigues 2004), at very modest rates, attested in variation with the use of a 3rd person plural verb with a null or an overt pronoun *eles* (they).

Summarizing, our empirical analysis reveals that null referential subjects are much less frequent than overt pronominals. Furthermore, the null generic subject is not the most productive strategy to represent this type of indeterminate subject; in addition, recent research does not show any sign of increasing use of it among younger generations (see Marins et al. 2017). This might support the hypothesis that null subjects in BP could be residual cases still reflecting the replaced null subject system, as far as referential (definite and indeterminate – either arbitrary or generic) uses are concerned. We will return to this matter in the following section.

### 3 Core grammar and I-language

The theory of UG tries to account for the acquisition of *core* grammars through parameter setting in a context of poverty of stimulus (Chomsky 1986), which can be understood partly as data containing competing forms due to different values of the same parameter coexisting in the input that children receive. This is exactly the situation that a child faces when there is a recent change or a change in progress as shown by the well-studied case of the Null Subject (NS) in Brazilian Portuguese (BP).

As we saw above, in the I-language of most literate Brazilian adults, a range of referential NSs are possible, competing with the innovative pronominal subjects. It is the case of the optionality of NSs and pronouns in complement clauses as in example (15):

- (15) Brazilian Portuguese  
O Pedro<sub>i</sub> disse que (ele<sub>i</sub>) fala bem espanhol.  
the Peter said that he speaks well Spanish  
'Peter said that he speaks Spanish well.'

Assuming, with Kato (2011),<sup>11</sup> that *core* grammars do not admit morphological “doublets”, and that children have only the innovative variant, we will see that pre-school children do not have pronouns competing with referential null subjects as in the above context. Kato borrows data from Magalhães (2003), who argues that referential NSs in BP are learned in school, where old forms are provided through instruction.

When the child masters complex clauses in pre-school, the NS is still almost nonexistent in his/her oral production of complement clauses. NSs start to in-

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<sup>11</sup>See also Dresher's (1999, a.o.) theory according to which children do not reset parameters.

Table 2: Pronominal and null subjects in complement clauses (adapted from Magalhães 2003)

	Pre-school	3rd/4th grades	7th/8th grades
Pronominal subjects	97.89%	78.0%	50.38%
Null subjects	2.11%	22.0%	49.62%

crease very quickly in their written performance, achieving the status of an equal variant of the overt pronoun at the end of 8th grade.<sup>12</sup>

Several studies try to analyse the nature of the NS in such constructions, where optionality is found in the adult's E-language, but what we are actually studying is a variant learned at school, and one may ask whether these NSs are an object of UG. We will return to this problem in the following sections.

The conclusion is that the only type of null subject licensed in BP *core* grammar are the non-referential NSs, namely the null expletive and the generic subjects without the clitic *se*, as they are attested during language acquisition.

(16) Brazilian Portuguese

a. Simões (2000)

$\emptyset_{\text{EXPL}}$  Tem dois aviões aqui.  
there-are two planes here.

b. Magalhães (2007)

$\emptyset_{\text{GEN}}$  pode chupar o dedo?  
can suck the finger

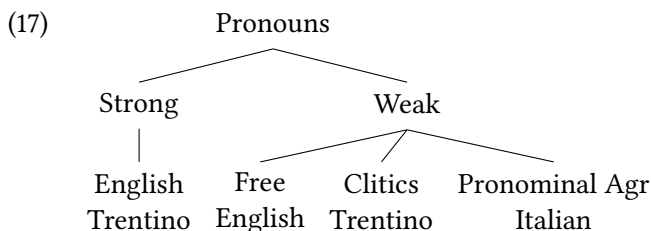
As for the E-language exhibited by the literate adult, it will be shown that the non-referential null subjects are the same as those of the Brazilian child, but the null referential ones are in variation with the overt pronominal ones.

<sup>12</sup>Kato et al. (2009) arrive at a similar conclusion with regard to Null Objects, but in the opposite direction. Children have only Null Objects in their core grammar, and acquire the lost 3rd person clitic at school.

## 4 Comparing the NS in BP with different types of languages

### 4.1 BP vs. EP, a consistent NS language

Cardinaletti & Starke (1994) distinguish three types of pronouns: strong, weak and clitic. Following Kato (1999) we will make an initial split between strong and weak forms, and will assume that weak pronominals can be one of three types: i) free pronouns, like in English, ii) clitics as in Trentino, a Northern Italian dialect or iii) agreement affixes, or pronominal Agr as in Italian and EP (cf. Fig 2). The weak pronominals are Agreement affixes in the so-called consistent *pro-drop* languages. All languages, on the other hand, have strong pronouns, which exhibit a “default” case (Kato 2000; Schütze 2001).<sup>13</sup>



Salvi’s (1997) conclusions on what happened in the beginning of Romance seem to partially support what is being proposed here. Studying the changes from Latin to Old Romance and from Old Romance to French and the Northern Italian dialects, he concludes that: (a) Latin had only one form of nominative pronouns, which, he assumes, were used as strong or weak pronouns, b) in Old Romance pronominal anaphora was not obligatory since subject clitics did not exist; (c) in French and in some Italian dialects zero anaphora (NS) ceases to exist when subject clitics appear (see also Roberts 1993b).

For Kato (1999),<sup>14</sup> pronominal Agr, understood as the grammaticalization/incorporation of personal pronouns in verbal Inflection, is claimed to be in cross-linguistic complementary distribution with weak pronouns and subject clitics.

<sup>13</sup>Moreover, strong pronouns are always deictic, or referential, while weak pronouns can be deictic or referentially dependent. Strong pronouns are always [+human] while weak pronouns can be [+human] or [–human].

<sup>14</sup>See also similar views in Barbosa (1995); Alexiadou & Anagnostopoulou (1998); Ordóñez & Treviño (1999).



Thus, the loss of one implies the introduction of the other type of weak pronouns.<sup>15</sup>

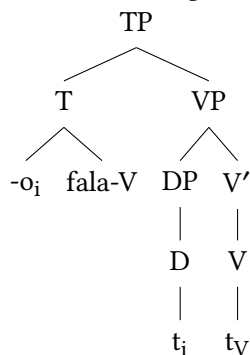
In BP the great innovation was the introduction of an English-like paradigm of weak pronouns partially homophonous with the strong ones (Nunes 1990; Kato 1999) in place of the old pronominal Agr system.<sup>16</sup>

(18)	Strong	weak	Strong	weak
	EU (I)	[eu/ô]	NÓS (we)	[nós]
	VOCÊ (you)	[cê]	VOCÊS (you)	[cêis]
	ELE (he)	[ele/ei]	ELES (they)	[eles/eis]

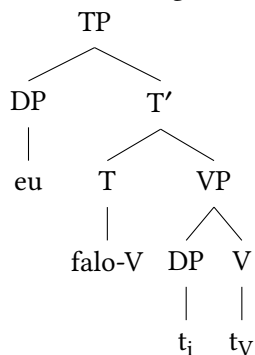
Pronominal Agr is syntactically defined by Kato (1999) as a D-category that appears in the numeration as an independent item from the verb, being first merged as an external argument of *v*, with interpretable  $\phi$ -features.<sup>17</sup> There is no Spec of T/INFL projected, as the pronominal agreement satisfies the EPP morphologically. In BP with Agr no longer pronominal, free weak pronouns are introduced, and Spec of T/INFL has to be projected. In EP, on the other hand, pronominal Agr remained and, therefore, no weak free pronouns were created.

(19) Pronominal Agr and weak pronouns

a. Before the change (EP)



b. After the change (BP)



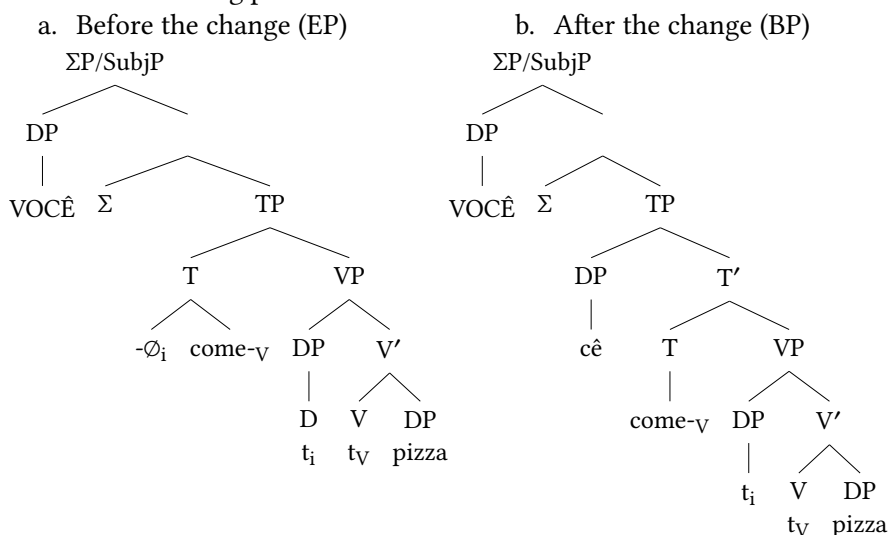
<sup>15</sup>Studying the loss of NSs in Dominican Spanish and BP, Camacho (2016: 28) proposes, in line with Kato (1999), that the change has to do with “modification in the lexical entries for inflection”, namely the introduction of weak pronouns.

<sup>16</sup>In written language the new paradigm is represented as homophonous to the strong pronouns.

<sup>17</sup>Kato’s (1999) analysis above eliminated *pro*, and its problems in a Minimalist frame: (a) the position of *pro* ceases to be a problem, (b) its presence in the numeration is eliminated and (c) it will give a coherent explanation on why there is free inversion since it will be moving a maximal projection. Brazilian Portuguese, on the other hand, cannot move T’, the reason why it lost free inversion.

Strong pronouns are in a higher projection than weak pronouns. This higher projection can be  $\Sigma$ P, as in Martins (1994), or the SubjP in Cardinaletti (2004). When the pronoun is overt in NSLs, it always has an emphatic or contrastive interpretation. If a non-NS language has an overt pronoun, the sentence exhibits subject doubling, as in BP (cf. the examples in (21), apud Kato 2012). But in either case, strong pronouns have a “default” case and are always referential and [+animate] (Kato 1999, Schütze 2001).

(20) Position of strong pronouns



- (21) a. European Portuguese  
VOCÊ, come- $\emptyset$  pizza.  
you eat pizza
- b. Brazilian Portuguese  
VOCÊ, cê come pizza  
YOU you eat pizza  
'YOU, you eat pizza.'

Taking into consideration that the referential NS of the literate Brazilian adult has been acquired through schooling, we can bring some interesting results from Barbosa et al.'s study as to what extent instruction recovers the “Avoid Pronoun Principle”, which seems to rule the speakers of a consistent NSL. ?? shows null subjects in spoken EP and BP.

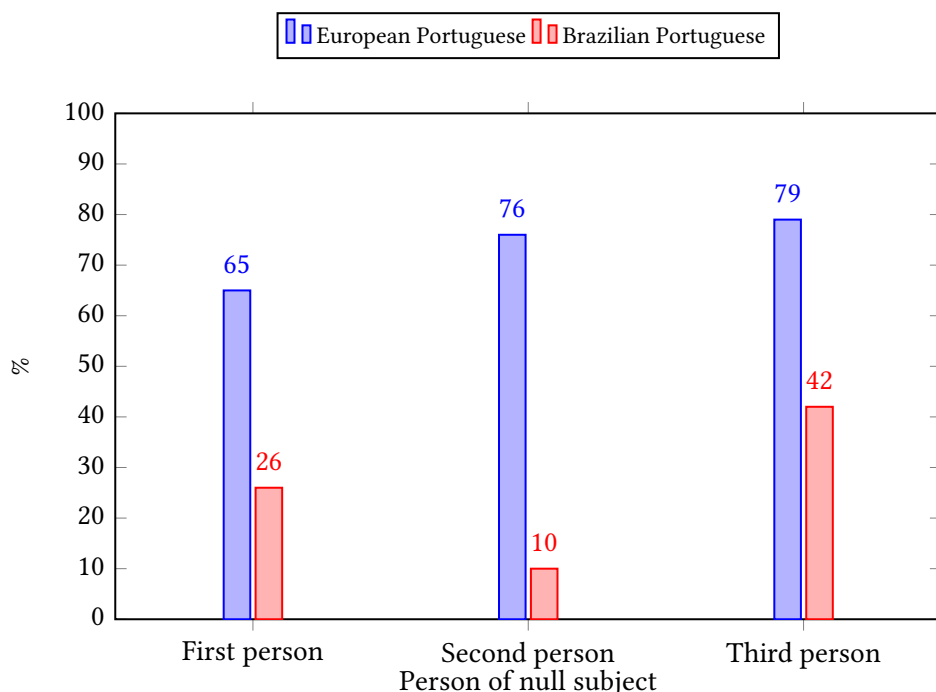


Figure 2: Null subjects in spoken European and Brazilian Portuguese (adapted from Barbosa et al. 2005, Figure 3, apud Duarte 2004)

Despite the fact that schools in Brazil try to provide the students with the old NS grammar, Brazilians produce a much higher proportion of overt pronouns than Portuguese speakers, following the same hierarchy (see examples (6) to (9) in §2.2). As we mentioned in §2.2, this has been related to (a) the neutralization of *tu* and *você* (second PS) for second person reference, (b) the replacement of *vós* by *vocês* (second PP), and (c) the introduction of *a gente* in competition with *nós*, which reduced the inflectional paradigm (see Table 1), requiring the overt pronoun for identification reasons.<sup>18</sup>

As for qualitative distinctions Barbosa et al. (2005: 19, BDK) listed the following observations:

<sup>18</sup>Most regions of the country that keep the pronoun *tu* combine it, in colloquial speech, with the same unmarked third person verb form used with *você* (*tu/você fala* – you speak). Evidence for the neutralization of both pronouns is in the fact that they are used without any distinction as regards courtesy, contrary to what happens in Portugal.

(a) A significant difference between the two varieties is in the fact that overt pronouns in EP are almost invariably [+animate], which shows that they are generally strong pronouns, while in BP they can be [+animate] or [–animate], indicating that they can be strong or weak.

(22) a. European Portuguese

Os miúdos vão pra escola e ela vai pro escritório.  
the children go to.the school and she goes to.the office  
‘The children go to school and she goes to the office.’

b. Brazilian Portuguese

Eu acho que um trabalho<sub>i</sub>, ele<sub>i</sub> teria que começar por aí.  
I think that a task it should-have to start from there.  
‘I think that a task should have to start from here.’

(b) The control relation between the antecedent and the null subject is the most favourable context for NSs in both varieties, even though BP prefers overt subjects; in EP, on the other hand, a null subject is categorical, as in (23), the exceptional cases having to do with emphatic/contrastive strong ones.

(23) European Portuguese

Ela<sub>i</sub> disse logo que Ø<sub>i</sub> tava em férias e que Ø<sub>i</sub> morava ali ao pé  
she said soon that was on vacation and that lived there near  
do liceu.  
of.the liceum  
‘She soon said that she was on vacation and that she lived there near the school.’

(c) The real variation domain of null and expressed subjects in both varieties is where no control relation obtains. It seems to be correlated with a functional factor, namely topic maintenance, which favours the NS, vs. topic shift, favouring overt pronouns (cf. also De Oliveira 2000 and Marins 2009 with respect to Italian). However, a consistent NSL will prefer a null subject even in anaphoric contexts.

(24) European Portuguese

a. Quando eu estava a trabalhar com ele<sub>i</sub> Ø<sub>i</sub> nunca me queria  
when I was at work with he never me.CL wanted  
ver na cozinha  
to.see in.the kitchen  
‘When I was at work with him, he never wanted to see me in the

kitchen.'

- b. Parece que numa ida d[ela]<sub>i</sub> à Inglaterra, ela<sub>i</sub> fez com que  
seems that in.a trip of.her to.the England, she made with that  
a rainha pedisse nossos produtos.  
the queen ordered our products  
'It seems that in one of her trips to England she made the queen order  
our products.'

To account for the finding that BP still licenses NSs, as opposed to a language like English, we have had two lines of explanation:

(a) they result from the fact that we have a change in progress, with two grammars in competition (Duarte 1993; 1995; Kato 2000), the NSs being residual occurrences of the same NS of the old grammar;

(b) the NS in BP is not a pronominal Agr, but (b1) a variable bound by a quantifier (Negrão & Müller 1996); (b2) a variable or an anaphor (Figueiredo Silva 2000); (b3) a variable bound by a Topic, the subject in BP being in A'-position (Modesto 2000); (b4) the trace of A-movement (Ferreira 2004; Rodrigues 2004; Martins & Nunes 2009).

However, according to the data in Barbosa et al. (2005) and in Kato (2009), the theories in (b) do not explain the optionality in real data, namely the presence of overt pronouns, where the NS would be the only option.

(25) Brazilian Portuguese

- a. Negrão & Müller (1996)  
Nenhuma criança acha que  $\emptyset_i$  / \*ela é burra.  
no child thinks that she is stupid
- b. Barbosa et al. (2005)  
Ninguém no Brasil<sub>i</sub> acha que ele<sub>i</sub> é prejudicado pelo  
nobody in Brazil thinks that he is impaired by-the  
governo.  
government

(26) Brazilian Portuguese

- a. Figueiredo Silva (2000)  
A Maria achou um carro que \* $\emptyset_i$  tem grana pra comprar.  
the Maria found a car that has money to buy  
'Mary found a car that she has money to buy.'

b. Kato (2009)

A Maria<sub>i</sub> achou o carro que  $\emptyset_i$  queria.  
 the Maria found a car that wanted  
 ‘Mary found a car that she wanted.’

(27) Brazilian Portuguese

a. Modesto (2000)

Paulo<sub>1</sub> convenceu o Pedro<sub>2</sub> que  $\emptyset_{1/*2/*3}$  tinha que ir embora.  
 Paulo convinced the Pedro that had to go home  
 ‘Paulo convinced Peter that he had to go home.’

b. Kato (2009)

O Paulo<sub>1</sub> convenceu o **Pedro**<sub>2</sub> que  $\emptyset_{1/2}$  devia estudar mais.  
 the Paulo convinced the Peter that should study more  
 ‘Paul convinced peter that he should study more.’

Working with the raising phenomenon in BP, Martins & Nunes (2009) try to give an account of optionality seen in (28) below as a matter of acquisition, in line with what we saw in §3. According to these authors, children start with the parameter in BP set as [–]NS, with only (28a) as a possibility, but later, in view of the input of literate speakers or writers, they add the possibility of an optional defective T in their grammar, which is incapable of checking the features of a raised subject.

(28) Brazilian Portuguese

a. Martins & Nunes (2009)

Os vizinhos parecem que compraram um carro.  
 the neighbors seem.3PL that bought.3PL a car

b. Martins & Nunes (2005)

Os vizinhos,  $\emptyset_i$  parece que t<sub>i</sub> compraram um carro.  
 the neighbors, seem.3SG that bought a car  
 ‘The neighbours seem to have bought a car.’

As in Martins & Nunes (2009) and Kato (2011), the hypothesis that we will be considering is that the Brazilian child has set the NSP to its negative value, and that the referential NSs in BP adult data result from the imperfect learning of a “second grammar”.

## 4.2 BP vs. Japanese, a radical NS language

A radical null subject (NS) language has been defined as one without rich agreement, like, for instance, Chinese and Japanese, also referred to as *discourse configurational* (DC) languages (É. Kiss 1995; Miyagawa 2010) or Topic-prominent languages (Li & Thompson 1976).<sup>19</sup> Three reasons lead Brazilian linguists to hypothesize that BP is changing towards a DC type of language<sup>20</sup>: (a) BP lost rich agreement, (b) like other DC type of language, BP not only has NSs, but also Null Objects and Bare Nouns, and (c) like other DC types of language, BP does not dispose of lexical expletives, in accordance with Li & Thompson's (1976) assumption for Topic prominent languages.<sup>21</sup>

With existential sentences, what we have in Japanese, instead of the expletive, is the morpheme *-ga* marking the subject. For the locative raised ones, we have *-wa*, the topic marker. A sentence with *-ga* is interpreted as athetic, or a presentational, sentence, while a sentence with *-wa* is interpreted as a categorical (or predication) one.<sup>22</sup>

### (29) Brazilian Portuguese

- a. Ø Tem dois cachorros no quintal.  
has two dogs in.the yard
- b. (N)o quintal tem dois cachorros.  
in.the yard has two dogs  
'There are two dogs in the yard.'

### (30) Japanese

- a. Inu-*ga* nihiki niwa-ni iru.  
dog-NOM two yard-LOC aru
- b. Niwa-ni-*wa* inu-*ga* nihiki iru.  
yard-LOC-TOP dog-NOM two are

<sup>19</sup>The first author of the paper is a speaker of Japanese as L1, and of BP as L2, but more fluent in the latter.

<sup>20</sup>See the first proposals in Pontes (1987) and Kato (1989). Actually they propose that BP is a Topic and Subject prominent language in Li & Thompson's (1976) terminology. More recently, see Negrão & Viotti (2000); Modesto (2008) with a similar view.

<sup>21</sup>Kato & Duarte (2014a) proposed the movement of an internal constituent to SpecTP in BP, instead of the direct merging of the null expletive (cf. Chomsky 2004). But, in later work, Kato & Duarte (2014b) show that the two resulting constructions co-exist, one in categorical constructions and the other in thethetic one.

<sup>22</sup>See Kuroda (1972) for this terminology. Existential sentences are typicalthetic sentences. In BP the subject is a null expletive when it is athetic sentence, but if the locative raises to subject position it is a categorical sentence like sentences with *-wa* in Japanese.

Weather constructions in BP have (a) the verb denoting the climatic event with a null expletive as the subject (cf. (31a), or (b) like Japanese, the subject denoting the event with a general verb of motion *cair* ‘fall’ as in (31b). The third possibility is locative raising to the subject position (31c). Moreover, in this case the sentence is categorical and the subject triggers agreement in BP, but not in Japanese.

(31) Brazilian Portuguese

- a. Ø Está nevando desde ontem    nesta cidade.  
       is    snowing since yesterday in.this city  
       ‘It is snowing since yesterday in this city.’
- b. A neve cai desde ontem    nesta cidade.  
       the snow falls since yesterday in.this city  
       ‘The snow has been falling since yesterday in this city’
- c. As cidades nessa região nevam muito.  
       the cities    in.this region rain.3PL a lot  
       ‘In the cities in this region it rains a lot.’

(32) Japanese

- a. Yuki-ga    kinoo-kara    fute-iru.  
       snow-NOM yesterday-since raining-is  
       ‘The snow falls since yesterday.’
- b. Kono-hen-no matchi-wa yoku yuki-ga    furu .  
       this region    city-TOP    well snow-NOM fall  
       ‘The cities in this region snow a lot.’

But besides the existential and the weather verb sentences, BP has another NS similar to Japanese, namely the null generic and arbitrary sentences.

(33) Brazilian Portuguese

- a. Ø conserta sapato.  
       repairs shoes
- b. Ø kutsu-o    nao-shimasu.  
       shoes-ACC repair-do  
       ‘One repairs shoes.’

In order to analyse the NS of generic and arbitrary sentences, Kato (2000) made use of PRO for finite contexts, adapting Huang’s (1989) idea of *generalized control*



*theory*. We can support this view as, with the deterioration of inflection, finite sentences tend to behave as infinitive or gerundive clauses. Kato also assumes that PRO is the strong null third person pronoun and we are assuming with Tomioka (2003) that the weak pronoun in Japanese is a Null Noun. We would have the following representation in BP for a non-referential generic sentence with the NS. The nominal [<sub>NP</sub>  $\emptyset$ ] in (34) would correspond to the English nominal *one*, or the French *on*.

- (34) [ PRO<sub>i</sub> [ [<sub>NP</sub>  $\emptyset$  ]<sub>i</sub> conserta sapato ]]

Just like with existentials, we can have raising of a locative, both in BP and Japanese, with the same categorical reading

- (35) a. Brazilian Portuguese  
Aqui conserta sapato.  
b. Japanese  
Koko-de-wa kutsu-o nao-su.  
'Here one repairs shoes.'

This parallel behaviour between agreement and a Discourse feature can be explained in terms of Holmberg & Nikanne (2002), for whom Topic and Focus are formal features, equivalent to  $\phi$ -features. Miyagawa's (2010) implements this idea in an interesting way to derive agreement languages vs. discourse configurational languages. In his analysis, discourse features forces movement in the same fashion as does agreement. In the spirit of Chomsky's (2007; 2008) proposal of merging  $\phi$ -features in C, with their subsequent percolation to T,<sup>23</sup> Miyagawa's proposal is to merge the discourse-features ( $\delta$ -features) in C as an alternative to the  $\phi$ -features, which would also trigger movement.<sup>24</sup> He admits, moreover, that there are also mixed types of languages, such as Turkish, which can percolate both types of features.

We may say that BP is this mixed kind of language as raising is triggered if the DP is a topic, but, at the same time, T inherits agreement features, as can be seen in (31c).

<sup>23</sup>Miyagawa uses  $\phi$ -probes, instead of  $\phi$ -features.

<sup>24</sup>Naves et al. (2013) provide the first attempt to analyse BP using Miyagawa's theory. Though it is similar in approach, the purpose of the present analysis is to compare Japanese and BP using the same theoretical frame.

### 4.3 BP: A PNS language?

This section brings some support to Biberauer's comment, presented at the beginning of this chapter, namely to the fact that this group seems to include several sub-types of languages.

According to Holmberg & Nikanne's (2002) well-known article on Finnish, this language has the following properties related to the subject position: (a) it has a rich agreement system; (b) but, contrary to consistent NSLs, the NS is *optional* (even though extremely rare in speech) with first and second persons (36a,b) while third person subjects, animate or inanimate, must be *overt* in matrix clauses (36c), with null subjects allowed only in embedded clauses under the requirement that they be bound by the closest controller (see similar examples for BP in (8) and (9) in §2.2); (c) expletives can be optional with weather-verbs and extraposed sentences (36d); (d) but are obligatory with existential type of predicates (36e), and e) it is a topic prominent language in the sense that the EPP can be satisfied only by referential categories, such as temporal adverbials and locatives or even DPs, apparently to avoid V1 (36e), (37a,b).

#### (36) Finnish

- a. (Minä) ol-i-n        väsynyt.  
I        be-PST-1SG tired
- b. (Sinä) ol-i-t        väsynyt.  
thou be-PST-2SG tired
- c. Hän        ol-i        väsynyt.  
he / she be-PST.3SG tired
- d. Nyt (se) taas sataa.  
now it again rains
- e. Sitä leikkii lapsia kadulla.  
EXPL play children in.street  
'There are children playing in the yard.'

#### (37) Finnish

- a. Tämän kirjan on kirjoittanut Graham Greene.  
this book has written Graham Greene
- b. Tanään leikkii lapsia kadulla.  
today play children in.street

Holmberg et al. (2009) and Holmberg & Sheehan (2010) account for the data above assuming that (a) the NSs in PNS languages are full pronouns, deleted

at PF,<sup>25</sup> and (b) that the non-referential cases can be explained as the lack of a D-feature in T.<sup>26</sup>

Moreover, according to the authors, subjects and non-subject topics occupy the same position in Finnish: SpecFP. In generic sentences the expletive *sitä*, which is not nominative, also occupies SpecFP.

(38) Finnish

Sitä väsy nykyään helpommin kuin ennen.  
EXPL gets-tired nowadays easier than before  
'One gets tired these days easier than before.'

Holmberg (2005) later includes generic subjects in the list where the subject can be null:

(39) Finnish

Täällä ei saa polttaa  
here not may smoke  
'One can't smoke here.'

As was shown in §4.1, the weakened BP agreement morphemes have developed into a system of weak free pronouns, but without developing a lexical expletive. This is the opposite of Finnish, with its rich pronominal agreement paradigm, but which, surprisingly, displays a lexical expletive, a property of [–NS] languages, except that it is not nominative. The creation of weak pronouns in BP, like in French, also explains why BP null generic subjects occur in variation with overt weak pronouns, which may include either the speaker, *a gente* 'the people' (= 'we folks') or the speaker, *você* 'you', both with third person agreement. Although the null generic subject in BP (39a) shares characteristics of the Japanese Null Noun, in the latter, the generic, or indefinite, subject cannot be encoded by weak pronouns as in (40b,c). The same seems to be the case in Finnish, as according to Holmberg (2005: 540): "..., in partial null-subject languages generic pronouns can, and must, be null".

(40) Brazilian Portuguese

a. Ø Pode comer a pizza agora.  
can eat the pizza now

<sup>25</sup>The authors who propose this PNS type of language follow Perlmutter's (1971) old thesis of NSs as deleted pronouns. See also Roberts (2010) with an analysis of NSs along the same lines.

<sup>26</sup>A different analysis is provided by Barbosa (2013), who follows Tomioka (2003). The NS in discourse pro-drop languages for the author is a null NP anaphora.

- b. **Você** pode comer a pizza agora  
you can eat the pizza now
- c. **A gente** pode comer a pizza agora.  
we-folks can eat the pizza now  
'One can eat the pizza now.'

As for referential NSs, BP differs significantly from Finnish in that BP null second person is almost completely absent, restricted to questions, whose subject is pragmatically identified. First person null subjects are also on the way to obsolescence, in matrix and in embedded clauses. Third person subjects, as illustrated in §2.2, are allowed but not frequent either in matrix or in embedded clauses, obeying the same requirement of an accessible prominent antecedent (see Kato & Duarte 2014a,b).

§4.2 revealed, additionally, that BP is a sort of Discourse Configurational language. There is a difference, however, between topic sentences in Finnish and topic ones in BP. In the latter the topic-subjects are in A-position, triggering agreement, while in the former, it is proposed to be located in SpecFP.

The Brazilian system also allows merging of a non-argument in existentials, instead of the null expletive, usually a demonstrative or the very pronoun *você*, which, besides its definite second person reference, has developed a generic one, to finally appear inserted in an existential or any impersonal sentence. This brings support to Avelar & Galves's (2011) claim that SpecTP in BP is  $\varnothing$ -independent, or we can say, following Miyagawa (2010), that T in BP can inherit both  $\varnothing$ - and  $\delta$ -features.

(41) Brazilian Portuguese

- a.  $\varnothing_{\text{EXPL}}$  era em torno de mil pessoas.  
was around a thousand people
- b. **Aquilo / isso** era em torno de mil pessoas.  
that was around a thousand people  
'It was around a thousand people'

(42) Brazilian Portuguese

- a.  $\varnothing_{\text{EXPL}}$  não tem mais comércio no centro da cidade.  
not have more commerce in.the center of.the city
- b. **Você** não tem mais comércio no centro da cidade  
you not have more commerce in.the center of.the city  
'There is no commerce downtown anymore'

Summarizing, BP has been included among PNS languages by Holmberg & Sheehan (2010). However, if only its spoken vernacular language is taken into consideration, it becomes clear that its dissimilarities with other PNS languages are greater than its similarities.

#### 4.4 BP vs. English, a [–NS] language

We have seen in §2 that the deterioration of verbal pronominal affixes led BP to replace them with free weak pronouns and quasi-homophonous strong ones, but without a “default” case. The examples below show the substantial replacement of NSs with overt pronouns in one century (Duarte 1993; 2012).

##### (43) Brazilian Portuguese

- a. Quando  $\emptyset_{1SG}$  te vi pela primeira vez,  $\emptyset_{1SG}$  não sabia que  $\emptyset_{2SG}$  eras viúva e rica.  $\emptyset_{1SG}$  Amei-te por simpatia. (Martins Pena, 1845)  
‘When (I) saw you for the first time, (I) didn’t know that (you) were a widow and rich’
- b. Se **eu** ficasse aqui **eu** ia querer ser a madrinha. (M. Falabella, 1992)  
‘If I stayed here I would want to be the god-mother.’

- (44) a.  $\emptyset_{2SG}$  Terá o cavalo que  $\emptyset_{2SG}$  deseja. (G. Tojeiro, 1918)  
(you) will-have the horse that (you) want.
- b. **Você** não entende meu coração porque **você** ‘tá sempre olhando pro céu ... (M. Falabella, 1992)  
‘You don’t understand my heart because you are always looking at-the sky.’

Moreover, BP underwent two changes with regard to generic “*se*” constructions seen above: first it lost the clitic “*se*” resulting in the NS; second, as seen above, impersonal *se* is being preferably replaced by the personal form with *você* or *a gente* (see Figure 3).

- (45) a. cf. Italian  
 $\emptyset_{GEN}$  não **se** pode entrar de sapato.  
not *se* can enter of shoes
- b. cf. Japanese  
 $\emptyset_{GEN}$  não pode entrar de sapato.  
not can enter of shoes

c. cf. English

**Você / a gente** nao pode entrar de sapato.

‘You / the folks can’t get in with your / one’s shoes on.’

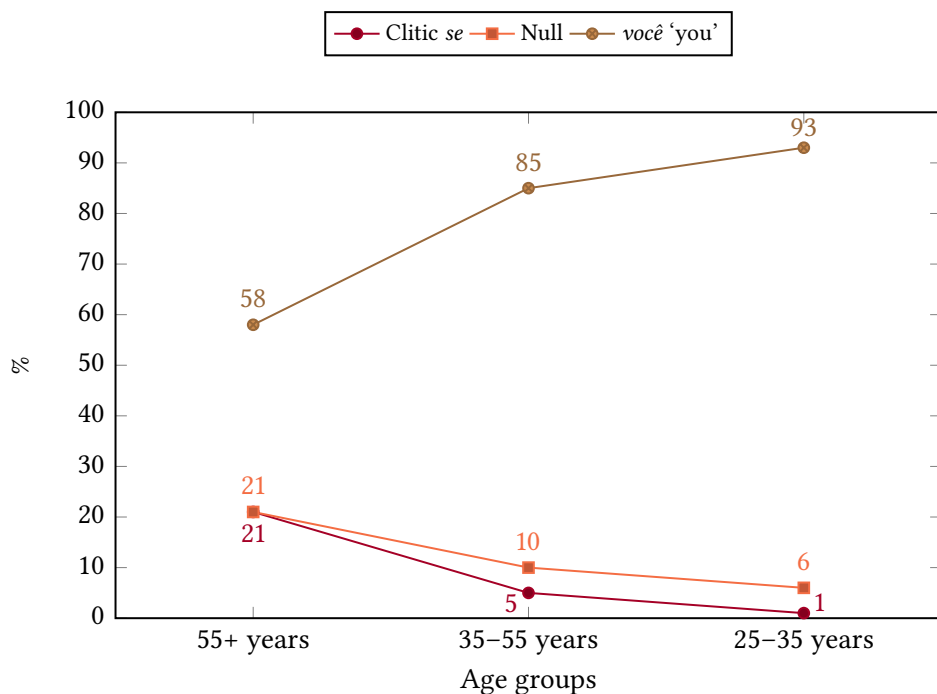


Figure 3: Generic subjects in Brazilian Portuguese in three generations

Further evidence that BP has become a [–NS] language is in the fact that subject doubling (or left dislocation) is frequent in daily speech.<sup>27</sup>

(46) Brazilian Portuguese

a. Eu acho que **um trabalho<sub>i</sub>**, **ele<sub>i</sub>** teria que começar por aí.

‘I think that a work it would have to start from there.’

b. ... é porque existe uma filosofia que **o preço<sub>i</sub>**, **ele<sub>i</sub>** tem uma paridade.

‘(It)’s because (there) exists a belief that the price (it) has a parity.’

<sup>27</sup>See Britto (2000), for whom the loss of VS order in BP madethetic sentences exhibit the SV order, and the categorical sentence exhibit a Left Dislocation structure.

Though doubling is possible in NSLs like Spanish, it is inaudible because the subject is the pronominal agreement. BP, on the other hand, pairs up with English, a non-NS language, with null non-referential subjects, and their doubling is similar.

- (47) a. YO<sub>i</sub>, com-o<sub>i</sub> pizza.  
 b. ME<sub>i</sub>, I eat pizza.  
 c. EU, [ô] como pizza.

Roberts (1993a) shows that, when French became a [-]NS language, it also started having subject doubling. A further subsequent change in French was that the “default” case of its strong pronouns changed from nominative to dative. BP retained the same case of the old strong pronouns.

- (48) French  
 a. Renars respond: **Jou**, **je** n’irai.  
 b. Et **jou je** cuit.  
 c. **Moi**, je le cuit.

Another similarity to [-]NS languages is present in complement contexts. When the embedded subject is a pronoun, BP is exactly like English (EN) in anaphoric interpretation. However, its NS is distinct in interpretation from the NS in EP, a prototypical NSL, and similar to the NS in Japanese, a radical type.

- (49) Brazilian Portuguese = English  
 a. [ John’s<sub>i</sub> father<sub>k</sub> ]<sub>j</sub> said that he<sub>i/k/j</sub> was stupid.  
 b. [ O pai<sub>i</sub> do João<sub>k</sub> ] disse que ele<sub>i/k/j</sub> era estúpido.

- (50) Brazilian Portuguese ≠ European Portuguese, Brazilian Portuguese = Japanese  
 [ O pai<sub>i</sub> do João<sub>k</sub> ]<sub>i</sub> disse que Ø<sub>i/\*k/j</sub> era estúpido

Recall that (49b) is the form that a pre-school child would produce, while (50) is the one that may be produced by some Brazilians after schooling in formal settings.

#### 4.5 BP vs. Icelandic, a semi [–NS] language

Up to now, we have been considering three types of NSLs: the consistent, like EP, the radical like Japanese, and the Partial NSL like Finnish. We also saw a prototypical example of a [–NS] language, namely English.

We have now to consider the *semi pro-drop type*, like German, namely languages that were defined as having only Null Expletives. Biberauer (2010) prefers to call these languages *semi Null Subject (semi-NS) languages*. The author considers that *semi NSLs* deserve a further division between languages like German and Dutch, which have only true Null Expletives, and the Icelandic and Yiddish type, which also dispose of the NS with weather verbs (cf. also Huang 2000).

If we consider that referential NSs in Brazilian core grammar are [–NS] and that it disposes of Null Expletives, we might propose that BP is actually a **semi** [–NS] language, as was defended in Saab (2016), with both *quasi*-argumental (weather verbs) and true expletive NSs.

What we should point out, however, is the fact that in both types of *semi NS* language, the expletive can be overt or null (Biberauer 2010), while in Brazil there are no overt expletives, like in consistent NSLs.

##### (51) Icelandic

- a. Overt expletive  
það rigndi í gaer.  
it rains on morning
- b. Null expletive  
Í gaer rigndi (\*það).

However, concerning generic null subjects, Icelandic is exactly like BP. According to Sigurðsson & Egerland (2009), this language has Null Expletives and, in addition, the following generic types of sentences: (a) *generic*, like generic English *you*; (b) *arbitrary*, like English *they*; and *Specific* often referring to the speaker or a group including the speaker.

##### (52) Icelandic (Sigurðsson & Egerland 2009: 160)

- a. Í þessari fjölskyldu drekkur þú bara ekki áfengi  
in this family may.3SG you just not alcohol  
‘In this family, one just does not drink alcohol.’
- b. Þeir segja að það rigni á morgun.  
they.M say.3PL that it rains on morning  
‘They say it is going to rain tomorrow.’



- c. Menn náðu bófanum um kvöldið.  
men caught.3PL culprit.the in evening.  
'They caught the culprit in the evening.'

BP can have exactly the same type of generic/arbitrary NSs:

(53) Brazilian Portuguese

- a. Ali Ø não chega em 30 minutos  
there not arrives in 30 minutes  
b. Na nossa família Ø não bebe pinga.  
in our family not drinks brandy  
c. Eles dizem que Ø vai chover amanhã.  
they say that goes to.rain tomorrow  
d. Ø Pegaram o culpado ontem à noite.  
(they) caught the culprit yesterday evening

What is different with respect to BP is the variation allowed between the NS and the weak pronouns (*você* and *a gente*), a possibility nonexistent in Icelandic.<sup>28</sup>

(54) Brazilian Portuguese

- a. Ali **você** não chega em 30 minutos  
there you not arrive in 30 minutes  
b. Na nossa família **a gente** não bebe pinga.  
in our family we (the folks) not drinks brandy  
c. **Eles** pegaram o culpado ontem à noite.

It seems, therefore, that *semi* NS languages should be split in three types, the last of which has referential overt pronouns, Null expletives and Null Generic subjects.

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<sup>28</sup> As shown before, BP allows personal sentences with climate verbs:

- (i) Essas florestas tropicais chovem muito.  
'These rain forests rain.3PL a lot.'  
(ii) Todos os meus aniversários chovem, porque eu faço aniversário em novembro.  
'All the my birthdays rain.3PL, because my birthday is in November.', lit. '... I do birthday in November'

## 5 Conclusions

After examining several empirical and theoretical works related to syntactic phenomena in Brazilian Portuguese, Roberts (1993a: 411) considered that BP was in fact undergoing a series of deep changes along the past century, which suggested parametric changes in progress. He added that the authors' privileged patrimony was mainly in the rich "raw material" they worked with, combining quantitative evidence and theoretically inspired hypotheses.

The present chapter reports on work done on the NS conducted after Roberts & Kato's (1993) edited volume, and contains a reflection about the nature of the NS phenomenon in BP in light of recent theoretical hypotheses on the NS Parameter.

We compared BP with five language types: (a) the consistent [NS] type; (b) the radical [NS] type; (c) the partial [NS] type, (d) the [–NS] type and the semi [–NS] type. The comparison has led to the following summary:

(a) except for the expletive NS, BP **core** grammar has almost entirely lost any similarities with EP, a consistent NSL;

(b) (i) generic sentences with NSs are similar to the Japanese NSs ones, but BP generic sentences resort more frequently to personal constructions with *você* and *a gente*; (ii) Japanese raising structures are superficially similar to the BP ones, as in the latter they trigger agreement, whereas in Japanese the subject gets the topic marker *-wa*.

(c) (i) Finnish is similar to BP **written language**, in the optionality between referential NS and overt pronouns; (ii) even though Finnish and BP often resort to topicalization, in BP topics are in SpecTP, triggering agreement, while in Finnish they seem to be in SpecFP, an A'-position;

(d) (i) BP has no lexical expletives or indefinite pronouns like *one* in English; (ii) but, in its referential NSs, BP is exactly like English in production and comprehension: a [–NS] language.

In conclusion, the core grammar of BP is (i) a [–NS] language with regard to referential subjects, and (ii) a [+NS] of the consistent type regarding Null expletives; and (iii) a [+NS] of the radical type concerning the null generic subjects. As for the system of the literate adult, it maintains the Null expletives and Null generic subjects of the core grammar, while, with regard to referential expressions, they are partly pronominal (DP), like in the child core grammar, and [–NS] like English.

## Abbreviations

1	first person	NOM	nominative
2	second person	NSL	null-subject language
3	third person	NSP	Null Subject Parameter
ACC	accusative	OFr	Old French
BP	Brazilian Portuguese	OP	Old Portuguese
CL	clitic	PF	phonetic form
EP	European Portuguese	PL	plural
EPP	extended projection principle	PNS	partially null subject
EXPL	expletive	PST	past
GEN	generic	SG	singular
LOC	locative	TOP	topic
M	masculine	UG	Universal Grammar

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## Chapter 18

# Brazilian Portuguese null objects and Spanish differential object marking

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Animacy features have been known to trigger syntactic phenomena. In this paper, I focus on differential object marking (DOM), and the null object in Brazilian Portuguese, where such features are relevant. I assume that animacy corresponds to a specification of Person features, and lack of animacy implies that no Person features are encoded in a DP. Furthermore, I propose that animacy is encoded in a dedicated functional head. Animate DPs (i.e. DOM in Spanish and animate objects in BP) move to Spec,  $FP_{\text{animacy}}$ , a projection above V, below  $v$ , to check a person feature. Crucially, inanimate DPs stay in situ. They are not DOM marked in Spanish and, by virtue of being low, they can be licensed as DP ellipsis in BP. This analysis may contribute to work seeking to grasp the role of referential hierarchies in syntax.

## 1 Introduction

The relevance of certain “semantic/relational/accessibility hierarchies” to explain a number of syntactic phenomena in several languages has been frequently noticed in the literature (Silverstein 1976; Aissen 2003 among others). In this view, nominal phrases should be ordered in accordance with “referential/accessibility” hierarchies (cf. Aissen 2003).

In this paper, following ideas in Carnie (2005) and Merchant (2006), I propose a syntactic approach to account for the role of animacy features. Under my account, animacy features trigger movement of the animate object to a position outside VP.

The paper is organized as follows: in §2, I present the syntactic phenomena under scrutiny, that is, null objects in Brazilian Portuguese and differential object



marking in Spanish. In §3, I present my proposal, and in §4, I review proposals in the literature and discuss how referential hierarchies can be thought of in syntax. The conclusion is that this analysis may contribute to work seeking to grasp the role of animacy features in syntax.

## 2 Animacy and syntactic phenomena

There are several different syntactic phenomena where the animacy of the nominal expressions seems to be crucially relevant. In this section, I focus on null objects in Brazilian Portuguese and on differential object marking in Spanish. These are two phenomena that have been shown to be sensitive to animacy features of the object DP in these languages.

### 2.1 Null objects in Brazilian Portuguese

Brazilian Portuguese (hereafter, BP) allows null objects with specific properties that differentiate them from the various types of null objects allowed in other languages (Cyrino & Lopes 2016). It has long been noted (Omena 1978; Pereira 1981; Duarte 1986, among others) that the antecedent of the null object is [–animate], as in (1a) vs. (1b). However, a full pronoun is usually needed when the antecedent is an inanimate DP with a specific reading (2a), or when it is animate (2b):

(1) Brazilian Portuguese

- a. A estudante levou o livro para a biblioteca depois que ela  
the student took the book to the library after that she  
leu  $\emptyset$ .  
read  
'The student took the book to the library after she read (it).'
- b. \*A estudante levou o menino para o cinema depois que ela  
the student took the boy to the cinema after that she  
beijou  $\emptyset$ .  
kissed

(2) Brazilian Portuguese

- a. A estudante levou um livro para a biblioteca depois que ela leu  
the student took a book to the library after that she read  
(ele)  
it  
'The student took a (specific) book to the library after she read (it).'

- b. A estudante levou um menino para o cinema depois que ela  
the student took a boy to the cinema after that she  
beijou **ele**.  
kissed him

‘The student took a (specific) boy to the cinema after she kissed him.’

Besides this sensitivity to animacy,<sup>1</sup> anaphoric null objects in BP, such as (1a) have a cluster of properties that set them apart from the null objects of other languages (see Cyrino & Lopes 2016). First, they may occur in islands for movement, unlike in European Portuguese (Raposo 1986) or Chinese (Huang 1984). Additionally, they do not allow their antecedents to be the subject of the matrix sentence, unlike in Japanese (Ohara 2007). Finally, they allow strict and sloppy readings, a property related to the possibility of ellipsis (Fiengo & May 1984, among others): sentence (3) is ambiguous: in the strict reading Pedro’s friend left Pedro’s car in the street; in the sloppy reading, however, Pedro’s friend left his (own) car in the street.<sup>2</sup>

(3) Brazilian Portuguese

Pedro guardou um carro na garagem, mas seu amigo deixou ∅ na  
Pedro put a car in.the garage but his friend left in.the  
rua.  
street

‘Pedro put a car in the garage, but his friend left (it) in the street.’

Because of these properties, null objects have been analyzed as DP ellipsis by Cyrino (1994; 1997), that is, as inaudible DPs that have identical antecedents. This analysis is based on the fact that Brazilian Portuguese (BP) lost third person clitics; in other words, these anaphoric elements were replaced by ellipsis due to a

<sup>1</sup>There is sensitivity to specificity as well, as seen in examples (1)–(2). I will come back to this issue in §3.

<sup>2</sup>BP is a language that allows vP (V-stranding) ellipsis, in which case the verb is the same in both clauses (i) (see Cyrino & Matos 2005 for a distinction between vP ellipsis and null objects in Portuguese):

- (i) Pedro escondeu seu dinheiro no armário, e sua mãe também escondeu \_\_\_\_.  
Pedro hid his money in.the closet and his mother too hid  
‘Pedro hid his money in the closet and his mother did too.’

In order to exclude the possibility for a vP ellipsis analysis of this sentence, a different verb (*guardou* ‘put/kept’, *deixou* ‘left’) is used in each clause in (3), and a PP is present to show that only the object, and not the whole vP, is elided.

diachronic process relating the increase of certain kinds of ellipsis (see below) to the loss of third person (inanimate) clitics.

European Portuguese, a language to which BP is diachronically related, has always allowed the construction seen in (4), which was dubbed as “propositional ellipsis” by Cyrino (1994; 1997). In this construction, the elided sequence may be replaced by a neuter clitic *o* ‘it’, as in (5). Interestingly (4), as opposed to (5), is grammatical in contemporary BP:

- (4) ✓ European Portuguese, ✓ Brazilian Portuguese  
Pedro vai casar amanhã mas Maria não sabe  $\emptyset$ .  
Pedro go marry tomorrow but Maria not know  
‘Pedro is going to get married tomorrow but Mary doesn’t know (that  
Pedro is going to marry tomorrow / it).’
- (5) ✓ European Portuguese, ✗ Brazilian Portuguese  
Pedro vai casar amanhã mas Maria não o sabe.  
Pedro go marry tomorrow but Maria not it know  
‘Pedro is going to get married tomorrow but Mary doesn’t know it.’

Given these facts, Cyrino (1994; 1997) argues that in European Portuguese there has always been a free choice between the use of propositional ellipsis or the neuter clitic *o* in its place. The author shows that, indeed, there are no changes through time in these constructions in the European Portuguese diachronic data she investigated.

In contrast to European Portuguese, however, the BP diachronic data investigated by Cyrino show an important change in the occurrence of these constructions. She found there is an increase for the ellipsis option, and a decrease in the use of the neuter clitic, as seen in Figure 1.

Cyrino (1994; 1997) proposes that there was an extension of the ellipsis construction to other inanimate objects; therefore, the null object in BP has appeared with a property that is characteristic of ellipsis, namely, the strict/sloppy ambiguity seen above.

With respect to ellipsis, it has been argued in the literature it must be licensed by a functional head (Lobeck 1995; Kester 1996). In English, for example, *vP* ellipsis is licensed by *T*, which has to be filled either with certain auxiliaries or lexical *be/have* (Lobeck 1995). This allows an elided *vP* sequence to be possible. Portuguese has *V*-raising, therefore, not only auxiliaries, but also lexical verbs license *vP* ellipsis, since they move up to *T* (Matos 1992; Cyrino & Matos 2002).



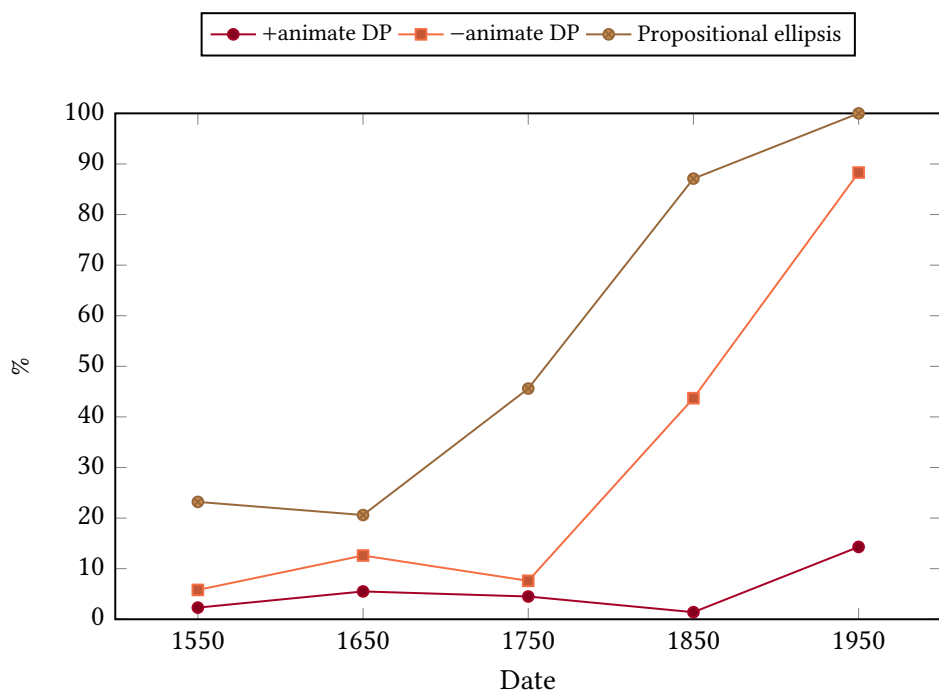


Figure 1: Diachronic change for DP ellipsis (null objects) and propositional ellipsis (adapted from Cyrino 1994; 1997)

This kind of *vP* ellipsis has been called *V-stranding ellipsis* (Santos 2009, Goldberg 2005) since the (auxiliary, lexical) *V* is stranded in *T* and the remaining *vP* is elided.

BP, however, has lost verb movement to a high functional projection (*T*) (Galves 2001), and *vP* ellipsis is licensed by *V* in an Aspectual head (Cyrino & Matos 2002; 2005; Cyrino 2010; 2013), that I assume in this paper is *AspectOuter* (MacDonald 2008).

As a consequence, both *vP* ellipsis and DP ellipsis (null objects) can be licensed, since they are c-commanded by *V* in a functional projection (lower than *T*), contrary to what happens in European Portuguese (see Cyrino & Matos 2016):

#### (6) Brazilian Portuguese *vP* Ellipsis

- a. Ela tem lido o livro para as crianças e ele tem também lido  $\emptyset$ .  
 She has read the book to the children and he has too read  
 ‘She has read the book to the children and he has too.’

- b. [ ... o livro para as crianças ... ] ... ele [<sub>T</sub> tem] [<sub>VP</sub><sub>AUX</sub> <tem>] [<sub>AdvP</sub> [<sub>Adv</sub> também] [<sub>Asp</sub> PerfP lido [<sub>vP</sub> ~~o livro para as crianças~~ ]]]

Cyrino (2016), based on Cyrino & Matos (2005), proposes that the same licensing mechanism is available for the null object in BP. The difference with vP ellipsis is that DP ellipsis of the object is licensed by the V in a lower aspectual head located between vP and VP, AspectInner (MacDonald 2008; but see Lopes 2014; 2015, for a more recent proposal on “low ellipses” for the null object in BP):

(7) Brazilian Portuguese null object

- a. Ela tem lido o livro para as crianças e ele tem também lido  
 She has read the book to the children and he has too read  
 para as mães.  
 to the mothers  
 ‘She has read the book to the children and he has also read it to the mothers.’
- b. [[ ... o livro para as crianças ... ] ... ele [<sub>T</sub> tem] [<sub>VP</sub><sub>AUX</sub> <tem>] [<sub>AdvP</sub> [<sub>Adv</sub> também] [<sub>Asp</sub> PerfP lido [<sub>vP</sub> [<sub>Asp</sub>Inn [<sub>Asp</sub>Inn+V <lido>] [<sub>VP</sub> <V>] [<sub>DP</sub> o livro] para as mães]]]]

However, as shown by Cyrino (1994; 1997), BP animate null objects are possible in certain contexts:

(a) a vP ellipsis (V-stranding ellipsis) structure, where the whole vP is elided:

(8) Brazilian Portuguese

- Lina disse que a Maria beijou o Pedro<sub>i</sub> na festa, e o Paulo  
 Lina said that the Maria kissed the Pedro at-the party and the Paulo  
 também disse que ela beijou Ø.  
 too said that she kissed  
 ‘Lina said that Maria kissed Pedro at the party, and Paulo said that she also did it.’

(b) The antecedent is a bare plural or a non-specific indefinite:

(9) Brazilian Portuguese

- Os tiras insultavam [ presos / uns presos ]<sub>i</sub> e depois  
 the cops insulted prisoners some prisoners and afterwards  
 prendiam \_\_\_\_<sub>i</sub> / \*eles<sub>i</sub>  
 locked up them  
 ‘The cops insulted prisoners/some prisoners and afterwards locked (them) up.’

These animate null objects only occur in these specific structures, whereas the inanimate null object has no such restrictions.

Assuming that inanimate null objects in BP are ellipsis, however, cannot be the full story since we have to explain why their antecedents are [–animate], as seen in (1) and (2). I come back to this issue in §3.

## 2.2 Differential object marking

Certain accusative objects are marked (either morphologically or by a preposition) in some languages when the object is [+animate] (and/or specific in some cases, see below). This phenomenon has been called differential object marking (hereafter, DOM).

Spanish is such a language: DOM is manifested in the use of the preposition *a* ‘to’ (which also marks datives) before animate objects:

### (10) Spanish

- a. He visto *\*(a)* tu padre.  
have seen to your father  
‘I saw your father.’
- b. He visto *\*(a)* tu coche.  
have seen to your car  
‘I saw your car.’

Although specificity/definiteness (Leonetti 2004; López 2012, among others) has been said to be involved in DOM, animacy is still the most relevant feature for this phenomenon since, as pointed out by Rodríguez-Mondoñedo (2007), all animate indefinites (along with personal pronouns and proper names) require DOM, (11) and (12) (see Rodríguez-Mondoñedo 2007):

### (11) Spanish

- a. Vi *\*(a)* alguien en el parque.  
saw to somebody in the park.  
‘I saw somebody in the park.’
- b. No vi *\*(a)* nadie en el parque.  
No saw to nobody in the park  
‘I saw nobody in the park.’

(12) Spanish

- a. Vi (\*a) algo en el parque.  
saw to something in the park  
'I saw something in the park.'
- b. No vi (\*a) nada en el parque  
No saw to nothing in the park  
'I saw nothing in the park.'

Several recent studies have proposed that DOM is the result of DP movement to a position outside  $\nu$ P driven by Case requirements (Torrego 1998; Rodríguez-Mondoñedo 2007; López 2012; Ormazabal & Romero 2013; Zdrojewski 2013; Ordóñez & Roca 2019). The first three analyses have in common the fact that they associate differential object marking (DOM) to a special configuration. However, each one presents a different proposal for that configuration, as seen below:

(13) Torrego (1998)

$[_{\nu P} \text{DOM} [_{\nu} \text{external argument (EA)} [_{\nu} \nu [_{VP} V \text{DOM} ]]]]$

(14) Rodríguez-Mondoñedo (2007)

$[_{\text{DatP}} a\text{-DO} [_{\text{Dat}} \text{DAT} [_{\nu P} \text{DOM} [_{\nu} \nu [_{VP} V \text{DOM} ]]]]]]$

(15) López (2012)

$[_{\nu P} \text{EA} [_{\nu} \nu [_{_{\alpha P}} (a)\text{-DO} [_{\alpha} \text{IO} [_{\alpha} \alpha [_{VP} V \text{DOM} ]]]]]]]]$

The structures in (4)–(6) show some differences: (i) in the projection to which the marked direct object moves, and (ii) on the nature of that projection.<sup>3</sup> For Torrego (1998), the DOM object sits in the second specifier of a  $\nu$ P projection that introduces the EA. Rodríguez-Mondoñedo (2007) does not refer explicitly to specific position for the external argument, but López (2012) argues that DOM objects are lower than external arguments, and they move to a dedicated head between  $\nu$ P and VP. This, according to him, explains the contrast one finds in (16), where the DOM object does not c-command the external argument.

<sup>3</sup>As for the nature of the projection to which the DOM object moves to, the proposals also differ. For Torrego, *a* is itself a head that has nominal properties. Rodríguez-Mondoñedo claims *a* is not present in syntax and it simply reflects Case at a morphophonological level. López assumes that *a* is in a head K that selects for the direct object, and Spell Out rules will dictate whether the head is pronounced or not. In other words, for López *a* is one of the possible options for the pronunciation of the head K that dominates the DP.

## (16) Spanish

- a. \*Ayer no atacó su<sub>i</sub> propio padre a ningún<sub>i</sub> niño.  
 yesterday not attacked his own father to no child  
 intended: 'Yesterday no father attacked his own child.'
- b. Ayer no atacó ningún<sub>i</sub> padre a su<sub>i</sub> propio niño.  
 yesterday not attacked no father to his own child  
 'Yesterday, no father attacked his own child.'

López assumes that postverbal subjects in Spanish stay *in situ*. In (16a), the possessive pronoun cannot have a bound reading, triggered by the negative DP inside the direct object. In (16b), the external argument c-commands the DOM object and, therefore, the bound reading is possible.

In what follows, I briefly review the proposals that make reference to the role of animacy and specificity.

Rodríguez-Mondoñedo (2007) assumes that *a* is the spell out of Dative Case and has Person features. Crucially, he assumes *v*P is the projection of a head that only has Number features and because of the lack of Person, it cannot check Case. Therefore, personal pronouns, definite and animate DPs and indefinite human DPs move to spec *v*P, but since they cannot check Case because *v* lacks [Person] features, they have to move up to the specifier of DativeP, where Case can be checked because of the presence of relevant Number and Person features – that is where they get the mark *a*. Non-DOM objects (non-specific inanimate DPs) get Accusative Case in the specifier of *v*P because they crucially only have Number features and do not have Person features. Their (Number) features can be checked in Spec*v*P.

López (2012), however, proposes an  $\alpha$ P projection that seems to integrate Rodríguez-Mondoñedo's DatP and the aspectual head proposed by Torrego (1998). He suggests that this projection is used to define the aspectual structure of the verb. Besides that, he proposes that direct objects come in two classes: simple DPs and complex DPs. The latter are selected by a head K: they will be a KP structure and will be marked by *a*: [<sub>KP</sub> *a* [<sub>DP</sub> ]]. These two classes of objects have different semantic interpretations. Unmarked objects are predicates,  $\langle e, t \rangle$  type, and undergo incorporation with the verb. The effect is a restriction of the verbal predicate followed by *Existential Closure*:

- (17) [<sub>VP</sub> [<sub>V</sub> comer] [<sub>D/N/NumP</sub> patatas]]

However, the head K is a semantic function that takes an object of the type  $\langle e, t \rangle$  and produces  $\langle e \rangle$ , an individual. Therefore, KP, which is not  $\langle e, t \rangle$ , cannot occur as

the complement of a verb. The unmarked object ⟨e,t⟩ can incorporate to satisfy its Case, whereas KP, in order to get Case, is merged with SpecαP, a position which is selected by νP:

- (18) [<sub>νP</sub> ν [<sub>αP</sub> KP [<sub>α</sub> α VP ]]]

It is interesting to notice that, in López's proposal, both animate and inanimate objects could be in SpecαP, but not all of them would be *a*-marked. In his proposal the position is not responsible for the *a*-marking. For López, *a*-marking occurs as a consequence of Spell Out rules that make reference to the KP context (properties of the DP, the NP, and the thematic and aspectual properties of the verb). He proposes that there is no direct mapping between syntax and semantics, but a pairing between syntactic positions and different modes of semantics composition. Specificity effects are the by-product of both the scrambling of the direct object to a position above its base position and the semantic operation of *choice function*. For López αP is, thus, a projection identified with a cluster of aspectual and applicative properties and it will be the correct context for K (in KP) to be realized as *a* provided that other conditions including animacy are also satisfied.

Ormazabal & Romero (2013) investigate DOM and its relation with object clitics in some varieties of Spanish. They assume that object agreement and Case assignment are linked and that there is only one position available for their morphological expression. They propose a structure as (19):

- (19) [<sub>νP</sub> [<sub>DP</sub> *a los niños*] [<sub>ν</sub> EA [<sub>ν</sub> [<sub>VP</sub> V [<sub>DP</sub> ~~*los niños*~~ ]]]]]

A [+animate] DP must be licensed by agreement. Therefore, it must move to Spec, νP. *A*-marking is the result of this checking relation. Indefinite and [−animate] DPs are not *a*-marked because they incorporate. Crucially, the authors assume that the dative clitic *le* is object agreement marking in ν. Therefore, when there is an *a*-marked object (*a* is an agreement marking), the DOM object competes with the dative clitic for the same position. This explains the contrast in (20):

- (20) Spanish

- a. \*Le enviaron a todos los heridos a la doctora.  
CL sent.PL to all.PL the.PL wounded.PL to the doctor
- b. Le enviaron todos los heridos a la doctora.  
CL sent.PL all.PL the.PL wounded.PL to the doctor  
'They sent all the wounded to the doctor.'

Ordóñez & Roca (2019) also assume DOM involves an extra functional projection that is responsible for a checking relation necessary for certain objects. They assume Kayne's (2005) proposal of prepositions as probes, and they consider *a* is a preposition that is inserted in the derivation:

- (21)  $[_{VP} [_{V'} [\nu \text{ [accusative]}] [_{\alpha P} \text{ KP [uCase]}] [_{\alpha'} \alpha [_{VP} \text{ V KP}]]]]]$   
└──────────────────┘  
Agree

The crucial assumption for Ordoñez & Roca is that, contrary to English, Spanish  $\nu$  does not license [+animate, +specific] DPs; consequently DOM objects cannot stay in situ: Spanish has an extra mechanism for object licensing: the preposition *a* is crucially present in the numeration. Additionally, the derivation has the same steps as causatives in French; in other words, all transitive constructions in Spanish bearing an animate or specific object such as (22) will have the operations in (23):

- (22) *Vimos a Maria*

- (23) a. ...  $[_{VP} \nu [_{VP} \text{ vimos } [_{DP} \text{ María}]]] ] DP [+anim, +spec]$   
 b. Merge of *a*  
 ...  $a [_{VP} \nu [_{VP} \text{ vimos } [_{DP} \text{ María}]]] ]$   
 c. Movement to Spec  
 ...  $[_{aP} [\text{María}]_i a [_{VP} \nu [_{VP} \text{ vimos } [t]_i]]] ]$   
 d. Merge of W  
 ...  $W [_{aP} [\text{María}]_i \alpha [_{VP} \nu [_{VP} \text{ vimos } [t]_i]]] ]$   
 e. Head raising  
 ...  $[a_j + W] [_{aP} [\text{María}]_i t_j [_{VP} \nu [_{VP} \text{ vimos } [t]_i]]] ]$   
 f. Remnant movement  
 ...  $[_{WP} [_{VP} \nu [_{VP} \text{ vimos } [t]_i]]]_k [a_j + W] [_{aP} [\text{María}]_i t_j t_k]$

In sum, different authors assume different positions with respect to the specific Case *a* is encoding, Dative or Accusative. All of them, however, assume that the DOM object is in a higher position than the unmarked object. In other words, it seems that there is a consensus in that inanimate DPs remain in situ.

### 2.3 Are null objects in BP instances of DOM?

Interestingly, as seen above, sensitivity to animacy (and specificity) is a well-known characteristic of DOM. A natural question is then: can overt vs. null objects in BP be an effect of differentially marking the object in the language? Indeed, there have been previous accounts relating BP to Spanish DOM.

Within a functionalist framework, Schwenter & Silva (2002) and Schwenter (2006) have claimed that the null object/full pronoun pattern found in BP is reminiscent of DOM in Spanish. They notice that full pronouns in BP might be comparable to DOM objects in Spanish since both are likely to be [+animate, +specific] while also receiving morphological marking (*a* in Spanish, full pronoun in BP). On the other hand, as seen above, anaphoric null objects in BP are likely to be [−animate, −specific], just like the bare objects (i.e. those without *a*) in Spanish.

Yet, there might appear to be a problem with this understanding of DOM and BP overt vs. null objects. If the latter correspond to the unmarked form, it is unclear why they may have the “Spanish DOM requirement” of being *specific*<sup>4</sup> (even in the absence of animacy).<sup>5</sup>

This observation however does not invalidate the connection with DOM. It rather shows that, within Romance, BP is more similar to languages like Romanian than Spanish in that, descriptively, two conditions must be simultaneously met for differential marking: [+animate] and [+specific] (Farkas 1985; Dobrovie-Sorin 1994; Irímia & Cyrino 2015, among others). The presence of only one of these “features” is not normally enough to trigger DOM in Romanian, while it might do so in Spanish more frequently. For example, as shown by Irímia & Cyrino (2015; in preparation), in Romanian animates do not obligatorily have differential marking; animates can be used without DOM, if interpreted non-specific, as shown in (24a), just like null objects in BP. In Spanish animates, as

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<sup>4</sup>This does not automatically imply that DOM objects in Spanish must always be [+specific]. The problem seems to arise from the tendency (in many descriptive, and also more formal accounts) to obligatorily connect DOM with “specificity”. However, as discussed in the more recent literature, there are certain syntactic contexts where objects which cannot be understood in terms of specificity are nevertheless DOM marked (e.g., negative quantifiers, clause union configurations, etc.). What seems to unite DOM is rather a *syntactic configuration* (López 2012), and not necessarily descriptions in terms of “specificity”.

<sup>5</sup>But recall, from (9), that non-specific animate null objects are possible in BP, and as also shown by Cyrino (1994; 1997). I will come back to these cases in §3.



seen above, require DOM in non-intensional contexts, regardless of specificity (see also López 2012; Leonetti 2008, among others), as can be seen in (25):<sup>6</sup>

(24) Romanian

- a. Ion a văzut un om.  
 John AUX.3SG.PRS.INDIC seen a.M.SG man  
 ‘John saw a man.’
- b. Ion l-a văzut pe un om.  
 John CL.3SG.M-AUX.3SG.PRS.INDIC seen DOM a.M.SG man  
 ‘John saw a specific man.’

(25) Spanish

- Juan vió \*(a) un hombre.  
 John see.PST.3SG DOM a.M.SG man  
 ‘John saw a man.’

If null objects in BP are DP ellipsis licensed by the lexical V in AspInn, and unrestricted null objects are only possible when the antecedent is [–animate], the impossibility of restricted null objects has to be linked to the fact that DP ellipsis is not licensed. The question is thus: why are animate objects not licensed under ellipsis? The answer must reside in the syntactic composition strategies available for categories like “animacy”. In other words, if animate objects move to a higher position (as in DOM) they cannot be elided since they will not be licensed by V in AspInn.

### 3 Animacy in syntax

The discussion above shows that animacy is relevant for syntactic phenomena in BP and Spanish. In this section, I advance a proposal to account for null objects in BP and its relation to DOM.

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<sup>6</sup>Also, inanimates do not easily accept differential marking in Romanian, even if interpreted specifically, demonstrating that specificity is not what triggers DOM. Clause-union contexts of the type in (i) generally require DOM in Spanish (see López 2012, among others):

- (i) Romanian  
 Au văzut (\*pe) niște avioane căzând.  
 AUX.3PL.PRS.INDIC seen DOM some planes fall.GER  
 ‘They saw planes falling from the sky.’

In a nutshell, I propose, following Richards (2008), that  $[\pm\text{Person}]$  features are inherent to different nominals. Animacy in syntax can be implemented as the result of the movement of a  $[\text{+Person}]$  or  $[\text{−Person}]$  DP to the specifier of functional category (call it  $F_{[\text{Person}]}$ ) that has an uninterpretable ( $[u\text{Person}]$ ), probably to value Case (see also Ordoñez & Roca forthcoming). DPs that are  $[\text{−animate}]$  (i.e. those that are Person-less) and non-specific do not move out of  $vP$ , since they are  $\phi$ -incomplete, and they value Case in-situ (by the  $\phi$ -incomplete probe  $v$ , as in Rodríguez-Mondoñedo 2007).

Richards (2008: 140) proposes that Person is an exclusive (syntactic) property of animate (and definite) nominals: a person specification on indefinites and inanimates is redundant, since these DPs will always be third person, and thus would plausibly be left unspecified, as seen in Table 1.

Table 1: Reverberations of the “Person” feature in syntax (adapted from Richards 2008)

	Person–animacy		Person–definiteness	
	Animate	Inanimate	Definite	Indefinite
1	✓	✗	✓	✗
2	✓	✗	✓	✗
3	✓	✓	✓	✓

According to Richards, indefinites and inanimates will bear only number (and gender) features D; they are thus “defective” in the agreement system (in the sense of Chomsky 2001). Given that Bare Nouns are always inherently third-person, Richards assumes that Person is a property of the category D, not N. Bare Plurals lack D, so they are “Person-less”. First and second person pronouns will always be DPs, whereas third person nominals may be either DPs or NPs, depending on whether their Person feature is syntactically specified or not (e.g. bare plurals are NPs in his proposal). He assumes that “if indefinites and inanimates lack Person (as claimed above), then this equates syntactically to their lacking a DP structure – that is, they are bare NPs” (Richards 2008: 140).

Therefore, animacy in syntax is the result of  $[\pm\text{Person}]$  feature checking.<sup>7</sup> Richards examines “prominence scales” proposed in the functionalist literature

<sup>7</sup>In Richard’s system, as can be seen in Table 1, definites also have a Person feature. Although definiteness/specificity has been related to null objects in BP and DOM in Spanish, the role of Person in the construction of definiteness will not be examined in detail in this paper. See below the discussion on this issue.

and translates their effects into feature checking. In his account, the presence or absence of features as Person provide a syntactic basis for various phenomena: (i) a Person specification implies an animate interpretation at the interface; for example, agreement restrictions in the Person Case Constraint phenomenon; (ii) a Person-less probe may assign (value) a different Case from its nondefective [+Person] counterpart in the Probe–Goal–Agree system of Chomsky 2001 (this would be the case of DOM); (iii) the extended projection principle (EPP)-feature of a probe may be associated with the entire probe (i.e. Person + Number) or else with just the Person feature of the probe, yielding differential argument movements (Object Shift would be a case in point). The author assumed that, besides unvalued features, there is an EPP feature on the probe. This is to justify that *v* only probes for Person.

I concentrate on the fact that [Person] is a relevant feature for animacy (and leave definiteness and specificity for now, but see Irimia & Cyrino 2015, in progress, and below). Thus, I assume animacy as related to the need of checking [ $\pm$ Person] in syntax. Differently from Richards, I assume that Bare Plurals are defective and lack person in D, and inanimate DPs have a “Person-less” D. In other words, [ $\pm$ Person] is encoded in D, but lack of Person features does not entail lack of D, since D will still have other features as Number, Gender.<sup>8</sup>

Table 2 summarizes my proposal:<sup>9</sup>

Table 2: Animacy and Person features (Cyrino 2016)

First/Second person	[+Person]
Third person animate	[–Person]
Third person inanimate/ Bare Plurals	“Person-less”

Transitive *vs* in BP, as in Spanish (Rodríguez-Mondoñedo 2007; Ordóñez & Roca 2019), do not have [Person] features, and they are  $\varphi$ -incomplete. Case is only valued for matching DPs, *vs* are not able to value Case in animate DPs, because the latter are  $\varphi$ -complete. Therefore, they have to move to value Case.

A functional head (call it  $F_{[Person]}$ ) located below *vP* and above *AspInn* is able to value Case to those DPs that match that feature. Therefore, the effects of

<sup>8</sup>Number is actually encoded in D in BP, even in a null D, see Cyrino & Espinal (2015).

<sup>9</sup>A reviewer asks why third person animates are treated as [–Person], since it would be equally feasible to have first/second person as [+participant, +person], and animate third person as [+person]. I think the problem with that is that there would be a redundancy for first and second person, since participants are necessarily [+person]. In my system it is clearer that the third person is the “non-person”, as has been suggested in the linguistic literature many times.

animacy in syntax comes from the movement of a [+Person] or a [−Person] DP to the specifier of a functional category that has [Person].

In sum, [−animate] (i.e. Person-less) DPs do not move out of *v*P, they are  $\varphi$ -incomplete, and have Case valued by the  $\varphi$ -incomplete probe *v* (as in Rodríguez-Mondoñedo 2007). On the other hand, [+animate] (i.e. [+Person] or [−Person]) DPs are  $\varphi$ -complete, so they move to the specifier of  $F_{[Person]}$  to value Case.

The behavior of BP null vs. overt objects seen in (26) can be understood as the possibility for AspInn to license ellipsis, something only possible for inanimate objects since they stay in situ, as seen in the structure in (27):

(26) Brazilian Portuguese

- a. O estudante levou o livro para a biblioteca depois que leu  $\emptyset$ .  
The student took the book to the library after that read  
'Pedro took the book to the library after he read (it).'
- b. \* O estudante levou o menino para casa depois que o  
the student took the boy to house after that the  
professor expulsou  $\emptyset$ .  
teacher expelled

(27)  $v$  [<sub>AspInnP</sub> [<sub>V+Asp</sub> leu [<sub>VP</sub>  $\langle V \rangle$   $\emptyset$ -livro ]]]

$\underbrace{\hspace{10em}}_{\text{ellipsis licensing}}$

In Spanish, these DPs are not DOM-marked, as shown by Rodríguez-Mondoñedo (2007).

Animate DPs, with some exceptions, cannot be null; the object has to be spelled out as a full pronoun, exemplified by *ele* in (28). Animate DPs are [−Person]; therefore, they move out of *v*P to Spec,  $F_{[Person]}$  (= DOM movement) and value Case.

(28) Brazilian Portuguese

- O estudante levou o menino para casa depois que o professor  
the student took the boy to house after that the teacher  
expulsou **ele**.  
expelled him  
'The student took the boy home after the teacher expelled him.'

(29) [ <sub>$v$</sub>  [ <sub>$F_{[Person]}P$</sub>  **ele**<sub>[−Person]</sub>  $F_{[Person]}$  [<sub>AspInnP</sub> [<sub>V+AspInn</sub> expulsou [<sub>V</sub>  $\langle$ ele<sub>[−Person]</sub> $\rangle$  ]]]]

Notice that a full pronoun, such as *ele* in (16a) above and *ela* in (30) below, can also refer to a [–animate] antecedent; this indicates there is a Person-less pronoun in BP (like *it* in English):

(30) Brazilian Portuguese

O tira puxou [a arma]<sub>i</sub> e depois escondeu \_\_\_\_<sub>i</sub> ela<sub>i</sub>  
the cop drew the gun and afterwards hid it  
‘The cop draw the gun and afterwards hid it.’

Interestingly, the inanimate full pronoun has a distinct distribution from its animate counterpart, as shown by Galves (2001):

(a) Inanimate full pronouns (31a) cannot occur in a short answer as opposed to the animate ones (31b):

(31) Brazilian Portuguese

- a. Q: O que você deixou em casa? A: \*Ele.  
The what you left at home It  
‘What did you leave at home?’
- b. Q: Quem você deixou em casa? A: Ele.  
Who you left at home him  
‘Who did you leave at home?’ – ‘Him.’

(b) Inanimate full pronouns (32a) cannot occur in contrastive focus, as opposed to the animate pronouns (32b):

(32) Brazilian Portuguese

- a. \*Eu vi ele (e não ela) (o livro e não a revista).  
I saw it-M and not it-F the book and not the magazine
- b. Eu vi ele (e não ela) (o João e não a Maria).  
I saw him and not her the João and not the Maria  
‘I saw him (and not her) (João and not Maria).’

Irimia & Cyrino (2015; in preparation) show that there is a crucial difference between overt pronouns in BP in terms of their specificity features. Comparing the overt pronouns in BP, which are the correspondent of DOM-marked objects in Romanian, the authors show that, although López (2012), as seen above, proposes DOM objects are outside *v*P but below *v*, there must be other positions for DOM. Specific DOM-objects in BP (i.e. the animate/inanimate overt pronouns) and in Romanian (*pe*-marked DPs) must be interpreted above *v*P.

(33) ... DO.DOM [<sub>VP</sub> EA [<sub>αP</sub> ~~DO.DOM~~ α [<sub>V</sub> V ⟨DO⟩ ]]]

Irimia & Cyrino base their observation on wide/narrow scope interpretation of indefinite objects in the scope of modal adjectives. Romanian (34) and BP (35) are alike in that “DOM-marked” objects (i.e. *pe*-marked DPs in Romanian and overt animate/inanimate pronouns in BP) are interpreted as being outside the quantificational domain of modal adjectives (i.e. outside *vP*), and thus they do not allow narrow scope.<sup>10</sup>

(34) Romanian

- a. Consideră **o studentă** necesară (pentru un proiect).  
 consider a student.F.SG necessary.F.SG for a project  
 a student > consider; consider > a student
- b. (O) consideră **pe o studentă** necesară.  
 CL.3SG.F.ACC considers DOM a student.F.SG necessary.F.SG  
 a student > consider; \*consider > a student

<sup>10</sup>Inanimate null objects in BP, however, allow both wide and narrow scope (ia), since they are inside *vP*; animate null objects are possible only if non-specific, as shown by the impossibility of wide scope (ib), which shows they do not move:

- (i) a. Pedro considera um livro necessário (para o projeto) e vai comprar ∅.  
 Pedro considers a book necessary for the project and go buy  
 a book » necessary; necessary » a book
- b. Pedro considera um estudante necessário (para o projeto) e vai contratar ∅.  
 Pedro considers a student necessary for the project and go hire  
 \*a student » necessary; necessary » a student

This shows, as expected, that in order for the null object to be licensed (as DP ellipsis, with V raising to AspInn), it must be inside VP, and null objects allow wide scope for inanimate antecedents only. This scenario is expected as BP (inanimate) indefinites appear to be quantificational like the Romanian ones, and thus can get a specific interpretation in a quantificational position above VP but below *vP* as argued by Irimia & Cyrino (2015; in preparation). Crucially, the nature and positions of “specificity” readings with quantificational indefinites are different than those of “specificity” with DOM (see also López 2012 for conclusions in the same direction). Thus, it appears that there are at least two “specificity” positions in Romanian and BP – one inside *vP* (but above VP), which is quantificational and allows reconstruction in Diesing’s (1992) and May’s (1985) terms, and another one, outside *vP* (which is argumental, can host differential marking, and does not allow reconstruction) (see Irimia & Cyrino 2015, in progress).

(35) Brazilian Portuguese

- a. Pedro considera um estudante necessário (para o projeto) e vai  
 Pedro considers a student necessary for the project and go  
 contratar **ele**.  
 hire him  
 a student > necessary; \*necessary > a student
- b. Pedro considera um livro necessário (para o projeto) e vai  
 Pedro considers a book necessary for the project and go  
 comprar **ele**.  
 buy it  
 a book > necessary; \*necessary > a book

These facts show that, since specific indefinites with overt pronouns as well as animates in BP do not allow a narrow scope reading, they must be outside vP. Thus BP is similar to Romanian, but different from Spanish with respect to how specificity interacts with animacy for DOM.

A final question I have to answer in this section is: what about Bare Plural antecedents for null objects in BP? As seen above, animate and inanimate null objects are possible in BP if the antecedent is a bare plural ((36), (37)) and not when it is a full DP (36b):

(36) Brazilian Portuguese

- a. Os tiras insultavam [ presos ]<sub>i</sub> e depois prendiam \_\_\_\_<sub>i</sub> /  
 the cops insulted prisoners and afterwards locked up  
 \*eles<sub>i</sub>  
 them  
 ‘The cops insulted prisoners and afterwards locked (them) up.’
- b. Os tiras insultavam [ os presos ]<sub>i</sub> e depois prendiam \*\_\_\_\_<sub>i</sub>  
 the cops insulted the prisoners and afterwards locked up  
 / eles<sub>i</sub>  
 them  
 ‘The cops insulted the prisoners and afterwards locked them up.’

(37) Brazilian Portuguese

- Os tiras puxavam [ armas ]<sub>i</sub> e depois escondiam \_\_\_\_<sub>i</sub> / \*elas<sub>i</sub>  
 the cops drew guns and afterwards hid them  
 ‘The cops drew guns and afterwards hid (them).’

Interestingly, notice that Bare Plurals are non-specific and, as seen in Table 2, they are Personless. Therefore, they always stay in situ, and null objects are always allowed for those antecedents, as seen in the structures in (38):

- (38) a.  $v$  [<sub>AspInnP</sub> [<sub>V+Asp</sub> insultavam [<sub>VP</sub> ⟨V⟩ preses ]]]  
           ellipsis licensing  
       b.  $v$  [<sub>AspInnP</sub> [<sub>V+Asp</sub> puxavam [<sub>VP</sub> ⟨V⟩ armas ]]]  
           ellipsis licensing

Other possible animate null objects, seen above in (22), repeated here as (39a), are not really DP ellipsis, since they occur as the result of verbal (“V-stranding”) ellipsis. In those cases, the V in AspOuter licenses vP ellipsis in BP. See the simplified structure in (39b) (see also Cyrino 2013; Reintges & Cyrino 2016):

- (39) Brazilian Portuguese
- a. Lina disse que a Maria beijou o Pedro<sub>i</sub> na festa, e o Paulo  
Lina said that the Maria kissed the Pedro at-the party and the Paulo  
também disse que ela beijou  $\emptyset$ .  
too said that she kissed  
'Lina said that Maria kissed Pedro at the party, and Paulo said that  
she also did it.'
- b. [ ... beijou o Pedro na festa ... ] ... ela [AdvP [Adv também] [AspOuter  
beijou [<sub>NP</sub>  $\emptyset$  Pedro-na festa ]]]

In sum, I have shown in this section that *animacy*, considered as Person features encoded in a functional projection and triggering movement, is the key factor to explain null objects in BP and DOM in Spanish.

## 4 On referential hierarchies and syntax

Several linguistic phenomena have been related to hierarchies of grammatical categories, specially in typological and functionalist studies (for example, Silverstein 1976, among others). These hierarchies make reference to the referentiality of nominal expressions and to the likelihood of their appearing with certain grammatical functions or having certain markings. As such the following is a common proposed hierarchy:



- (40) pronouns<sub>1/2</sub> > pronouns<sub>3</sub> > humans > animates > inanimates  
(Silverstein 1976)

This hierarchy is based on data from languages that have a split in their case alignment system according to different nominal expressions. Thus, first and second person pronouns appear higher in the hierarchy (being more to the left), than third person pronouns. This corresponds to different case marking: subjects that are higher receive nominative whereas lower subjects receive ergative case.

Aissen (1999; 2003) proposes that such hierarchies can be treated in the Optimality Theory framework (OT), placing the well-known generalizations in grammatical theory. Her hierarchy (41) aims to explain DOM. If a direct object that corresponds to any nominal expression in the hierarchy can be DOM-marked in a language, then the objects that are higher in the hierarchy can be so marked.

- (41) Animacy and Definiteness Hierarchies (Aissen 2003)
- a. Animacy Hierarchy  
Human > Animate > Inanimate
  - b. Definiteness Hierarchy  
personal pronoun > proper name > definite NP > specific indefinite NP > non-specific NP

Cyrino et al. (2000), analysing null subjects and null objects in BP, proposed a hierarchy that would be relevant for language acquisition. Thus, for a language that has the internal option of null categories, one of the factors that may influence this choice is the animacy status of the antecedent. If a language has an empty category for a certain element, it will also have empty categories for other elements that are lower in a “referential hierarchy”:

- (42) Referential Hierarchy (Cyrino et al. 2000)
- non-argument > proposition > [–human] > [+human]  
third p. > second p. > first p.  
[–specific] > [+specific]  
[–referential]      ←————→      [+referential]

For example, for the null object in BP, if the input presents a pronoun or clitic in a lower position in the hierarchy, the child, in the process of language acquisition, will consider it a weak pronoun that occurs in a head or argument position. All the higher positions will be lexical pronouns. If the input has a null object for a referential antecedent, the child will assume that all the lower positions in the hierarchy can be null.

However, hierarchies are not explanations – they reveal effects that should be better explained in a theory of grammar (see Carnie 2005; Merchant 2006; Brown et al. 2004). In this line, the relevant features could be seen as effects of the position of nominal expressions in the structure as a consequence of either the mapping between syntactic structure and argument structure/semantics (Diesing 1992; Jelinek 1993; Meinunger 2000; Jelinek & Carnie 2003; Carnie 2005; Merchant 2006; Platzack 2008) or certain syntactic operations (Richards 2008; Bárány 2015; Cyrino 2016). In this paper, I focused on the latter possibility.

In fact, as seen in this paper, inanimate objects have a different behavior with respect to animate objects in several languages; the generalization appears to be that they stay in situ. This suggests that we may consider the referential hierarchies described above as the by-product of syntactic structure.

Many instances of such generalization are present in the literature. There are languages as Blackfoot (spoken in Alberta province in Canada) in which transitivity and animacy are marked on the verb by means of certain suffixes, the *verb class finals*. Bliss (2010: 66), following Ritter & Rosen (2008), Brittain (2003), Hirose (2001) and Mathieu (2006), proposes that these suffixes are manifestations of *v*. Transitive animate suffixes introduce arguments in a higher position than transitive inanimate ones, as seen in the structure in (43):

- (43) [<sub>VP2</sub> ANIM [<sub>V'</sub> TA [<sub>VP1</sub> ANIM [<sub>V'</sub> TI [<sub>VP</sub> [<sub>V</sub> root] INAN]]]]]

In a sentence as (44), the verbal root *a'pihk* shows up with the intransitive inanimate suffix *ahto* followed by the benefactive transitive animate suffix *-omo*.

- (44) Blackfoot (Bliss 2010: 67)  
 An-wa Rosie nit-a'pihk-ahto-omo-ok-wa ot-inaka'simik.  
 DEM-PROX Rosie 1-sell-TI-BEN-INV-PROX 3-car  
 'Rosie sold me her car.'

This is predicted if the underlying order is as in (43). After *V* movement, the resulting surface order will be *V-TI-TA-(BEN)*, as seen in (44).

Moreover, in Sesotho, as shown by Demuth et al. (2005), there is a specific order for the occurrence of two internal arguments. If the animacy feature of the two internal arguments (objects) are the same, any one can appear immediately adjacent to the verb. However, if one is [+animate], then it must immediately follow the verb, no matter its  $\theta$ -role.

Object agreement is also related to animacy in certain languages. In KiRimi (Hualde 1989; Woolford 2000), dative constructions show Dative Alternation. In

the oblique option (the PP Dative), the animate direct object agrees with the verb. However, in the Double Object Construction, agreement is blocked when the direct object is also animate, since the verb agrees with the animate indirect object.

Likewise in Mohawk (Baker 1996), animate objects need to be licensed either by incorporation to the verb or by agreement with the auxiliary verb. Since incorporation with animates is very restricted, the preferred option is agreement with animate objects. Inanimate objects, however, never trigger agreement with the verb. In applicative constructions in this language, the benefactive/goal argument must be licensed via agreement with the verb (it never incorporates); the theme, if animate, loses its ability to agree with the verb, since in this language only one of the objects shows agreement. When the direct object is animate, then, the only possible agreement is with the benefactive argument, that then incorporates even if it is animate.

Another instance of the relevance of animacy features in syntax is the case of *leísmo* and the Person Case Constraint (PCC). The former refers to an extension of the third person dative clitic *le* to contexts where one would expect the accusative *lo* (masculine form) or *la* (feminine form). Ormazabal & Romero (2013: 319–320) point out that in *leísta* dialects of Spanish, clitics are not marked for Case, but for animacy. Thus the third person direct object distinguishes animacy: when it is [–animate], these dialects use *lo/la* (45); when it is animate, they use *le*, the same form of the dative (46).

(45) *Leísta* Spanish

Lo vi.

3SG.DO vi

‘I saw it (the book).’

(46) *Leísta* Spanish

Le vi.

3SG.DO vi

‘I saw him/her (the boy/the girl).’

Finally, the Person-Case Constraint is also subject to animacy requirements, as shown by Ormazabal & Romero (2007; 2013). The authors propose that animacy has an important role: the clitic *le* is, as seen above in *leísta* dialects, the mark for a [+animate] nominal. The PCC only occurs when *le* is occurring:

(47) Spanish

- a. \*Te lo di.  
(*te* = second person dative; *lo* = third person accusative [–animate])
- b. \*Te le di.  
(*te* = second person dative; *le* = third person accusative [+animate])

This section shows that there are many other phenomena that are sensitive to animacy features. This suggests they may be considered under the proposal advanced in this paper, namely, that there is a functional projection (furnished with Person features) which is responsible for checking and triggering movement of animate objects, thus resulting in their different behavior with respect to inanimate ones. The further exploration of these phenomena, however, lies outside the scope of this paper but is undergoing current investigation.

## 5 Conclusion

With the proposal advanced in this paper, we may explain why the occurrence of null objects in BP is restricted to inanimate DPs. In the same way, differential object marking in Spanish finds a suitable analysis. As for the phenomena described in §4, a more detailed analysis under this proposal is being conducted (Cyrino in preparation), since in all of them the idea that animacy triggers movement may provide a proper explanation for the difference in syntactic effects. My proposal predicts, with some caveats, that if two internal arguments occur, where one is animate and the other is inanimate, the former will move out of its base position to a position higher than the latter.

Besides these results, we may also conclude that referential hierarchies described in the functional literature can be mapped from syntactic structure. Besides animacy, specificity seems to also be at play in the phenomena investigated in this paper. In Romance it seems specificity is occupying a higher projection (i.e. above  $F_{\text{person}}$ ) triggering movement (see Irimia & Cyrino 2015) for interpretation purposes (see López 2012), leading us to conjecture a syntactic hierarchy as:

$$\begin{array}{rcl} \alpha P & > & F_{\text{person}} \\ \text{Specificity} & > & \text{Animacy} \end{array}$$

Although more detailed exploration is necessary with respect to other features, I see this contribution as a promising line of research.

## Abbreviations

3	third person	INDIC	indicative
ACC	accusative	INV	inverse
AUX	auxiliary	IO	indirect object
BEN	benefactive	M	masculine
BP	Brazilian Portuguese	OT	Optimality Theory
CL	clitic	PCC	Person Case Constraint
DAT	dative	PL	plural
DEM	demonstrative	PROX	proximal, proximate
DO	direct object	PRS	present
DOM	differential object marking	PST	past
EA	external argument	SG	singular
EPP	extended projection principle	TA	transitive animate
F	feminine	TI	transitive inanimate
GER	gerund		

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# Syntactic architecture and its consequences III

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