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Edited by
Luis Eguren
Olga Fernández Soriano

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Volume 111

Coreference, Modality, and Focus. Studies on the syntax–semantics interface
Edited by Luis Eguren and Olga Fernández Soriano

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Studies on the syntax–semantics interface

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Table of contents

Preface vii

Tensed modals 1
Claudia Borgonovo & *Sarah Cummins*

Weak Crossover, specificity and LF chains 19
Michelangelo Falco

Conditions on sub-extraction 45
Ángel J. Gallego & *Juan Uriagereka*

Focus, exhaustivity, and deletion in English Pseudogapping 71
Kirsten Gengel

Reconstruction and scope in exclamative sentences 89
Raquel González Rodríguez

Reconstruction without movement 113
Nicolas Guilliot & *Nouman Malkawi*

From polarity to modality: Some (a)symmetries between *bien* and *sí* in Spanish 133
M. Lluïsa Hernanz

Beyond the Infinitive vs. Subjunctive Rivalry: Surviving changes in Mood 171
Itziar San Martin

Romance infinitives with subjects, subjunctive obviation and Control Theory 191
Ioanna Sitaridou

On the syntactic features of epistemic and root modals 221
Karen Zagona

Subject index 237

Preface

This book is a collection of articles offering novel and well-founded insights on much debated topics in theoretical linguistics. It results from a rigorous selection of the papers presented at the XVIth Colloquium on Generative Grammar that was held in Madrid in April 2006. A thematically coherent volume has come out of this selection, so we believe, as all the papers included address current syntactic and/or interpretive issues within the generative framework, mostly paying attention to coreference, modality and focus/ellipsis.

There is one paper, Gallego and Uriagereka's, that concentrates on syntactic computations. The rest of the articles are concerned with phenomena pertaining to the syntax-semantics interface domain, and can be grouped together as follows. Four papers investigate coreference relations of various sorts: San Martin's and Sitaridou's works re-examine the topics of Obviation and Control in a good number of languages, Falco's research shows that Weak Crossover effects can only occur with non-specific *wh*-operators, and Guilliot and Malkawi's paper argues for the existence of reconstruction without movement on the basis of binding and resumption data. Four other papers deal with modals and modality: two of them (Zagona's and Borgonovo and Cummins') analyse the scopal interactions between tense/aspect and modals in English, French and Spanish, and another two (the ones by Hernanz and González Rodríguez) study the syntactic and semantic properties of different types of left-periphery items in Spanish, as well as their interrelations with other operators. Finally, Gengel's article develops a focus-based syntactic account for both Pseudogapping and Sluicing in English. We will now introduce the volume by presenting the papers in more detail.

The central point of Gallego and Uriagereka's "Conditions on sub-extraction" is the relation of CED and the operation Agree, in the framework of Chomsky (2005). This relation is investigated with regard to preverbal subjects, adjuncts, as well as internal arguments which have undergone Object Shift. The authors adopt Boeckx's (2003) idea that A-movement triggers a *freezing effect* so that if a DP moves out of the *v*P nothing can be extracted from inside it. The main hypothesis is that this restriction (and the so called Subject Condition) is parasitic on agreement, and not on structural factors concerning phase edges. It is thus proposed that agreeing DPs are rendered opaque. Evidence from Spanish and Dutch is provided for this account of subject opaqueness, and the analysis is extended to adjuncts: these elements, not having phi-features to be matched, are islands from the very beginning of the derivation. Finally, sub-extraction

from objects is also addressed. The relevant generalization is that objects do not allow sub-extraction if they are displaced to a position where accusative case is checked. This fact is accounted for taking Chomsky's (2005) observation that objects rise to SpecVP in a similar fashion that subjects raise to SpecTP, that is, to establish an agreement relation. As expected, a similar freezing effect is obtained in (optional) object shift cases, thus explaining the impossibility of sub-extraction.

San Martin's "Beyond the Infinitive vs. Subjunctive Rivalry: Surviving changes in Mood" re-examines the topic of obviation, an anti-coreference effect on pronouns whereby the matrix and the embedded subject must be disjoint in reference in certain subordination contexts. It is standarly assumed that the (non) existence of obviation effects is due to the presence or absence of infinitival subordination in a particular language. On this view, the presence of infinitival subordination expressing the coreference reading (as in Romance) gives rise to obviation effects (i.e., blocks free reference) in subjunctive subordinate clauses, whereas the loss of infinitives (as in the Balkan languages) would explain the lack of obviation in the same contexts. The author offers theoretical and empirical evidence showing that this idea is not adequate. She tracks, in particular, the change from obviation to free reference in Greek, which shows that infinitives were still used well after obviation ceased to exist in the 2nd century, and also that the loss of obviation is contemporaneous to the emergence of a subjunctive complementizer in that language. These facts go against a blocking analysis of obviation effects, and relate them to the (non) existence of subjunctivity markers in the left periphery of embedded contexts. A main generalization is thus drawn: languages with subjunctive complemetizers and/or modal particles allow for free reference, whereas languages with no such markers show obviation effects. This observation is formally captured by making use of a reformulation of binding domains to include phase heads that transfer agreeing features (including [Irrealis]) to T, and by arguing that domain extension to the matrix *v*P (resulting in obviation) only occurs in languages that do not distinguish between indicative and subjunctive mood in the left periphery of embedded clauses.

Sitaridou's "Romance infinitives with subjects, subjunctive obviation and Control Theory" develops a new analysis for inflected and personal infinitives in Romance. In this paper it is argued that the disjoint reference effects exhibited by Romance infinitives with nominative subjects cannot be captured within the standard domain extension approach to subjunctive obviation, since inflected infinitives do not have any subjunctive properties besides the disjoint reference requirement. Moreover, three different theories of Control are assessed – Case-driven accounts (Bošković 1997), Movement-driven accounts (Hornstein 1999) and Attract-based accounts (Manzini and Roussou 2000)- and it is shown that these theories also fail to explain the non-obligatory control (NOC) properties of both inflected and personal infinitives. As a way out of these unaccommodating results, Sitaridou formulates an analysis of the NOC properties of Romance infinitives with nominative subjects based on the notion of Agree (Landau 2000): non-obligatory control is derived from Agree not applying

at C^0, due to either agreement features on the lower clause or an overt complementizer. This way, the matching of features between the matrix DP with the T+Agr features of the infinitive subject is blocked, hence the non-controlled interpretation. A main advantage of such an analysis, the author claims, is that it explains the empirical observation that, in the absence of agreement or a complementizer, the personal infinitive cannot surface as a complement.

The central insight in Falco's "Weak Crossover, specificity and LF chains" is that only non-specific *wh*-operators are involved in Weak Crossover (WCO) effects. To ground this claim both a notional and an operational definition of specificity are first made explicit. As for the notional definition of specificity, the semantic formulation of the notion of D-linking proposed in Enç (1991) is assumed. Moreover, specificity is operationally characterized by means of a number of tests that have been used in the literature to identify (non) specific DPs: antireconstruction effects, Weak Island extraction, participial agreement in French, clitic doubling in Romanian, extraction from existential constructions, and scope reconstruction. It is then shown that the results of combining these base tests with WCO in the same configuration support the idea that WCO only occurs with non-specific *wh*-operators. Finally, an account for this fact is offered building on Rizzi's (2001) proposal on the different nature of specific and non-specific chains at LF, plus a condition of non-distinctness of grammatical features for chain links. Falco's analysis is the following. In non-specific chains only the operator remains in the left periphery, without the restriction. This operator does not have ϕ-features to satisfy the non-distinctness condition, and therefore cannot establish a binding relation with the pronoun, giving rise to a WCO effect. As for specific chains, a full DP with ϕ-features is present in the left periphery. These features match those of the pronoun, which can be bound by the DP operator, and consequently WCO does not manifest.

Guilliot and Malkawi's "Reconstruction without movement" questions the generalization that reconstruction of an XP involves movement of that XP. The cases analyzed involve resumptive pronouns. An apparent paradox is presented: in Jordanian Arabic and French there are cases of resumption in dislocation and *wh*-structures within strong islands which unexpectedly allow for reconstruction. It is further argued that reconstruction depends on four parameters. The first parameter has to do with strong (full pronouns or epithets) vs. weak (clitic) resumption: reconstruction within strong islands is only possible with weak resumptives. The second one concerns the type of binding condition involved: cases of bound variable anaphora (positive binding conditions) accept reconstruction with weak resumptive pronouns, whereas cases of Condition C (negative binding conditions) clearly disallow it. Strong resumption allows for reconstruction in both cases (positive and negative binding conditions), but only if no islands are crossed. The third parameter distinguishes between a real gap vs. a resumptive pronoun: scope reconstruction cases are only allowed with gaps but not with resumptive pronouns. This parameter is related to the last one: reconstruction with resumption is banned in cases of scope relations but allowed in cases of binding relations.

Building on Elbourne's (2001) analysis of pronouns as instances of NP deletion, the authors claim, on the one hand, that reconstruction with weak resumption follows from ellipsis, whereas reconstruction with strong resumption is a case of movement. On the other hand, copies are claimed to be interpreted either as definite or indefinite. If the copy is the result of ellipsis, it will necessarily be definite. Within the same framework, weak pronouns are analyzed as definite determiners with an elided copy. This accounts for their availability within islands. Strong resumption, on its part, involves adjunction, and is thus sensitive to islandhood but insensitive to binding conditions, as expected. In order to account for the contrast gap vs. (weak) resumption in scope cases, it is finally argued that, as opposed to weak resumptives, gaps always receive an indefinite interpretation, therefore allowing the reconstructed reading.

Zagona's "On the syntactic features of epistemic and root modals" deals with the interaction between modal verbs and grammatical tense/aspect, and addresses the scopal relations between them. Its point of departure is the interpretation of modals relative to tense, in particular the generalization that tense can take scope over root but not over epistemic modals. The data presented show that some constructions with modals do not conform to Cinque's (1999) relative hierarchy of functional categories. Contrary to what could be expected, there are cases in which root modals seem to range over Force and cases where epistemic modals fall under Tense. The main hypothesis is that differences among modals derive from the syntactic context in which they are inserted. It is claimed that modals are optionally endowed with the feature [person]. This feature, when present, has to be valued against a DP, with the consequent *v*P adjunction of the modal (root interpretation). On the other hand, a modal that lacks a person feature can only be merged above TP. In this case it is related to the head Force, and the epistemic reading is obtained. Only in the second case can the requirements of Tense be satisfied separately by the modal and the subject DP. In order to support the preceding claim, evidence is provided concerning interpretation of epistemic modals in connected discourse as well as relative scope of epistemic modals and quantifiers. Finally, so called relative tenses and evidential systems of modality are accounted for in terms of the central hypothesis.

Borgonovo and Cummins' "Tensed modals" also faces the question of the interaction of the semantics of tense/aspect and the semantics of modality. The specific issue it explores is the role of tense and aspect on the construal of possibility and necessity modals in Spanish and French. These languages show overt morphological aspectual distinctions in past tenses: they have imperfect and perfect past tenses. The crucial point is that modals in the perfect past tense give raise to special readings, i.e., either a *demodalized* (entailment reading) or a counterfactual reading. This fact is unexpected, and contrasts sharply with the results obtained with imperfect tenses. In order to account for this behavior of modals, the authors appeal to Kratzer's (1991) theory of modality, to scope interactions among different operators, and to the effect of the modal on the domain of quantification. The meaning components of all the interpretations obtained with perfective modals are then carefully examined, as well as the pragmatic

mechanisms operating in these constructions. Scopal relations between sentence negation and modality are also accounted for partially on pragmatic grounds. Finally, a dialect of Spanish where the equivalent to the present perfect is used is analyzed. In this dialect, the counterfactual reading of the modal in the present perfect is lost for most speakers. This fact is derived from the Spanish present perfect's ability to connect the past event described to the present, i.e., to make a link to the present which is absent in the simple perfect tense.

Hernanz's paper "From polarity to modality: Some (a)symmetries between *bien* and *sí* in Spanish" analyzes the behavior of the adverbs *sí* 'yes' and *bien* 'well' in Spanish in their use as assertive markers in emphatic affirmative constructions. The features of *bien* and *sí* are discussed with respect to other sentential assertive markers, and it is shown that they are oriented towards positive polarity. The familiar distinction between internal and external negation is extended to the paradigm of affirmation. It is claimed that both elements are endowed with the features [+affirmative] [+emphatic]. The alternation between the two elements is first addressed and it is proposed that *bien* has an added presuppositional value which *sí* lacks. The proposal is that these emphatic elements are parallel to *wh*-phrases, and thus move to the Specifier of the Focus Phrase to check their features. Finally structures where assertive adverbs surface to the left of the complementizer *que* 'that' are accounted for. It is claimed that the presence of this particle involves an echoic value and, following the left periphery approach (Rizzi 1997), it is shown that this *que* is generated as the head of ForceP. Data from Catalan, which allows for two overt positions for negation, are presented, among other facts, in support of this claim.

The empirical issue in González's "Reconstruction and scope in exclamative sentences" is the (im)possibility of sentential negation in exclamative sentences in Spanish: adjectival exclamatives cannot be negated, and some nominal and verbal exclamatives can be negated while others cannot. In order to account for this fact, exclamatives are divided in two types: quantitative exclamatives (expressing quantitites) and qualitative exclamatives (containing a modifier measuring the degree to which a property is held). This semantic distinction is encoded in the morphology of the *wh*-phrase. It is qualitative exclamatives that are incompatible with negation. This incompatibility is claimed to follow from particular scope relations. The hypothesis is that exclamative operators are positive polarity items and therefore cannot fall under the scope of negation. Qualitative exclamatives always have narrow scope with respect to any other sentential operator. Being a positive polarity item, the qualitative exclamative phrase cannot be under the scope of negation, and the sentence is therefore uninterpretable. However, this is not the case for quantitative exclamatives, which can establish different scope relations with other operators. Building on Fox (2000) and Agüero (2001), the scopal relations between negation and exclamative phrases are finally related to a process of syntactic reconstruction of the *wh*-phrase. Evidence for the proposed account is provided based on binding and the behavior of certain verbs whose semantics require their object to be interpreted inside *v*P.

Gengel's "Focus, exhaustivity, and deletion in English Pseudogapping" investigates the semantic and syntactic role focus plays in this kind of elliptical construction (e.g., *John will select me, and Bill will you)*. As regards the semantics, a common view in current studies on ellipsis is adopted, and the Pseudoggaping remnant is argued to convey a contrastive meaning with respect to the corresponding material in the antecedent, which allows the speaker to choose a particular item out of a set of alternatives. The contrastive meaning of the Pseudogapping remnant is then shown to be non-exhaustive, as opposed to the exhaustivity requirement usually associated with so called *identificational focus* in languages like Hungarian. As for the syntax, the author critically reviews previous analyses of Pseudogapping as an instance of either Heavy NP-Shift or Object Shift, and holds instead that focus has also an overt impact on the syntactic derivation. The proposal basically goes as follows: prior to VP-deletion, a [+contrastive] feature placed on the element that contrasts with its corresponding element in the antecedent triggers syntactic movement of the Pseudoggaping remnant out of the phrase to be deleted, and into a focus projection above *v*P. As for the given material, Gengel follows the ideas in Merchant (2001, 2004), and assumes that it bears an E-feature based on the semantic requirement of givenness, which instructs the grammar to phonologically delete the constituents of the syntactic structure marked with that feature. This analysis in terms of contrastiveness and focus is then extended to other types of ellipsis in English, particularly Sluicing.

To conclude this brief introduction, we would like to thank all the participants in the XVIth Colloquium on Generative Gammar for their high-quality contributions, and for the lively debates that followed their presentations. We are also specially grateful to the colleagues that assisted us in the selection process, generously serving as anonymous reviewers for at least one of the articles submitted for publication: Pilar Barbosa, Cedric Boeckx, Eulàlia Bonet, José Mª Brucart, Heles Contreras, João Costa, Violeta Demonte, David Embick, Mª Teresa Espinal, Helena Herburger, Paula Kempchinsky, Itziar Laka, Mª Rosa Lloret, Amaya Mendikoetxea, Carme Picallo, Carlos Piera, Cecilia Poletto, María Luisa Rivero, Esther Torrego, Karen Zagona and Rafaella Zanuttini. And we finally want to express our deepest appreciation to Héctor Fernández, who helped us with the revision and uniform formatting of the manuscripts, and also mention that our work as editors has been partly supported by a grant to the BFF 2003-06053 project.

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Tensed modals

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This paper investigates the interaction of tense, perfectivity and modality in Spanish and French, languages in which modal verbs exhibit full tense and aspect distinctions. We examine the possible interpretations of past indicative tenses, perfective and imperfective, on the modals of possibility and obligation. Imperfective tenses exhibit the expected modalized readings but perfective past tenses have unexpected entailments and implicatures, involving the (non) realisation of the embedded event. In Spanish there are three readings with a preterit modal: epistemic (averidical), implicative and counterfactual; French exhibits the first two but lacks the counterfactual reading, absent also in the Spanish *perfecto*. We appeal to the relative scoping of the different operators, Kratzer's (1991) theory of modality, and the effect of the modal on the domain of quantification to explain these readings. Our analysis is confirmed by the interaction of Tense, Modality and Negation. We explain the absence of the counterfactual reading in the French *passé composé* and the Spanish *perfecto* by appealing to their semantics, which adds a persistent state incompatible with counterfactuality.

1. Introduction

Much of the study of modals and modality has focussed on English, and when the question of the interaction of modals and tense has arisen, the answers have been influenced by English (see, e.g., Stowell 2004; Enç 1996; Condoravdi 2002; Hornstein 1990; Abusch 1997). Modals in English are tense-impoverished, sometimes not even exhibiting tense contrasts, and of course, English modal forms are aspect-free. The situation is quite different in Romance, where modals are inflected to the full glory of the verbal paradigm. This paper aims, therefore, to investigate the interaction of tense/aspect and modality in two languages – French and Spanish – that display clear tense/aspect distinctions on modals. More precisely, we investigate the modals of possibility *pouvoir* and *poder* and the modals of necessity *devoir* and *deber* in past indicative tenses, with particular attention to aspectual distinctions. Beginning with general, and generally uncontroversial, observations regarding the available interpretations of modals in imperfective tenses, we claim that, in epistemic readings, tense scopes under the modal and is read on the lower verb and, in root readings, tense scopes over and is read on the modal, to give the modal evaluation time. We then turn to the unexpected readings, with novel implicatures and entailments, that obtain when the modals are

in the preterit or the perfect (both perfective forms). We show that in the epistemic readings, not only tense but also aspect is read on the lower verb. In root construals, in which tense and aspect scope over the modal, an implicative and a counterfactual reading obtain. We appeal to the relative scoping of the different operators, Kratzer's (1991) theory of modality, and the effect of the modal on the domain of quantification to explain these two readings. We show that aspect is a crucial ingredient in the construals of modals in the *pretérito* and the *passé composé* and we present an analysis of these readings.

The paper is organized as follows: We begin in section 2 with imperfective modals, and show how modality and tense interact in root and non-root construals. In section 3 we describe the readings that obtain when the modal verb appears in the preterit. In section 4 we develop our analysis, confirmed in section 5, where we introduce Negation and analyze its interaction with perfective modals. In section 6 we contrast the readings available to modals in the preterit and in the perfect and derive these contrasts from the semantics of the respective tenses. In conclusion, we note that the typology of counterfactuality has to be enlarged: in an important article by Iatridou (2000) it is argued that imperfective tenses are the only ones capable of encoding counterfactuality. Our paper shows that modals inflected with a perfective tense can also give rise to counterfactuality.

2. Imperfective modals

In the *imperfecto* and the *imparfait* (past imperfective forms), the French and Spanish modals display the expected epistemic and non-epistemic readings and interact with tense in a way similar to that observed for modals in English. The examples in (1) illustrate the epistemic construal:[1]

(1) a. *Pedro debía estar en casa.*
Pierre devait être à la maison.
P must.IMP be.INF at home
'P must have been at home.'

b. *Pedro podía estar en casa.*
Pierre pouvait être à la maison.
P can.IMP be.INF at home
'P could have been at home.'

In this reading, the modal evaluation is at utterance time (UT). It is at UT that the speaker judges the likelihood or possibility of the proposition *P be at home* holding in

1. The following abbreviations are used in the glosses: PRT = preterit; IMP = imperfect; INF = infinitive; PART = past participle; PRES = present; SUBJ = subjunctive.

the past; the past tense marked on the modals is read on this proposition. Imperfective aspect is also read there. This can be seen most clearly with an eventive predicate, like *trabajar / travailler* 'work' or *abrir la puerta / ouvrir la porte* 'open the door', shown in (2). With eventive predicates, imperfective aspect imposes an habitual or progressive reading. In these sentences with an epistemic construal, the imperfective aspect marked on the modal imposes these readings on the complement.

(2) a. *Pedro debía trabajar / abrir la puerta.*
Pierre devait travailler / ouvrir la porte.
P must.IMP work.INF / open.INF the door
'P must have been working / opening the door.' *or*
'P must have worked / opened the door (habitually).'

b. *Pedro podía trabajar / abrir la puerta.*
Pierre pouvait travailler / ouvrir la porte.
P can.IMP work.INF / open.INF the door
'P could have been working / opening the door.' *or*
'P could have worked / opened the door (habitually).'

The initial conclusion, based on these examples, is that in epistemic readings, the modal evaluation time (MET) is UT (by default, as we will see in § 4) and the tense and aspect features that appear on the modal are read on the complement.

The same modals in the *imperfecto / imparfait* may also receive a root construal, as seen in (3):

(3) a. *Pedro podía ser paciente / trabajar / abrir la puerta.*
Pierre pouvait être patient / travailler / ouvrir la porte.
P can.IMP be.INF patient / work.INF / open.INF the door
'P could be patient / work / open the door.'

b. *Pedro debía ser paciente / trabajar / abrir la puerta.*
Pierre devait être patient / travailler / ouvrir la porte.
P must.IMP be.INF patient / work.INF / open.INF the door
'P had to be patient / work / open the door.'

In these readings, the modal evaluation – i.e., the judgment of ability or obligation – is in the past. Thus the past tense marked on the modal serves to locate MET.

With the past imperfective tenses, both epistemic and root readings are averidical (in the sense of Giannakidou 1998), they do not give any information about the truth value of the complement in the world that models the actual, real one. Epistemic readings involve a UT evaluation of a situation located in the past, whereas root readings involve a past evaluation of a simultaneous or ulterior situation. We conclude then that in epistemic readings, the modal scopes over tense, while in root readings, tense scopes over the modal.

The epistemic reading is also available in the perfective past tenses, the *pretérito* in Spanish and the *passé composé* in French, illustrated in (4). Modal evaluation is by

default at UT, and tense scopes under it; there is no difference in this respect between the epistemic construals with perfective and imperfective modals. Aspect is also read on the complement. This is seen clearly in (4b), where the stative predicate is interpreted as a perfective event.

(4) a. *Pedro pudo abrir la puerta.*
P can.PRT open.INF the door
Pierre a pu ouvrir la porte.
P have.PRES can.PART open.INF the door
'P may have opened the door.'

b. *Pedro debió conocer a Marta en la fiesta.*
P must.PRT know.INF to M at the party
Pierre a dû connaître Marthe à la fête.
P have.PRES must.PART know.INF M at the party
'P must have met M at the party'.

The verbs *conocer / connaître* (with a human complement) mean 'know' in imperfective tenses and 'meet' in perfective tenses:

(5) a. *Pedro conocía a Marta.*
P know.IMP to M
Pierre connaissait Marthe.
P know.IMP M
'P knew M.'

b. *Pedro conoció a Marta en la fiesta.*
P know.PRT to M at the party
Pierre a connu Marthe à la fête.
P have.PRES know.PART M at the party
'P met M at the party.'

The same meaning change is seen in (4b), showing that aspect on the modal is read on the complement.

The non-epistemic readings of modal verbs in the *pretérito* and *passé composé* are unexpected, in that they do not follow the patterns seen with the imperfective past tenses. The first of these readings is illustrated in (6):

(6) a. *Pedro pudo ganar la carrera.*
P can.PRT win.INF the race
Pierre a pu gagner la course.
P have.PRES can.PART win.INF the race
'P managed to win the race.'

b. *Pedro debió pagar la cuenta.*
P must.PRT pay.INF the bill
Pierre a dû payer la facture.
P have.PRES must.PART pay.INF the bill
'P was forced to pay the bill.'

Unlike the root readings in the imperfective, (6a) and (6b) do not merely convey a past ability or obligation: instead, they entail the proposition of the complement.

There is another non-epistemic reading in Spanish, illustrated in (7); this reading is absent in French:

(7) a. *Pedro pudo ganar la carrera.*
P can.PRT win.INF the race
'P could have won the race.'
b. *Pedro debió pagar la cuenta.*
P must.PRT pay.INF the bill
'P should have paid the bill.'

In these sentences the proposition of the complement is presented as counterfactual. (7a) and (7b) convey that Pedro did not win the race and that he did not pay the bill.

For both the entailment reading in (6) and the counterfactual reading in (7), MET precedes UT. As with the non-epistemic reading of imperfective modals, tense here scopes over the modal, giving a past modal evaluation. We hypothesize that the perfective aspect applies to the interval in which the proposition is evaluated, making it a bounded interval; and that it is the boundedness of this interval, plus modifications of the quantifying power of the modal, that allow for the entailment reading and the counterfactual reading. Below we first examine in detail the meaning components of the three interpretations that obtain with perfective modals, and then describe the semantic and pragmatic ingredients that conspire to give rise to these readings.

3. Modals and the preterit

First, we note that, paradoxically, it is not surprising that unexpected readings show up when the modal appears in the preterit. The preterit asserts that a certain event took place in the past and that this event has either finished or culminated; it is perfective (though see Cipria & Roberts 2000, who claim ending or culmination for the preterit but not perfectivity). The preterit makes an unambiguous contribution to the meaning of the expression that contains it: it existentially quantifies over a single event located in the world that models the actual one in a time that precedes UT. Unlike imperfective and progressive tenses, which may receive a modal analysis (see Portner 1998, Landman 1992, Cipria & Roberts 2000), the preterit does not; it is a super-realis tense. When a modal – which of course demands a modal analysis – appears in a non-modalizing, super-realis tense such as the *pretérito*, unusual interpretations can be expected.

(8) and (9) show again the three interpretations available when the modal is inflected in the *pretérito*: the epistemic construal (a), the reading with an actuality entailment (b), and the counterfactual reading (c). (We illustrate with Spanish, as French has only the first two readings with modals in the *passé composé*, a fact to which we return in § 6.)

(8) *Pedro pudo ganar la carrera.*
P can.PRT win.INF the race
a. 'Pedro may have won the race.'
b. 'Pedro managed to win the race.'
c. 'Pedro could have won the race.'

(9) *Pedro debió ganar la carrera.*
P must.PRT win.INF the race
a. 'Pedro must have won the race.'
b. 'Pedro was forced to win the race.'
c. 'Pedro should have won the race.'

3.1 The epistemic construal

The epistemic construal behaves in the expected way: the modal evaluation is made at UT and what is evaluated is an event in the past. What is said in (8a), for example, is that it is possible that he won in the past. The outcome of the event is settled, because UT follows the time of the event, but the speaker does not claim to know this outcome (in this we follow Condoravdi 2002). Tense and modality are kept apart here, because modality has scope over a tensed proposition. In other words, tense is interpreted on the proposition, not on the modal.

Notice that, in this reading, (10) is equivalent to (9):

(10) *Pedro debe haber ganado la carrera.*
P must.PRES have.INF win.PART the race
'Pedro must have won the race.'

(10) has a present-tense modal and a perfect complement (auxiliary *haber* in the infinitive with a verb in the past participle), which shows that the modal scopes over a past-shifted event.

The modal base is epistemic and can also be circumstantial. Imagine the following context: I am outside the stadium, I hear cries and whistles that indicate that the race has finished. I say: *Pedro debió ganar la carrera*. The modal base is circumstantial here: his winning is compatible with the facts (see Kratzer 1991).

A conflict arises when tense and modality are not kept separate, as they are in the epistemic reading, but when they actually interact. This occurs when tense has scope over the modal, a configuration that obtains in non-epistemic construals. This conflict is resolved in two ways, which correspond to the readings in (8b, c) and (9b, c). To use a metaphor of war: when two conflicting forces clash, two results are possible. Either one force (say, the preterit) wins or the other force (say, the modal) wins. And in fact, this is what happens: in one case, the preterit trumps modality; in the other case, modality trumps the preterit. We now turn to a more nuanced explanation of these two readings.

3.2 The entailment reading

The (b) readings in (8) and (9) were translated as 'managed to' and 'was forced to'. Under this reading, the lower proposition (*Pedro win the race*) is entailed.[2] This can be seen from the continuations in (11):

(11) a. *Pedro pudo ganar la carrera y *no la ganó / #y la ganó.*
'Pedro managed to win the race and he didn't / and he did.'
b. *Pedro debió ganar la carrera y *no la ganó / # la ganó.*
'Pedro was forced to win the race and he didn't / and he did.'

The first continuation ('and he didn't') is contradictory and the second ('and he did') is redundant. The impossibility of *Pedro pudo ganar la carrera* being true while *Pedro ganó la carrera* is not shows that the first entails the second. The modal here is an implicative predicate.[3]

As is the case with implicatives, negation of the higher verb entails the non-actuality of the complement:[4]

(12) *Pedro no pudo ganar la carrera.* → *Pedro no ganó la carrera.*
P NEG can.PRT win.INF the race → P NEG win.PRT the race
'Pedro could not win the race.' → 'Pedro did not win the race.'

Kartunnen (1971) claims that the complement clause carries the illocutionary force of a sentence with an implicative predicate. If this is the case, then our implicative sentences are equivalent to the assertion of a perfective event in the past, from an illocutionary point of view. The sentences seem not to be modalized; the preterit here apparently trumps the modal verb. The preterit existentially quantifies over a single event with a punctual temporal specification; that is its role here. The modal is basically ignored in its modalizing function. The conflict between preterit and modal is resolved here by trivializing the modal *qua* modal.

What is the modal verb's role, then, in this construction? Compared with just the entailed proposition, the sentence with a modal has an extra layer of meaning, conveyed by our translations: *Pedro pudo ganar* presupposes (here again following Kartunnen's analysis of implicative predicates) a degree of difficulty, as does the translation, 'managed

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2. Following usual practice, we call *P win the race* the lower proposition, even though in Spanish and French there is no syntactic subordination with modal verbs, which form monoclausal structures.

3. See Bhatt (1999) for a discussion of similar readings with English *be able* and ability modals in other languages.

4. We illustrate with *poder* only here, since negation interacts in an unexpected way with *deber* in the *pretérito* and *devoir* in the *passé composé* (see § 5 below).

to win'. In the case of the corresponding reading with *deber*, the presupposed component is 'against the subject's will', conveyed by the translation, 'be forced to'.[5]

Since sentences with *poder* and *deber* differ from the entailed proposition only in the presence of the modal, it is clearly the modal that contributes the adverbial meanings 'with difficulty' or 'against one's will'. Semantically, the modal seems to act as a verbal adjunct.[6] Pragmatically, given maxims of quantity, a speaker choosing to say *pudo hacerlo* 'he managed to do it' instead of *lo hizo* 'he did it' is adding something and that something is analogous to an adverbial adjunct.

3.3 The counterfactual reading

The second unexpected reading, the one that obtains in Spanish but not in French, is the counterfactual one, repeated in (13).

(13) a. *Pedro pudo ganar la carrera.*
'Pedro could have won the race.'
b. *Pedro debió ganar la carrera.*
'Pedro should have won the race.'

What does (13a) express? Here we partially follow Condoravdi (2002). The sentence says that we are now located in a world in whose past there exists the unactualized possibility of Pedro winning the race. In this case, the modal evaluation is in the past (his winning is considered possible only in the past; it is not considered possible from a present perspective, given that the sentence receives a counterfactual reading). The modality is metaphysical (following Iatridou 2000 and Condoravdi 2002; Cinque 1999 calls this reading, or a very similar one, alethic). In a metaphysical reading, the possibility evaluated is about how the world might turn out or might have turned out to be. Here, at some point in the past, the world was such – in circumstances, let's say (given who else was running, the type of circuit, the level of Pedro's training) – that it might have evolved into a world in which he won the race. At the moment of the modal evaluation, obviously, the issue was not settled, because the event is forward-shifted with respect to it (MET precedes the time of the event, and they both precede UT). But the outcome *is* settled from the perspective of the present, because the world

5. Hacquard (2006) presents a semantic/pragmatic analysis of the actuality entailments obtaining with French modals in the *passé composé*; her analysis converges with ours on many points. She specifically rejects, though, an analysis in terms of a fatalistic modal base, which we accept in order to account for the two readings found in Spanish; recall that French does not exhibit the counterfactual construal. Hacquard (2005) deals with actuality entailments in non-modal contexts.

6. This observation recalls Picallo's (1990) analysis of Catalan modals; Picallo – for reasons different from ours – proposes an analysis in which the root modal is VP-adjoined in Catalan, instead of being a head in the verbal projection.

did not turn out to be one in which he won the race, hence the counterfactuality. The modal has a future orientation, since the modal evaluation is made on a future-shifted event (his potential winning of the race); the perspective is past, given the location of UT with respect to MET and the time of the event.

What is the difference in meaning between the counterfactual with *deber* and the counterfactual with *poder*? Here we appeal to Kratzer's theory of modality, as developed in Kratzer (1981, 1991). The modal base determines the possible worlds that the modal gives access to, the possible worlds on which the proposition is evaluated (it is similar to the accessibility relations of modal logic); the conversational context provides the modal base. Kratzer's innovation is the introduction of the ordering source, which again is conversationally established, and which ranks the possible worlds defined by the modal base according to the degree in which they realize a certain ideal.

The modal base for our two sentences is metaphysical in both cases, but consider this context: Pedro trained like a maniac, the type of race favored him, he broke all records in practice. On top of this, the speaker is a good friend of Pedro's. In this context, if he says *Debió ganar la carrera*, the speaker is saying that the worlds in which Pedro wins are more desirable than the ones in which he doesn't. The desires of the speaker are part of the evaluation of the sentence with *deber*; thus the ordering source is bouletic. In similar circumstances, the corresponding sentence with *poder* receives a metaphysical reading, but the ordering source is circumstantial rather than bouletic.

In the counterfactual reading, modality wins over preterit, since the sentence is clearly modalized. The preterit loses its realis force. Here, modality trumps tense, in a reversal of their ranking in the entailment reading discussed previously, where tense trumps modality.

The meaning of the sentences is now clear, but not what the ingredients are that contribute to each of the readings. The main questions these readings give rise to are the following: How can the same combination of tense and modal result in both a counterfactual and an implicative reading? How is the fundamental averidicality of modals erased in these cases? In order to have counterfactuality, the speaker has to have evaluated the proposition as false; there is no counterfactuality out of epistemic uncertainty (Condoravdi 2002). In order to get an implicative reading, the complement proposition must be evaluated as true. How do these almost antithetical readings arise from the same combination of elements?

4. Temporal parameters and modality

We saw above that when tense scopes under the modal, UT and MET coincide; this is the case of the epistemic construals. In Condoravdi's (2002: 63) terms, epistemic modals have a present perspective. The past tense of the *imperfecto* or the *pretérito* assigns a past orientation – that is, the event evaluated precedes UT.

When tense scopes over the modal, tense locates MET. Thus for non-epistemic contruals with modals in either the *imperfecto* / *imparfait* or the *pretérito* / *passé composé*, MET is in the past, i.e., before UT. These modals have a past perspective. Tense locates MET, but it does not situate the event or situation evaluated. With the *imperfecto*, nothing prevents this event from being simultaneous with or following UT, as illustrated in (14a), but such interpretations are unavailable with the *pretérito* (14b):

(14) a. *Ayer podía ganar mañana.*
yesterday can.IMP win.INF tomorrow
'Yesterday he could win tomorrow.'
b. #*Ayer pudo ganar mañana.*
yesterday can.PRT win.INF tomorrow

In both cases, the modal evaluation is past (forced by the presence of the adverbial *ayer*). In (14a), the location of a possible verifying instance (the winning event) is vague: it may be located in the interval starting at MET and continuing indefinitely into the future, either before or after UT. The deictic *mañana* can be anchored to MET (in which case, tomorrow is actually today with regards to UT) or it can be anchored to UT (in which case, tomorrow is tomorrow with respect to UT), and the imperfect is happy with either interpretation.

The preterit modal does not have this elasticity. With the preterit, the interval within which the event which either did or did not occur must be located between MET and UT; thus it is bounded. Therefore, the event or its non-occurrence is interpreted as past and perfective, which is why it is incompatible with *mañana*.

The imperfect, when it scopes over a modal, gives a past modal evaluation but the interval in which the event may be located is unbounded to the right. The preterit, when it scopes over the modal, gives us a past modal evaluation time and locates the event or non-event in a bounded, pre-UT period. The contribution of tense is to locate MET; the contribution of aspect is to define the boundedness of the interval in which a verifying instance is sought.

A past MET and an event evaluated in a bounded pre-UT interval are two semantic ingredients of the counterfactual reading. We claim that the evaluation of the lower proposition (*P wins the race*) as false is an implicature.

First, notice that the falseness of this proposition is neither presupposed nor asserted:

(15) a. *Pedro pudo ganar la carrera y no lo hizo.*
'Pedro could have won the race and he didn't.'
b. *Pedro debió ganar la carrera y no lo hizo.*
'Pedro should have won the race and he didn't.'

The assertion of the counterfactual proposition ('and he didn't') is not redundant, which would be the case if 'P did not win' were asserted or presupposed. Implicatures

can be reinforced, and this one can be; but they can also typically be defeated. As far as we can tell, this one cannot be defeated, which in principle is problematic for our claim.

We note that in similar sentences with a subjunctive modal verb, the counterfactuality of the complement event is also an implicature, which, like all well-behaved implicatures, can be defeated. (16a), like (13a) above, has the implicature that Pedro did not win. But (16b) defeats this implicature: Pedro did win the race. This defeasibility is not possible with a preterit modal (16c); the counterfactual implicature remains.

(16) a. *Pedro hubiera podido ganar la carrera.*
P have.SUBJ can.PART win.INF the race
'Pedro could have won the race.'

b. *Pedro igual hubiera podido ganar la carrera aun si el corredor que iba primero no se hubiera caído.*
'Pedro could have still won the race even if the runner in first place had not fallen down.'

c. *#Igual pudo ganar la carrera aun si el corredor que iba primero no se hubiera caído.*

We do not have an explanation for the non-defeasibility of the counterfactual implicatures of the sentences with preterit modals, but their status as implicatures nevertheless seems to be clear.

How does the implicature arise? From a common-sense, Gricean perspective, with (13a), the speaker asserts that it was considered possible in the past that Pedro would win the race. However, the event is settled. If he did win the race, it was *ipso facto* possible for him to win the race. For the speaker to evaluate as possible something that has happened is not informative. Given Gricean maxims, it follows that the event did not hold; otherwise the speaker would not bother to utter the modal. This basic intuition can be translated into slightly more technical terms.

Modals involve quantification over possible worlds. Here, the domain of quantification of the modal is partly outside the common ground, given that the common ground includes only worlds in which he did not win the race. The past modal evaluation quantifies over worlds in which his winning occurs, i.e., worlds that are not part of the common ground. This is the source of the counterfactual implicature: the speaker forces the hearer to backtrack in order to enlarge the domain of quantification, a manoeuvre that would be pointless unless his not winning the race is verified in the common ground (see Condoravdi 2002).

With this in mind, let's go back to the implicative reading and see how it can be derived. We said above that the reading appeared to be non-modalized, but this conclusion is arbitrary, achieved by magically turning off the modal switch. Let us assume instead that the modal switch is left on. Then, there is no difference between this reading and the counterfactual reading in scopal properties (in both the modal is under the scope of tense) and the position of MET (in both it precedes UT). In both readings, perfectivity constrains the period in which the event under evaluation

can be located. The difference, we claim, lies in the way modality and its quantifying power operate in both readings. We said that in the counterfactual reading, the domain of quantification is enlarged in order to include worlds that are not part of the common ground. The opposite occurs in the implicative reading: the domain of quantification is narrowed to one, the actual world. This has the effect of trivializing the modal. The proposition is evaluated with respect to a conversational background that is totally realistic or fatalistic. A fatalistic background is the list of propositions that describe a world exhaustively and in full detail. In such a context, if one says *Pedro pudo ganar la carrera* and if it is compatible with the fact that he won the race, then it is not possible that he did not win. Applied to our sentence in (13a), the result is that whatever Pedro was able to do, Pedro in fact did. The effect on the domain of quantification of the modal is similar with *deber*; the only difference is that, in the case of the modal of obligation, the totally fatalistic background gives us that whatever Pedro had to do, he in fact did (Kratzer 1981, 1991; Meier 2003).

Modifying the domain of quantification gives two results. In the implicative reading, the domain of quantification is limited to one world, with the result that the lower proposition is asserted. With modality trivialized, the modal contributes adverbial information. In the counterfactual reading, the domain is enlarged; counterfactuality is implicated, not asserted. The speaker backshifts to a point in which a modal evaluation was valid, implying and letting the hearer infer, if he does not know it, that the event did not hold in the actual world.[7]

The truth conditions of the three preterit readings are presented in (17).

(17) a. *epistemic construal*
PUDO $_{MB}$ Φ is true at ⟨w, t⟩ iff there exist w', t' such that w' ∈ MB (w, t), t' ⟨t and Φ is true at ⟨w', t'⟩

b. *implicative reading*
PUDO Φ is true at ⟨w, t⟩ iff there exist w', t', t" such that w' ∈ MB (w, t'), t' ⟨ t and t' ⟨ t", w' = w and Φ is true at ⟨w', t"⟩

c. *counterfactual reading*
PUDO $_{MB}$ Φ is true at ⟨w, t⟩ iff there exist a w', t', t" such that w' ∈ MB (w, t'), t '⟨ t and t' ⟨ t" and Φ is true at ⟨w', t"⟩

7. A reviewer asks what element of the sentence determines the modal base. There is none; it is determined by context. The *pretérito* does not determine the modal base or the interpretations, but rather is by nature compatible with them: its perfectivity allows the shrinking of the domain of quantification for the entailment reading, and its past perfectivity allows the speaker to have the perspective of the post-time and hence knowledge of the actual outcome of events.

5. Modals and negation

Generally, in Spanish and French, the scopal relations between sentential negation and modality pattern like those of English (see Cormack and Smith 2002), with a split between possibility and necessity modals: NEG scopes over *poder / pouvoir*, and *deber / devoir* scope over NEG. This is illustrated with the epistemic reading in the *imperfecto / imparfait* in (18) and with root readings in (19):

(18) a. *Pedro no podía estar en casa.*
P NEG can.IMP be.INF at house
Pierre ne pouvait pas être à la maison.
P NEG can.IMP NEG be.INF at the house
'P could not have been at home.'
= not [possible [P be at home

b. *Pedro no debía estar en casa.*
P NEG must.IMP be.INF at house
Pierre ne devait pas être à la maison.
P NEG must.IMP NEG be.INF at the house
'P must not have been at home.'
= necessary [not [P be at home

(19) a. *Pedro no podía ganar la carrera.*
P NEG can.IMP win.INF the race
Pierre ne pouvait pas gagner la course.
P NEG can.IMP NEG win.INF the race
'P could not win the race.'
= not [possible [P win

b. *Pedro no debía estar allí.*
P NEG must.IMP be.INF there
Pierre ne devait pas être là.
P NEG must.IMP NEG be.INF there
'P wasn't supposed to be there.'
= necessary [not [P be there

Thus, *deber / devoir* are NEG-raisers, while *poder / pouvoir* are not. The same pattern holds for epistemic construals in the *pretérito* and the *passé composé*:

(20) a. *Pedro no pudo actuar solo.*
P NEG can.PRT act.INF alone
Pierre n'a pas pu agir seul.
P NEG have.PRES NEG can.PART act.INF alone
'P could not have acted alone.'
= not [possible [P act alone

b. *Pedro no debió actuar solo.*
P NEG must.PRT act.INF alone

Pierre n'a pas dû agir seul.
P NEG have.PRES NEG must.PART act.INF alone
'P must not have acted alone.'
= necessary [not [P act alone

The pattern also holds for the implicative reading with *poder* and *pouvoir*:

(21) *Pedro no pudo ganar la carrera.*
P NEG can.PRT win.INF the race
Pierre n'a pas pu gagner la course.
P NEG have.PRES NEG can.PART win.INF the race
'P did not manage to win the race.'

These sentences, as we saw above, entail that P did not win the race. The adverbial-meaning contribution of the modal, 'with effort, difficulty', is constant.

Unexpectedly, on this reading with *deber* and *devoir*, the scopal relation is not the usual case of the necessity modal scoping over negation, but the reverse.

(22) *Pedro no debió firmar el documento.*
P NEG must.PRT sign.INF the document
Pierre n'a pas dû signer le document.
P NEG have.PRES NEG must.PART sign.INF the document
'P did not have to sign the document.'
= not [necessary [P sign the document

The adverbial meaning of coercion, 'against the subject's will', is constant. The implication remains that P did not sign the document, but unlike the other implicative cases we have shown, it is easily defeasible at least if the modal receives contrastive stress:

(23) *Pedro no* DEBIÓ *firmar el documento, pero lo firmó igual.*
Pierre n'a pas DÛ *signer le document, mais il l'a signé quand même.*
'P didn't HAVE to sign the document, but he signed it anyway.'

We have no explanation for negation scoping over *deber / devoir* in the *pretérito* and *passé composé*, but we suspect, again, that perfectivity is at issue, as the same scopal reversal holds with other perfective tenses, i.e., the *perfecto, the plusqueparfait* (past perfect), and the *passé simple*.

The reading of the negated metaphysical construal with *poder* is simply unavailable. Thus (24a) may have an epistemic or an implicative reading, but not a counterfactual one. The unavailable reading is only unobtainable by (24b), with unraised NEG.

(24) a. *Pedro no pudo ganar la carrera.*
'P must not have won the race.'
'P was unable to win the race.'
#'P could have not won the race (but did).'
b. *Pedro pudo no ganar la carrera.*
'P could have not won the race (but did).'

If *debió ganar* in its counterfactual reading enlarges the domain of quantification to include worlds that are not part of the common ground, its negative version does too. Given *deber*'s NEG-raising property, it should be read as *debió no ganar*. The hearer is invited to backtrack to a moment in which Pedro not winning was considered a possibility. Again, the objective of backtracking is to include worlds outside the common ground; the implicature, in this case, is that Pedro did indeed win.

Poder existentially quantifies over possible worlds; *puede ganar* means that there exists (at least) one world in which he wins. *No poder* – its negation – negates an existential; *no puede ganar* means that there is no world in which he wins. Since *poder* is not a NEG-raiser, negation must be read over the modal. The negated version with *poder* in the preterit (24a) receives two of the three interpretations its positive counterpart has: the epistemic and the implicative readings obtain, but the counterfactual one is lost. Why should this be? The counterfactual interpretation involves backtracking and the inclusion of worlds outside the common ground; here, backtracking would force the hearer to go back to a point in which it was considered impossible, in all worlds, that Pedro wins. That is, in this case, backtracking results in the exclusion of every (possible) world in which he wins. What kind of inference is open to the hearer in this case? If Pedro did not win, there is no need to backtrack; if he did win, it was *de facto* possible and this (wrong) evaluation of possibilities is useless pragmatically. Our analysis thus explains the gap in the paradigm of *poder* and negation.

6. The perfect

Spanish has another perfective tense, the *perfecto*. Certain varieties of Spanish (mainly but not exclusively the Peninsular ones) use this tense productively; it has the same form as the English present perfect and the *passé composé* (present of auxiliary 'have' + past participle) but different semantics.[8] When a modal is used in the *perfecto*, the epistemic reading and the implicative reading are available, as for the *pretérito*; but for a sizeable number of speakers, the counterfactual construal is absent.

(25) a. *Pedro ha podido ganar la carrera.*
P have.PRES can.PART win.INF the race
'Pedro managed to win the race.' / 'Pedro may have won the race.'
*'Pedro could have won the race.'

b. *Pedro ha debido pagar la cuenta.*
P have.PRES must.PART pay.INF the bill
'Pedro had to pay the bill.' / 'Pedro must have paid the bill.'
*'Pedro should have paid the bill (and didn't).'

8. *The perfecto* is quite similar to but lacks two particularities of the English present perfect: it is not used for non-past situations (e.g., *I have known him since 1968*) and it does not require replicability of the situation (**Have you seen that shooting star?*).

We will address the judgments, shown in (25), of those speakers for whom the perfect modal cannot receive the counterfactual construal. For these speakers, the semantics of the *perfecto* are responsible for the absence of the counterfactual reading. The *perfecto* is a perfective tense, like the preterit, but it differs from it in one important regard. According to traditional grammarians, the essential trait of the perfect is the past event's connection to the present. Linguistic analyses have expressed this connection in various ways. For example, Klein's (1994) system relates situation time to utterance time via topic time; the topic time of the present perfect contains utterance time and thus the present perfect makes a claim about the present. Reichenbach's (1947) system analyses the present perfect as having speech time and reference time coinciding. Similarly, Parsons (1990) also claims the perfect has the speech time as reference time, and further that at this reference time a certain state or property derived from the past event holds. The status of this state or property is much discussed; one can think of it as a subsequent state, as in Parsons' analysis. This state or a property derived from the event is held to persist in the present. Whether one chooses to see the *perfecto* as making a claim about the present, having utterance time as reference time, or giving rise to a state that persists at the present, the difference between the *pretérito* and the *perfecto* is that *pretérito* makes no link whatsoever to the present, beyond requiring that the event ended before UT. We hypothesize that it is the link with the present that rules out the counterfactual reading in the *perfecto*: if a state or property derived from a past event persists in the present, it follows that this event – the cause of the state or property – took place. It is then impossible to use the perfect to implicate counterfactuality: if the event is implied not to have taken place, the state derived from it cannot persist in the present.

The sole perfective past tense in spoken French is, to virtually all intents and purposes, the *passé composé*. The *passé composé* has the form of a present perfect, but its range of readings comprises those associated with preterits and perfects.

Modals in the *passé composé* also give rise to only the epistemic and implicative readings, not the counterfactual one.

(26) a. *Pierre a pu gagner la course.*
P have.PRES can.PART win.INF the race
'Pierre managed to win the race.' / 'Pierre may have won the race.'
*'Pierre could have won the race.'

b. *Pierre a dû payer la facture.*
P have.PRES must.PART pay.INF the bill
'Pierre had to pay the bill.' / Pedro must have paid the bill.'
*'Pierre should have paid the bill (and didn't).'

It seems that the formal make-up of the *passé composé* (i.e., the present-tense auxiliary), along with its underlying association with present-time even when used as a preterit, is enough to disqualify it as a tense capable of expressing counterfactuality.

7. Conclusions

In this paper we have shown how tense and aspect interact with modality in two Romance languages. In epistemic readings, tense and aspect are interpreted on the lower proposition, with the modal scoping over it. In root construals, tense scopes over the modal and locates the modal evaluation time.

The preterit, the realis tense par excellence, does not induce an interpretive clash in the epistemic reading, because the modal has scope over a tensed proposition, as expected. Interesting things happen when the preterit is interpreted on the modal, i.e., in non-epistemic construals. The result is either a proposition with trivialized modality, leading to an assertion of the lower proposition, or a proposition with an expanded domain of quantification of the modal, leading to counterfactuality.

Iatridou (2000) studies the grammatical ingredients of counterfactuality, and she identifies two: past and imperfectivity. Past imperfective tenses are used in many languages to express counterfactuality. Spanish and French use them too (with imperfects both indicative and subjunctive); what is surprising is that the *pretérito*, a perfective tense, is also recruited for this purpose. It is interesting that in the modal domain, typically averidical, the preterit may be allowed to do the counterfactual job. These new facts need to be incorporated in a full typology of counterfactuality.

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Weak Crossover, specificity and LF chains*

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In this paper I argue that *Weak Crossover* effects show up only with non-specific *wh*-operators. In order to establish the relevance of specificity in Weak Crossover contexts systematically, a notional and an operational definition of specificity are provided, drawing from the literature. In particular a range of constructions affected by specificity of the extracted DP are used as tests to support the claim. I propose a refined typology of Ā binders with respect to that proposed by Lasnik and Stowell (1991) in their paper on *Weakest Crossover*: quantificational operators need to be further split into specific and non-specific ones. On the basis of Rizzi's (2001a) proposal concerning the nature of specific vs. non-specific chains at LF and a condition of non-distinctness of grammatical features for chain links, I develop an analysis that accounts for the data.

1. Introduction

Weak Crossover (WCO) phenomenology is richer than usually understood. The first investigations of WCO (Wasow 1972, Cole 1974) illustrated that the effect is absent when the antecedent is *determinate*, but this notion remained at an intuitive level.[1]

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1. These proposals tried to reduce WCO to the *Backward Pronominalization* paradigm discussed by Langacker (1969), Ross (1967), and some others and exemplified in (i).

i. a. *He$_i$ will go if Jim$_i$ feels good.
   b. If he$_i$ feels good, Jim$_i$ will go. (Ross 1967, ch. 5, ex. 51b and 51d)

For a recent development of this kind of approach see Portolan (2005, ch. 6).

In the study of WCO at LF, starting with Chomsky (1976), this empirical observation was shelved and the bipartition between quantificational and referential antecedents (Reinhart 1983) obscured the relevance of subtler differences.

In their paper on *Weakest Crossover*, Lasnik and Stowell (1991) reintroduced the issue of the kind of operator in WCO. They distinguished between true quantificational operators and non-quantificational Ā antecedents, which leave a null epithet in argumental position ((1a) versus (1b)).

(1) a. ?*Who$_i$ do his$_i$ students admire t$_i$? *Quantificational*
b. [This professor]$_i$, his$_i$ students admire e$_i$. *Non-quantificational*

What I systematically establish is that *wh*-antecedents, quantificational in the sense of Lasnik and Stowell, induce WCO effects only if they are non-specific (2). If we modify the base example (1a) by using respectively an aggressively non D-linked (2a) and a D-linked phrase (2b) (Pesetsky 1987), we get sharply different grammaticality judgments: D-linked cases are (almost) acceptable whereas non-specific ones are completely out.[2,3]

(2) Only non-specific *wh*-operators give rise to WCO effects
a. ?*[Who the hell]$_i$ do his$_i$ students admire t$_i$? *Non-specific*
b. (?)[Which famous professor]$_i$ do his$_i$ students admire t$_i$? *Specific*

In order to establish the claim in (2) systematically, both a conceptual and an operational definition of specificity are needed.

Pesetsky (1987) showed that D-linking has important consequences for LF syntax. This work marked the beginning of a new trend in the study of syntax: for a long period before, specificity was shelved as a mere discourse property, not part of the study of core syntax. Pesetsky (1987) broke with this tradition and paved the way for a series of studies

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2. In order to account for the subtler differences of grammaticality in WCO, I adopt a richer set of diacritics than usual. The grammaticality scale of the diacritics is the following: (?) < ? < ?? < ?* < *.

3. Wasow (1972) originally noted differences in grammaticality judgments with different *wh*-elements:

i. a. ?*Who$_i$ did the woman he$_i$ loved betray?
b. ?[Which picture]$_i$ did the man who purchased it$_i$ refuse to sell?
(Wasow 1972, ch. 4, ex. 21a–23a)

We rarely find this observation in the recent literature, with the exception of Culicover and Jackendoff (1995), where the following contrast is proposed:

ii. a. [Which famous senator]$_i$ do his$_i$ constituents despise?
b. ??Who$_i$ do his$_i$ constituents despise? (Culicover and Jackendoff 1995, ex. 39)

However, the authors do not discuss the paradigm in detail.

that aimed at integrating this notion in the syntax, in order to account for a range of empirical phenomena. This research trend brought up a conceptual and operational definition of specificity, though its role in WCO has not yet been systematically addressed.

As far as the notional definition of specificity is concerned, I assume the formalization proposed by Enç (1991). Concerning the operational definition, a series of syntactic contexts whose grammaticality is sensitive to the specificity of the extracted DP have been advanced in the literature. I carefully combine these tests with the WCO configurations to establish the hypothesis. The resulting generalization is that only non-specific operators give rise to WCO effects. This is the starting point of the analysis to be developed. I propose to refine Lasnik and Stowell's typology of Ā operators: quantificational cases are split into specific and non-specific ones. In order to explain the asymmetries with respect to reconstruction and weak island sensitivity between specific and non-specific *wh*-elements, Rizzi (2001a) proposes that these give rise to two different LF chains. In a nutshell, in non-specific cases the restriction must reconstruct in argumental position at LF, whereas in specific cases it stays in the left periphery. A requirement that the ϕ features of operator and pronoun be non-distinct would allow for a fruitful account of WCO and specificity effects. In fact, only specific *wh*-phrases remain complete in the Ā position and, being endowed with grammatical features, they can bind a pronoun directly from the Ā position; on the contrary, non-specific *wh*-phrases lack grammatical features in the Ā position at LF, due to reconstruction, hence cannot bind a pronoun from the Ā position. This refined analysis accounts for the data discussed here and opens a new perspective on WCO phenomena.

Apart from this introductory section, the paper is organized as follows. Section 2 is devoted to the discussion of Lasnik and Stowell's classic proposal reintroducing the relevance of the Ā operator in WCO. This, in fact, is the starting point of the proposal to be developed here. In § 3 the semantic formalization of the notion of D-linking as proposed by Enç (1991) is introduced. Section 4 presents a series of syntactic contexts where it has been argued that the specificity of the extracted DP plays a crucial role in determining grammaticality. In particular, I will consider antireconstruction (Heycock 1995), weak island extraction (Cinque 1990), participial agreement in French (Obenauer 1994), clitic doubling in Romanian (Dobrovie-Sorin 1994), extraction from existential *there* constructions (Heim 1987), and scope reconstruction (Cinque 1990). The predictions of these tests are discussed in detail in § 5, where I make some important methodological remarks on the use of such contexts as tests for my hypothesis. Bearing this in mind, in § 6 I systematically apply the tests and show how the evidence support the hypothesis. Building on this empirical result, § 7 is devoted to the development of the analysis. Rizzi's theory of LF chains is introduced, and, on the basis of this proposal, I consider WCO configurations and show how we can account for the empirical phenomenology at issue. In § 8 I briefly suggest some possible extensions and refinements of the proposal left for future research: the theory is linked to some recent proposals on the syntax and semantics of pronominal features, and some open empirical issues are summarized. In the Conclusion (§ 9) the achieved results are briefly reviewed.

2. Weakest Crossover

The starting point of Lasnik and Stowell's (1991) proposal is the *Generalized WCO Hypothesis*: WCO violations are expected in all instances of Ā movement, and not only in the paradigmatic cases involving binding by quantifiers and *wh*-operators. However, the authors establish that WCO effects show up only with a subset of Ā movements. As a matter of fact, they claim that the effect is systematically present in the types of constructions illustrated in (3).

(3) a. *The fact that he_i owned a gun implicated $everyone_i$. *Quantification*
LF: $everyone_i$ [$_{IP}$ [$_{NP}$ the fact that he_i owned a gun] [$_{VP}$ implicated t_i]]
b. *Who_i does his_i boss dislike t_i? *Wh-question*
c. *The man_i [who_i [his_i mother loves t_i]]. *Restrictive relative*
d. ??His_i mother shot $JOHN_i$. *Focus*
LF: $John_i$ [$_{IP}$ his_i mother shot t_i]

On the other hand, WCO effects are absent in Ā-movement cases exemplified in (4).

(4) a. $John_i$ [*Null Op.*$_i$ [I believe his_i mother loves t_i]]. *Topicalization*
b. This $book_i$ was too obscene [*Null Op.*$_i$ [PRO to have [its_i author] publicize t_i]]. *Object deletion*
c. Who_i did you gossip about t_i [*Null Op.*$_i$ [despite his_i teacher's having vouched for t_i]]. *Parasitic gaps*
d. This $book_i$, $which_i$ its_i author wrote t_i last week, is a hit. *Appositive relative*
e. It was this $book_i$ [(*Wh*$_i$) that I got its_i author to read t_i]. *Cleft*

The sentences in (4) are instances of *Weakest Crossover*, a term indicating the complete (or almost complete) absence of the expected violation.

To explain this pattern, Lasnik and Stowell (1991) propose that two kinds of Ā-operators are involved in the two paradigms. Cases which give rise to WCO effects (3) involve *true quantificational phrases*, which operate on sets with members ≥2, and leave a variable in trace position. The structures that do not give rise to WCO (4), in contrast, involve non-quantificational antecedents, which leave a *null epithet* in argumental position.

Postal (1993) provides further evidence for the idea that the presence of WCO is tied to the operator type, rather than the construction type.[4] While Lasnik and Stowell (1991) claim that topicalizations and clefts with quantificational phrases are impossible in English, Postal (1993) shows that these construction are actually possible if the moved DP is modified by an exceptive (for example *anyone else*), a relative

4. Postal (1993) is a critical analysis of Lasnik and Stowell's (1991) proposal. In the former article the author describes interesting data that complicate WCO phenomenology. Even though these data would definitely deserve further investigation, I will not discuss them here.

(for example *anyone who was sick*), or an adjective phrase (for example *somebody taller and thinner than you*). Consider the following examples with an exceptive phrase.

(5) a. Anyone$_i$ else/but Bob/other than her they would have fired t$_i$.
b. It was somebody$_i$ else/other than her that they would have fired t$_i$.
(Postal 1993, ex. 6)

The moved phrases in these constructions qualify as true quantifiers and do give rise to WCO effects, as illustrated in the following examples.

(6) a. Jack$_i$, I told his$_i$ wife that I had called t$_i$.
b. *Everybody$_i$ else, I told his$_i$ wife that I had called t$_i$. (Postal 1993, ex. 9a–c)

To sum up, Lasnik and Stowell (1991) reintroduced the relevance of the operator type with respect to WCO. Different kinds of operators (quantificational vs. non-quantificational) show different degrees of sensitivity to WCO. In the next sections I argue that the specificity of the quantificational operator is relevant for WCO phenomenology, by providing a notional (§ 3) and an operational definition (§ 4) of specificity.

3. A formalization of the notion of specificity

Pesetsky (1987) analyzes the discourse properties of interrogative elements and distinguishes them on the basis of their discursive properties. When a *wh*-question asks for answers in which the entities that replace the *wh*-phrase are drawn from a set that is presumed to be salient both to speaker and hearer, the *wh*-phrase is D-linked. Pesetsky distinguishes interrogative elements on the basis of this property, as summarized below.

- *which N*: always D-linked.
- *who*, *what*, *how many*, adjuncts: could be D-linked.
- *who the hell*/*on earth*, *what the hell*/*on earth*: aggressively non D-linked.

Enç (1991) provides a semantic formalization of the notion of D-linking.[5] Her proposal is based on Heim's (1982*) File Change Semantics*. This theory accounts for the difference between definite and indefinite DPs through the *familiarity condition* and the *novelty condition*.[6] The *familiarity condition* applies to definites and requires their discourse referents to have been previously introduced into the discourse, while the *novelty condition* applies to indefinites and requires them to introduce new referents

5. Enç (1991, note 8) explicitly says that D-linking is exactly the same phenomenon as what she characterizes as specificity.

6. Enç (1991) and Heim (1982) use NP instead of DP, but in the text updated terminology is adopted.

in the discourse domain. Enç extends this account to include specificity. In her view, specific phrases are equivalent to partitives (e.g., *two of the books*), so they impose one more restriction on the structure of the discourse domain.

Every DP has a double indexing (*i*, *j*): *i* denotes the DP referent and *j* a set in which *i* is included (the index of *books* in the partitive indefinite *two of the books*).

(7) Every $[_{NP}\ \alpha]_{\langle i,\ j\rangle}$ is interpreted as $\alpha(x_i)$ and
$x_i \subseteq x_j$ if $NP_{\langle i,\ j\rangle}$ is plural,
$\{x_i\} \subseteq x_j$ if $NP_{\langle i,\ j\rangle}$ is singular. (Enç 1991: 7)

Indices have a *definiteness feature*: the presence of this feature on the first index marks the DP as definite, while its presence on the second index is associated to its specificity. If index *j* is definite x_j must be familiar and, as (7) requires that the referent of the DP be a subset of x_j, the DP must have a specific interpretation, i.e., its referent has to be included in a familiar referent. In contrast, if the index *j* is indefinite, x_j must be new, so the DP is introduced as a new referent into the discourse.

Both specific and definite phrases require their discourse referents to be familiar, while non-specific indefinites have to be new. In the case of familiar entities, the nature of the link with discourse referents comes in two types: for definites there should always be identity, while for specifics there is only an inclusion relation, corresponding respectively to *strong* and *weak antecedents* in Enç's system.

According to (7) all definites (nouns, pronouns, definite descriptions and demonstrative DPs) are specific because identity of referents implies inclusion, so if the first index is definite, the second one is definite, too. Indefinites can be specific or non-specific. Summarizing we obtain the three cases below:

- Definites: *i*[+definite] *j*[+definite]
- Specific Indefinites: *i*[–definite] *j*[+definite]
- Non-specific Indefinites: *i*[–definite] *j*[–definite]

4. Introducing the specificity tests

The literature provides a series of operational tests of specificity, namely a series of contexts where it has been argued that the specificity of the extracted DP plays a role in determining the grammaticality of the constructions. The goal of this section is to present these contexts and to show how the idea of specificity the various authors have in mind can be assimilated to the notion formalized in the previous section, following Enç (1991).[7]

7. Capitals at the beginning of subsection headings are used to cross-reference with the following material (§ 5 and § 6) where the contexts presented here are used as tests.

4.1 A. Antireconstruction

The term *antireconstruction* is introduced by van Riemsdijk and Williams (1981) to refer to the absence of principle C effects that we would expect if the extracted phrase were to be reconstructed in argument position.

Heycock (1995) analyzes the reconstruction possibilities of an extracted phrase in terms of its referentiality. Concerning this notion she quotes works by Comorovski (1989), Kroch (1989), Rizzi (1990) and Cinque (1990) in which it is argued that referentiality is relevant for weak island extraction possibilities. The referential/non-referential contrast can thus be reduced to a specific/non-specific one, in terms of the definition we provided above.

(8) a. [Which stories about $\text{Diana}_i]_j$ did she_i most object to t_j? *Specific*
b. *[How many stories about $\text{Diana}_i]_j$ is she_i likely to invent t_j? *Non-specific*

(9) a. [Which lies aimed at exonerating $\text{Clifford}_i]_j$ did he_i expect t_j to be effective? *Specific*
b. *[How many lies aimed at exonerating $\text{Clifford}_i]_j$ is he_i planning to come up with t_j? *Non-specific*

In the non-referential cases, e.g., the object of creation verbs, as in (8b) and (9b), there is no presupposed set of entities specified by the complement of the *wh*-operator. This corresponds to a non-presuppositional interpretation, and in Enç's (1991) terms to a non-specific interpretation. In fact, the restriction of the operator is not a set of entities previously introduced in the discourse and familiar to the speaker and the hearer, which means that the index of the restriction is non-specific. On the other hand, in referential cases like (8a) and (9a) there is a set of presupposed entities (for example, a set of presupposed stories about Diana whose existence is known to the speaker and the hearer), and this amounts to a D-linked interpretation, or, in Enç's system, a specific interpretation.

The semantics of *which* presupposes a set of entities defined by the complement of the operator, but this is not the case with interrogatives introduced by *how many*. While in (8b) and (9b) above *how many* has a pure cardinal reading, this phrase is actually ambiguous with respect to specificity. In other contexts, *how many* interrogatives can have a referential interpretation, which presupposes the existence of a set of entities. In these circumstances we have antireconstruction effects, as expected. For example, in (10) a familiar set of stories and of lies, respectively, have to be presupposed because of the lexical choice.

(10) a. ?[How many stories about $\text{Diana}_i]_j$ was she_i really upset by t_j? *Specific*
b. [How many lies aimed at exonerating $\text{Clifford}_i]_j$ did he_i claim that he_i had no knowledge of t_j? *Specific*

On the basis of the proposed analysis, antireconstruction effects are a hallmark of the specificity of the extracted element. So if WCO is sensitive to specificity, we expect that

in the antireconstruction contexts, WCO effects are absent. In contrast, if a principle C violation shows up, the extracted phrase must be non-specific and WCO effects should arise.

4.2 B. Weak island extraction

Comorovski (1989), Kroch (1989), Rizzi (1990) and most notably Cinque (1990) have originally established that specific DPs can be (at least marginally) extracted from weak islands, contrary to other elements (non D-linked DPs, predicates, parts of arguments, adjuncts). Rizzi (2001a) systematically collects data that support the treatment of the asymmetries in terms of specificity/non-specificity and proposes a theory that plays a crucial role in the analysis of WCO that I argue for here (§ 7.2). In this section I will concentrate only on the empirical part, leaving aside the theoretical considerations that will be discussed in § 7.1.

Let's consider a paradigmatic case of the asymmetry:

(11) a. ?Quale dei libri che ti servono non sai dove trovare? *Specific*
'Which (one) of the books (that) you need don't you know where to find?'
b. *Che diavolo non sai dove trovare? *Non-specific*
'What the hell don't you know where to find?'

In (11a) the D-linked *wh*-phrase can be extracted from a weak island, while in (11b) the extraction of an aggressively non D-linked phrase causes ill-formedness.

Apart from paradigmatic cases of D-linking like (11), Rizzi, following Heycock (1995), notes that *how many* is ambiguous with respect to specificity and weak island extraction possibilities. There are different strategies for disambiguating these phrases: apart from lexical choice (illustrated in § 4.1, ex. (10)), the use of some modifiers (*up to how many*, *how many NPs more*) induces a pure quantitative reading of the DP, as observed by Obenauer (1994).

Extraction of these phrases from a weak island is impossible (12b), as expected.

(12) a. ?Quanti problemi non sai come risolvere? *Specific*
'How many problems don't you know how to solve?'
b. *Fino a quanti problemi non sai come risolvere (in un'ora)? *Non-specific*
'Up to how many problems don't you know how to solve (in one hour)?'

On the basis of this proposal, the possibility of weak island extraction of a phrase is thus a diagnostic of its specificity.

4.3 C. Participial agreement in French

Obenauer (1994) observes that past participle agreement triggered by object *wh*-movement in French interrogatives is possible only with specific DPs. *Combien de fautes* in (13a) can only have a specific interpretation; if there is a modifier which excludes this interpretation, agreement is ungrammatical (13b–c).

(13) a. Dis-moi combien de fautes tu as faites. *Specific*
tell me how many of mistakes you have made.AGR
b. Jusqu'à combien de fautes ont-ils fait*(es), vos élèves? *Non-specific*
up to how many of mistakes have they made.*(AGR), your students?
c. Combien de fautes en moins a-t-il fait*(es) cette fois? *Non-specific*
how many of mistakes fewer has he made.*(AGR) this time?

Obenauer (1994) notes that these data are quite delicate. First of all, agreement is optional. Moreover, two phenomena interfere with these data: on the one hand, agreement tends to be suppressed in spoken French; on the other, the normative rule taught at school imposes past participial agreement on all cases, and this goes against some of the naturalistic data.

In any case, if we disregard colloquial registers and hypercorrection, the grammaticality of past participle agreement is a good test to appreciate the role of specificity in WCO.

4.4 D. Clitic doubling in Romanian

Dobrovie-Sorin (1994, ch. 6) establishes that the distribution of accusative clitic doubling in Romanian Ā constructions depends on the specific vs. non-specific nature of the moved *wh*-phrase: *cine* 'who' and *ce(N')* 'what' do not allow the presence of the clitic (14b), while *care* 'which' requires it (14a). As expected, *cîti* 'how many' is ambiguous, and can require or forbid the presence of the clitic according to its interpretive properties.

(14) a. *Pe care (băiat) *(l-)ai văzut?* *Specific*
pe which (boy)$_i$ him$_i$-have seen.2SG
'Which one (which boy) did you see?'
b. *Pe cine (*l-)ai văzut?* *Non-specific*
pe who$_i$ him$_i$-have seen.2SG
'Who did you see?'

According to Dobrovie-Sorin's proposal, clitic doubling is therefore a hallmark of the specificity of an extracted phrase.

4.5 E. Extraction from existential constructions

The post-copular subject of existential sentences with expletive *there* must be an indefinite DP or, using a term from Milsark (1977), a *weak NP*. This so-called *Definiteness Restriction* is illustrated by the contrast between (15) and (16): *strong NPs* in (15) are incompatible with *there*.

(15) a. *There is John/the man/every man in the room. *Specific*
b. *There are they/the people/most people in the room. *Specific*

(16) a. There is a man/one man in the room. *Non-specific*
b. There are men/two men/many men in the room. *Non-specific*

Heim (1987) argues that the *Definiteness Restriction* must be applied at LF, the level where scope ambiguities are disambiguated and *wh*-elements are subject to partial reconstruction. According to Heim, *which* phrases fail to reconstruct and bind an individual variable, i.e., a variable ranging over a set of individuals, and syntactically corresponding to a DP gap; this counts as a strong element (in Milsark's sense), violating the definiteness restriction (17a). *How many* phrases are instead subject to reconstruction of the restrictive term; the operator binds a non-individual variable, corresponding to a subpart of the DP and ranging over a set of quantities or degrees. Since there is no *strong* individual variable, the *Definiteness Restriction* is not violated (17b).

(17) a. ??[Which one of the two men] was there in the room? *Specific*
LF: which one of the two men was there *v* in the room?
b. [How many soldiers] does John think there were in the infirmary?
Non-specific
LF: *Wh-Op* does John think there were *x-many soldiers* in the infirmary?
(Heim 1987, ex. 15-14; examples and grammaticality judgments from Safir 1982)

While the question in (17a) includes an individual variable, a strong element incompatible with *there*, (17b) involves an occurrence with restricted scope of *x-many* N, which is characterized as a weak phrase (despite the definiteness of the *x* variable itself).

(18) a. ??The men/many men who there were in the room were eating guavas.
Specific
LF: The men/many men who there were *v* in the room were eating guavas
b. The very few books that/Ø there were on the shelves were all mysteries.
Amount relative ⇒ *Non-specific*
LF: the very few books *Rel-Op* that/Ø there were *x-few books* on the shelves were all mysteries
(Heim 1987, ex. 33-30; examples and grammaticality judgments from Safir 1982)

The relatives in (18) are examples of *amount relatives* in terms of Carlson (1977), since they involve quantities or degree descriptions. This interpretation is semantically encoded by the occurrence of *x-many Ns* in argument position, instead of an individual variable, as is the case in (18a).[8]

Heim's proposal can be reinterpreted in our terms: non-individual variables correspond to a non-specific interpretation, as there is no presupposed set over which the variable bound by the operator ranges.

So interrogatives with *how many* and amount relatives with *there* constitute tests for non-specificity: when the trace of an extracted phrase can occur in clauses with

8. Heim also considers comparatives, but to avoid complications I will not discuss this kind of construction here.

existential *there*, the element is non-specific and WCO effects are expected, according to my hypothesis.

4.6 F. Scope reconstruction

Longobardi (1986) observed that quantifier scope reconstruction is blocked by weak islands. In the absence of islands, though, the scope properties of an operator are preserved under movement. In (19), for example, no island is crossed by the moved phrase and therefore two interpretations are possible. The moved phrase *quanti pazienti* 'how many patients' can have scope over *ognuno dei medici* 'every one (of the) doctors'. In this case a natural reply to the question is a number, as illustrated in (19b), without distributive reading. A distributive reading is possible, too: *ognuno dei medici* can take scope over the extracted phrase *quanti pazienti*. In this case, a natural reply to the question is given in (19a).

(19) [Quanti pazienti]$_i$ pensi che ognuno dei medici
[how.many patients]$_i$ do.you.think that every.one of.the doctors
riesca a visitare t_i in un'ora?
can visit t_i in one hour?
a. I think Doctor Brown could visit three patients in one hour, Doctor Smith five. . . *Distributive reading*
b. Only three. *Non-distributive reading*

The distributive reading implies reconstruction of the interrogative phrase, but this reconstruction is impossible if a weak island is crossed. In this case, the question is marginally possible only in the non-distributive reading, asking about a number (20b).

(20) [Quanti pazienti]$_i$ non pensi che ognuno dei medici
[how.many patients]$_i$ don't you.think that every.one of.the doctors
riesca a visitare t_i in un'ora?
can visit t_i in one hour?
a. *I don't think Doctor Brown could visit three patients in one hour, Doctor Smith five. . . *Distributive reading*
b. ?Three patients. *Non-distributive reading*

Cinque (1990) argues that scope reconstruction properties depend on the referential nature of the extracted operator, which is Enç's notion of specificity. Only the non-specific interpretation allows the distributive reading. If a phrase can be extracted from a weak island with a grammatical result (20b), it should be specific (cf. § 4.2), and the possibility of a distributive reading (present in (19a)) is lost. In fact, as we said, *how many* phrases are ambiguous between a specific and a non-specific reading.

In conclusion, the impossibility of scope reconstruction is a diagnostic of the specificity of the extracted phrase. In other words, only non-specific phrases can reconstruct.

5. Methodological remarks

In order to actually use these tests to establish the relevance of specificity for the WCO phenomenology, some preliminary methodological remarks are necessary.

Table 1 is a summary of the operational tests I have introduced and how their grammaticality varies according to the specificity of the involved DP; Table 2 illustrates the predictions of these tests with respect to the hypothesis.

Table 1. Specificity tests

	+ Specific	– Specific
A. Antireconstruction effect	✓	*
B. Weak Island extraction	✓	*
C. Participial agreement in French	✓	*
D. Clitic doubling in Romanian	✓	*
E. Extraction from existential constructions	*	✓
F. Scope reconstruction	*	✓

Table 2. Specificity tests and their predictions

	+ Specific	– Specific
A. Antireconstruction effect (Heycock 1995)	✓	*
WCO Effects	absent	present
B. Weak Island extraction (Cinque 1990)	✓	*
WCO Effects	absent	present
C. Participial agreement in French (Obenauer 1994)	✓	*
WCO Effects	absent	present
D. Clitic doubling in Romanian (Dobrovie-Sorin 1994)	✓	*
WCO Effects	absent	present
E. Extraction from existential constructions (Heim 1987)	*	✓
WCO Effects	absent	present
F. Scope reconstruction (Cinque 1990)	*	✓
WCO Effects	absent	present

In the cases of antireconstruction (A), weak island extraction (B), French past participle agreement (C), and clitic doubling in Romanian (D), the base test gives a grammatical result in the specific case. In the specific case we can combine the base test and WCO in the same configuration; the prediction is that the example remains grammatical whenever WCO effects are neutralized. In the non-specific case, however, the base test gives an ungrammatical result; therefore the base test and WCO cannot be combined in the same example, or else the potential agrammaticality could not be ascribed to a WCO violation. In this case the only possibility is to separate the base test and the WCO configuration into two distinct examples, which constitute a (nearly) minimal pair.

To illustrate this point, consider again the paradigm of weak island extraction, repeated in (21).

(21) a. ?Quale dei libri che ti servono non sai dove trovare? *Specific*
'Which (one) of the books (that) you need don't you know where to find?'
b. *Che diavolo non sai dove trovare? *Non-specific*
'What the hell don't you know where to find?'

In the specific case (21a) we can add a WCO configuration and the sentence should remain grammatical, if the hypothesis that specificity suspends WCO is true. But in the non-specific case (21b), the extraction from a weak island is ungrammatical because *che diavolo* 'what the hell' is non-specific. To test what happens in WCO cases we cannot have a configuration with an extraction from a weak island; if we did, we could not ascribe agrammaticality to WCO alone, as it is ungrammatical because of the extraction.

Consider now the case of extraction from existential sentences (E), repeated below (22):

(22) a. ??[Which one of the two men was there in the room? *Specific*
LF: which one of the two men was there *v* in the room?
b. [How many soldiers] does John think there were in the infirmary?
Non-specific
LF: *Wh-Op* does John think there were *x-many* soldiers in the infirmary?

The test gives a grammatical result with non-specific phrases; here, we can combine the base test with the WCO configuration in the same sentence. The hypothesis predicts that a WCO effect will show up, and the predicted ill-formedness will be ascribed only to this. In the specific case, though, the base test is ungrammatical and, as before, it is necessary to use two different examples; the prediction is that in the WCO configuration the effect does not show up because the *wh*-phrase is specific.

Finally, consider the scope reconstruction paradigm (F):

(23) [Quanti pazienti]$_i$ pensi che ognuno dei medici
[how.many patients]$_i$ do.you.think that every.one of.the doctors
riesca a visitare t_i in un'ora?
can visit t_i in one hour?
a. I think Doctor Brown could visit three patients in one hour, five. . . .
Distributive reading → Non-specific
b. Only three. *Non-distributive reading → Specific*

In the base test we have predictions about possible interpretations instead of grammaticality judgments. In the specific case we expect that WCO is suspended but that the only possible reading is the one with wide scope of the *wh*-phrase with respect to another operator, that is without scope reconstruction. In the non-specific case there is scope reconstruction but WCO effects are predicted; thus a WCO configuration is incompatible with scope reconstruction.

6. Specificity tests

6.1 A. Antireconstruction

In order to add a WCO configuration in a pragmatically plausible way, it is necessary to modify the original antireconstruction examples. The sentences in (24) are modified versions of Heycock's original ones. (24a), with a partitive *wh*-phrase, shows antireconstruction effects; in (24b) the reference to uncertain future makes it clear that there is not a familiar set, so we have a non-specific interpretation, and a principle C violation emerges, as expected.[9]

(24) a. Dimmi [quale dei colleghi di Maria$_j$]$_i$ pensi che lei$_j$ abbia invitato t$_i$.
'Tell me [which of Maria$_j$'s colleagues]$_i$ do you think she$_j$ invited t$_i$.'
b. *Dimmi [quanti colleghi di Maria$_j$]$_i$ pensi che lei$_j$ incontrerà t$_i$ durante la carriera.
'Tell me [how many of Maria$_j$'s colleagues]$_i$ do you think she$_j$ will meet t$_i$ during the career.'

In (25a), the combined case, there is antireconstruction, and despite the presence of a potential WCO configuration, the effect does not show up. Examples (25b–c) test WCO in isolation. The extraction of the phrase that in (24a) shows antireconstruction does not show WCO effects in (25b). Instead the extraction of a non-specific phrase, which in (24b) is subject to principle C, shows WCO:

(25) a. Dimmi [quale dei colleghi di Maria$_j$]$_i$ sua$_i$ moglie pensa che lei$_j$ abbia sedotto t$_i$. (*Combined case*)
'Tell me [which of Maria$_j$'s colleagues]$_i$ does his$_i$ wife think (that) she$_j$ seduced t$_i$.'
b. Dimmi [quale dei colleghi di Maria]$_i$ pensi che sua$_i$ moglie abbia minacciato t$_i$.
'Tell me [which of Maria$_j$'s colleagues]$_i$ do you think (that) his$_i$ wife threatened t$_i$.'
c. *Mi chiedo [quanti impiegati]$_i$ le loro$_i$ mogli sperano che il Presidente assumerà t$_i$ nel corso del prossimo anno.
'I wonder [how many workers]$_i$ do their$_i$ wives hope (that) the President will hire t$_i$ during next year.'

6.2 B. Weak island extraction

The extractions in (26) are the basic paradigm modified in order to add WCO. In the example in (26a) we see the extraction of a D-linked phrase, while the example

9. I use indirect questions with subjunctive in order to avoid subject inversion in Italian and its possible interference with the phenomenon at issue here.

in (26b) involves an aggressively non D-linked phrase. Finally, in (26c) the modifier forces a non-specific interpretation (Obenauer 1994).

(26) a. (?)Dimmi [quale degli studenti interrogati]$_i$ pensi che Gianni non sappia come valutare t_i.
'Tell me [which of the evaluated students]$_i$ do you think John does not know how to grade t_i.'
b. ?*Mi chiedo [chi diavolo]$_i$ pensi che Gianni non sappia come valutare t_i.
'I wonder [who the hell]$_i$ do you think John doesn't know how to grade t_i.'
c. *Mi chiedo [fino a quanti studenti]$_i$ pensi che Gianni non sappia se riuscirà a interrogare in un'ora t_i.
'I wonder [at most how many students]$_i$ do you think John does not know if he will be able to evaluate t_i in one hour.'

As far as the specific case is concerned, both a combined question with weak island extraction and WCO (27a) and one with WCO alone (27b) are acceptable: no WCO effect arises. In the non-specific case, we test the WCO configuration in isolation and the WCO effect emerges, as expected (27c–d).

(27) a. (?)Dimmi [quale degli studenti interrogati]$_i$ pensi che il suo$_i$ insegnante non sappia come valutare t_i. (*Combined case*)
'Tell me [which of the evaluated students]$_i$ do you think (that) his$_i$ teacher doesn't know how to grade t_i.'
b. (?)Dimmi [quale degli studenti interrogati]$_i$ pensi che il suo$_i$ insegnante voglia bocciare t_i.
'Tell me [which of the evaluated students]$_i$ do you think that his$_i$ teacher would fail t_i.'
c. ?*Mi chiedo [chi diavolo]$_i$ pensi che il suo$_i$ insegnante voglia bocciare t_i.
'I wonder [who the hell]$_i$ do you think (that) his$_i$teacher would fail t_i.'
d. *Mi chiedo [quanti studenti al massimo]$_i$ pensi che il loro$_i$ insegnante possa interrogare t_i in un'ora.
'I wonder [at most how many students]$_i$ do you think (that) their$_i$ teacher could evaluate t_i (with)in one hour.'

The paradigm in (27) shows that the predictions are confirmed by the grammaticality judgments.

6.3 C. Participial agreement in French

For the modified base paradigm, my informants gave judgments congruent with those reported in Obenauer (1994). The example in (28a) is grammatical in the specific interpretation, with past participle agreement; meanwhile, in examples (28b–c), the modifiers force a non-specific reading and past participle agreement is ungrammatical.

(28) a. Dis-moi [quelles voitures]$_i$ FIAT a mises sur le marché t_i
tell-me [which cars]$_i$ FIAT has put.AGR on the market t_i
à prix réduit.
at a price reduced

b. ?*Dis-moi [jusqu'à combien de voitures]$_i$ les producteurs ont
tell-me [up.to how.many cars]$_i$ the producers have
mises sur le marché t_i à prix réduit.
put.AGR on the market t_i at a price reduced

c. ?*Dis-moi [combien de voitures en plus]$_i$ FIAT a mises
tell-me [how.many cars more]$_i$ FIAT has put.AGR
sur le marché t_i cette année.
on the market t_i this year

The example in (29a) is parallel to that in (28a): there is a phrase which can trigger agreement, so it is specific and, as expected, it does not give rise to WCO. Instead the examples in (29b–c) are parallel to those in (28b–c), they involve phrases which cannot trigger agreement and, as predicted, they give rise to WCO.

(29) a. Dis-moi [quelles voitures]$_i$ leur$_i$ producteur a mises sur
tell-me [which cars]$_i$ their$_i$ producer has put.AGR on
le marché t_i à prix réduit.
the market t_i at a reduced price

b. ?*Dis-moi [jusqu'à combien de voitures]$_i$ leur$_i$ producteur a
tell-me [up.to how.many cars]$_i$ their producer has
mis sur le marché t_i à prix réduit.
put on the market t_i at a price reduced

c. ?*Dis-moi [combien de voitures en plus]$_i$ leur$_i$ producteur a
tell-me [how.many cars more]$_i$ their$_i$ producer has
mis sur le marché t_i cette année.
put on the market t_i this year

6.4 D. Clitic doubling in Romanian

Dobrovie-Sorin (1994) argues that specific elements like *care (băiat)* 'which (boy)' in (30b) are not quantificational, whereas *cine* 'who' in (30a) is quantificational.

(30) a. *Pe cine (*l-)ai văzut?* *Non-specific*
pe who$_i$ him$_i$-have seen.2SG?
'Who did you see?'

b. *Pe care (băiat) *(l-)ai văzut?* *Specific*
pe which (boy)$_i$ him$_i$-have seen.2SG?
'Which one (which boy) did you see?'

In order to establish her claim, she uses the WCO test.

(31) a. *Pe $cine_i$ a certat mama lui_i t_i?
pe who_i has scolded mother his_i t_i?
'Who_i did his_i mother scold t_i?'

b. *Ce $copil_i$ ar pedepsi părinții lui_i t_i?
what $child_i$ would punish parents his_i t_i?
'[What child]$_i$ would his_i parents punish t_i?'

(32) a. Pe $care_i$ l_i-a certat mama lui_i t_i?
pe $which_i$ him_i-has scolded mother his_i t_i?
'[Which one]$_i$ did his_i mother scold t_i?'

b. Pe al cui $elevi_i$ $îl_i$ nedreptățesc prietenii lui_i t_i?
pe whose $student_i$ him_i wrong friends his_i t_i?
'[Whose student]$_i$ do his_i friends wrong t_i?'

(Dobrovie-Sorin 1994: 202–203)

We know that *cine* 'who' and *ce* 'what' have a non-specific interpretation as they do not allow clitic doubling (30a). Thus (31) is a test that confirms that WCO effects do show up with non-specific antecedents. In contrast *pe care* 'which' and *pe al cui* 'whose' in (32) have a specific interpretation, as they require clitic doubling. As we know, in the specific case we can combine the base test and WCO because we expect a grammatical result if specificity suspends WCO.[10]

6.5 E. Extraction from existential constructions

The examples in (33) are modified versions of the ones quoted from the literature.

(33) a. How many soldiers does the commander think there are t in the infirmary?
b. These supplies should be enough for the very few soldiers (that) the commander thinks there are t in the trenches at this point.

When the trace of an extracted element can occur in *there* contexts the element is non-specific and we expect WCO violations. If we combine the base test and WCO, a WCO violation is expected.

(34) a. ?*[How many soldiers]$_i$ does $their_i$ commander think there are t_i in the infirmary? (*Combined case*)

10. In this test, for the specific case it is not possible to have an example with clitic doubling and WCO separated: the presence of specific *wh*-phrases produces an agrammatical result without clitic doubling (30b).

b. ?*These supplies should be enough for [the very few soldiers]$_i$ that their$_i$ commander thinks there are t_i in the trenches at this point.
(*Combined case*)

If the base test is ill-formed, the extracted phrase is specific (35a). In this case we have to keep the base test and the WCO configuration separated in order to see the lack of WCO effects (35b):

(35) a. ??[Which student]$_i$ does the professor think there is t_i in the great-hall?
b. [Which student]$_i$ does his$_i$ professor think is t_i in the great-hall?

6.6 F. Scope reconstruction

The question in (36) is parallel to the example in (19). The allowable responses show that both a distributive non-specific interpretation (36a) and a specific interpretation of *quanti pazienti* are grammatical.

(36) [Quanti pazienti]$_i$ pensi [che ognuno dei medici
[how.many patients]$_i$ do.you.think (that) every.one of.the doctors
sostenga che Maria ha accompagnato t_i]?
claims that Maria has taken t_i?
a. Doctor Brown three, Doctor Smith five. . . *Distributive reading*
b. Three. *Non-distributive reading*

In the test paradigm with WCO in (37) the distributive non-specific reading is unavailable. It is reasonable to interpret this fact as a consequence of the presence of the WCO configuration: it forces the non-distributive specific interpretation (37b), in order to prevent the potential violation.

(37) [Quanti pazienti]$_i$ pensi [che ognuno dei medici
[how.many patients]$_i$ do.you.think (that) every.one of.the doctors
sostenga che la loro$_i$ madre ha accompagnato t_i]?
claims that their$_i$ mother has taken t_i?
a. *Doctor Brown three, Doctor Smith five. . . *Distributive reading*
b. ?Three. *Non-distributive reading*

6.7 Conclusion

The results of the tests we discussed in this section confirm the hypothesis that WCO is suspended if the antecedent is specific. The following empirical generalization ensues.

(38) In an Ā chain WCO effects arise only if the extracted phrase is non-specific

The discussion of some potential counterexamples to this claim is postponed to § 8.2. (38) is the starting point of the next section, which is devoted to a theoretical proposal accounting for specificity effects in terms of LF chains.

7. WCO and LF chains

My analysis is crucially based on Rizzi's (2001a) account of reconstruction and weak island extraction asymmetries, which I have presented as specificity tests (4.1 and 4.2). In a nutshell, Rizzi reinterprets his own earlier proposal based on the notion of referential index (Cinque 1990, Rizzi 1990) in terms of different LF structures for specific and non-specific elements. These two configurations and the *Weakest Cross-over* one give a tripartite typology of LF configurations. A binding mechanism based on non-distinctness of ϕ features applied to the LF structures accounts for the WCO phenomenology currently under consideration.

7.1 Specificity and LF chains

Rizzi's (2001a) proposal is based on the copy theory of traces (Chomsky 1995, ch. 3), the assumption of LF deletion to satisfy the *Principle of Full Interpretation*, and a representational definition of traces/copies.

The author assumes the following definition of chain at LF:[11]

(39) $(A_i, \ldots, A_n)$ is a chain if and only if, for $1 < i < n$
  a. $A_i = A_{i+1}$
  b. A_i c-commands A_{i+1}
  c. A_{i+1} is in a Minimal Configuration with A_i

Both constructions in (40) should be ungrammatical according to condition (39), but the sentence with a specific DP (40a) is acceptable:[12]

(40) a. ?Which problem do you wonder how to solve ⟨which problem⟩?
  b. *How do you wonder which problem to solve ⟨how⟩?

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11. The notion *of Minimal Configuration*, originally proposed by Rizzi (2001b), is a reformulation of classical *Relativized Minimality* (Rizzi 1990):

i. Y is in a Minimal Configuration with X if and only if there is no Z such that
  a. Z is of the some structural type as X, and
  b. Z intervenes between X and Y.

12. According to the copy theory of traces, traces are complete but silent copies of their antecedents. Copy-traces are expressed by the angle brackets notation.

To account for this exception Cinque (1990) and Rizzi (1990) propose that D-linked *wh*-phrases are not subject to the *Relatived Minimality* (RM) condition (Rizzi 1990). In fact, such phrases can be connected to their traces through a mechanism different from standard chain formation which is subject to locality conditions. In these proposals the notion of *referential index*, an index possessed only by specific arguments, plays a crucial role. Nevertheless this analysis has been criticized on empirical and conceptual grounds (Frampton 1991 and others).

Rizzi (2001a) proposes that the restriction of non D-linked *wh*-elements must reconstruct in its base position at LF and that only the operator is allowed to stay in the left periphery (for interpretive reasons) (41). In this way the operator is separated from its restriction and we obtain an unrestricted quantification.

On the contrary, the restriction of D-linked *wh*-elements stays in the left periphery at LF because of its topical nature (42).

(41) *Quanti soldi non sai come guadagnare ⟨quanti soldi⟩? *Non-specific*
'How much money don't you know how to earn?'
LF: Quanti ⟨soldi⟩ non sai come guadagnare ⟨quanti⟩ soldi

(42) ?Quanti dei soldi che ti servono non sai come guadagnare ⟨quanti dei soldi che ti servono⟩? *Specific*
'How much of the money that you need don't you know how to earn?'
LF: Quanti dei soldi che ti servono non sai come guadagnare ⟨quanti dei soldi che ti servono⟩

The deletion of the restriction in the LF representation in (41) triggers a *shrinking* mechanism that redefines the portion of structure that counts as trace/copy in the base position: only *quanti*, interpreted in the left periphery, has a trace status, while the restriction, being deleted from the left periphery, is not part of the trace structure in base position. This mechanism accounts for reconstruction asymmetries between specific and non-specific cases, since their restriction is interpreted in argumental position. RM is an LF condition and there are two possible mechanisms to link moved phrases to their base position: long distance binding and chain formation. D-linked elements, which do not undergo reconstruction at LF, can enter into long distance binding with their traces/copies. Non D-linked *wh*-operators, on the other hand, do not have not access to this mechanism, so there is a movement chain subject to RM that produces an ungrammatical result.

Long distance binding (independently justified for pronoun binding by quantifiers) is sensitive to C-command and is restricted to full DPs, as only these can enter into binding relations. Moreover, and crucially for my analysis, Rizzi notes:

> The binding relation also involves some kind of matching between binder and bindee, not as strong as the full identity of internal structure holding in chains [. . .] but at least some condition of non-distinctness of grammatical features.
> (Rizzi 2001a: 151)

It is plausible to suppose that grammatical features of DPs are ϕ features.[13] The binding mechanism accessible to specific DPs is formalized as in (43):

(43) A binds B only if
  a. A and B are DPs non-distinct in grammatical features, and
  b. A C-commands B.

(43) can be used as an alternative mechanism to the locality principle expressed in terms of Minimal Configuration in (39c), i.e., A_{i+1} is in a Minimal Configuration with A_i or is bound by A_i.

7.2 WCO configurations

Let us now consider the WCO configurations in terms of the two types of LF chains (specific/non-specific) proposed by Rizzi, and the *Weakest Crossover* configuration exemplified in the Lasnik and Stowell's (1991) analysis. If we put these together we obtain the three configurations illustrated in (44).

(44) a. *Non-specific chain*: Op [. . . pro . . .] [⟨Op⟩ NP]$_\phi$
  b. *Specific chain*: DP$_\phi$ [. . . pro$_\phi$ . . .] ⟨DP$_\phi$⟩
  c. *Weakest Crossover configuration*: DP$_\phi$ [. . . pro$_\phi$ . . .] e$_\phi$

In my analysis I assume, contrary to traditional accounts (beginning with Chomsky's 1976 influential proposal), that the operator can bind the WCO pronoun directly from its Ā-position if it has the necessary ϕ features.

In the non-specific chain in (44a) only the operator stays in the left periphery, without restriction. It doesn't have ϕ features to satisfy the non-distinctness condition and therefore cannot establish a binding relation with the pronoun. As a result binding is impossible and WCO arises. To be concrete, consider the following example (45) with a non-specific operator:[14]

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13. Rizzi (2001a) analyzes Obenauer's (1994) data on past participle agreement in French (4.3). A non-specific chain cannot trigger agreement because it has ϕ features only on the tail (ii), while agreement needs to be supported at LF by a DP with matching features in local configuration (i).

i. Dis-moi combien de fautes tu as faites.
  'Tell me how many mistakes you have made.AGR'
  LF: Combien de fautes [tu as [⟨combien de fautes⟩ faites ⟨combien de fautes⟩]]

ii. Jusqu'a combien de fautes ont-ils fait(*es), vos eleves?
  'Up to how many mistakes have they made.AGR, your students.'
  LF: Combien [DP avoir [⟨combien⟩ de fautes fait(es) ⟨combien⟩ de fautes]]

14. In (45) and other examples with an embedded clause, there is a copy/trace in the Spec of the embedded CP but it is omitted for simplicity.

(45) *[Up to how many students]$_i$ do you think that their$_i$ professor can evaluate in one hour ⟨up to how many students⟩$_i$?
LF: [Up to how many ⟨students⟩]$_i$ do you think that their$_i$ professor can evaluate ⟨up to how many⟩ students$_\phi$

The restriction of the non-specific operator is reconstructed in the LF representation so that we have a bare operator, and not a full DP endowed with ϕ features, as these are on *students*. Thus *up to how many* cannot bind the pronoun from the c-commanding Ā position and a WCO effect arises.

As for specific chains (44b), a full DP endowed with ϕ features is present in the left periphery; these features match those of the pronoun, which can therefore be syntactically bound by the DP operator from the Ā position. Consider the example (46):

(46) [Which famous professor]$_i$ do you think that his$_i$ students admire ⟨which famous professor⟩?
LF: [Which famous professor$_\phi$]$_i$ do you think that his$_i$ students admire ⟨which famous professor⟩

The restriction of the specific *wh*-element stays in the left periphery at LF. We therefore have a full DP endowed with ϕ features possessed by the restriction *professor*. Thus the full DP endowed with ϕ features *which famous professor* can bind the pronoun from the Ā position and the WCO violation does not appear.

In the *Weakest Crossover* configuration (44c) (for concreteness, look at the topicalization reported below (47)), there are two distinct chains, since according to Lasnik and Stowell's (1991) hypothesis, the moved DP is referential and the gap is a null referential element *e*. The pronoun can establish a coreference relation with one of those two categories without having to be syntactically bound by the moved DP (Reinhart 1983). [15,16]

(47) John$_i$ [*Null Op.*$_i$ [I believe his$_i$ mother loves e$_i$]]

The three configurations presented and the features transmission mechanism thus account for the data and open a new perspective on WCO. In the next section a possible extension of the analysis and some empirical problems are presented.

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15. If we do not adopt the coreference solution, the moved element in (44c) can legitimately bind the pronoun: as the DP is not a quantifier, it is not possible to separate the operator and the lexical restriction like in (44a); so the DP in the left periphery has ϕ features at LF that allow it to bind the pronoun.

16. The c-command requirement has been criticized empirically. In a nutshell, cases where a variable is too deeply embedded to c-command the pronoun but where binding by the operator is possible are problematic. Bianchi (2001) collects the relevant data. See Buring (2004) for an approach to binding cases without c-command based on E-type pronouns.

8. Future extensions and refinements

In the first part of this section I will show how the analysis developed can be linked to recent proposals on the syntax and semantics of pronominal features. Then some empirical complications for the hypothesis that WCO is suspended when the antecedent is specific are summarized for future inquiry.

8.1 Feature transmission under variable binding

Heim (2005) discusses the issue of uninterpreted features on bound pronouns. For instance, the person feature on the possessive pronoun in VP ellipsis contexts can be uninterpreted, hence invisible at LF. This is illustrated in (48a), quoted from Schlenker (2003).

(48) I did my homework, but you didn't.
  a. you didn't do *your* homework.
  b. you didn't do *my* homework.

To account for these data, Heim (2005) proposes a principle of *feature transmission under variable binding*: some features of a bound pronoun are not specified on the pronoun itself, but are transmitted to it in the morphological component by the Ā operator which binds it at LF. For this reason these features are invisible on the pronoun at LF but they shape its morphological form.

According to Heim's analysis, in these cases the pronoun is bound from an Ā position. Thus, it is natural to assume that in general they could be bound directly from Ā positions, as I did in my analysis.

The detailed development of this connection would link the study of WCO to the syntax and semantics of pronominal features.

8.2 Some open empirical issues

The specificity of the antecedent does not neutralize WCO in all potential configurations. There are some cases where the effect is present even if the antecedent seems specific, including phrases focalized by in-situ operators, constructions with focalized antecedents, partitive quantificators, and restrictive relatives with definite heads.

The presence of a focalization operator in (49) induces WCO effects even if the antecedent *John* is definite.[17]

(49) ?*His_i mother loves even/only John_i.

17. The main stress in this construction should be on the verb.

The new information focus in (50), with main stress on *JOHN* is sensitive to WCO despite the antecedent being a proper name, thus definite.[18,19]

(50) *His$_i$ mother loves JOHN$_i$.

The sentence in (51) involves a partitive quantifier, a clear case of a specific phrase.[20]

(51) *His$_i$ mother loves [everyone of these children]$_i$.

In English restrictive relatives headed by definite DPs, WCO effects are not neutralized (52).[21,22]

(52) ?*The man who$_i$ the woman he$_i$ loved betrayed is despondent.

Concerning the cases which involve focalized elements and quantifiers moved at LF, it is possible to speculate that they move quite low in the structure, to a position where they cannot bind the pronoun. Kayne (1998) discusses data on focus that support an analysis along these lines. As far as the relatives are concerned, there is evidence that the determinate article is outside the head of the relative (Kayne 1994, ch. 8; Bianchi 1999, ch. 2). The detailed study of these cases is left for future inquiry.

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18. Since Chomsky's (1976) influential proposal, these cases have been analyzed through LF movement of the focalized phrase that produces a WCO configuration. This analysis is problematic because focalization can involve subparts of phrases.

19. Contrastive focalization of definite elements produces WCO, but the ungrammaticality is not as strong as in the cases of new information focus and focalization by operators.

i. ??GIANNI sua$_i$ madre ha sempre apprezzato t$_i$ (non Piero).
GIANNI his$_i$ mother has always appreciated t$_i$ (not Piero).
(Rizzi 1997, ex. 17)

20. According to Enç's (1991) analysis, quantifiers are always specific because they operate on presupposed sets of entities.

21. Judgments on English restrictive relatives found in the literature are not entirely congruent; Postal (1993, note 1) summarizes the situation. Moreover there seems to be crosslinguistic variation in this respect: e.g., Postal (1993) notes that WCO is absent in French restrictive relatives. In Italian, WCO effects seem to be weaker than in English.

i. Lo studente$_i$ che i suoi$_i$ insegnanti hanno bocciato.
the student$_i$ that his$_i$ teachers have failed

22. This case has been problematic since the first studies on WCO (Wasow 1972, Cole 1974). On this empirical basis the analysis of WCO as Backward Pronominalization was shelved by Chomsky (1976).

9. Conclusion

Lasnik and Stowell's (1991) proposal shows that the type of operator is relevant for WCO, but their dichotomy is not refined enough to fully account for all the empirical data.

Work in the Principles and Parameters framework elaborated a precise notion of specificity and described a series of syntactic contexts where it plays a crucial role in determining grammaticality. Using these empirical tests, I established that specificity is relevant for WCO. The empirical generalization that seems to emerge from the data is that WCO effects show up only if the antecedent is non-specific, and this conclusion is the starting point of my theoretical proposal.

I have proposed a treatment of specificity effects based on a tripartite typology of chains derived from Rizzi's (2001a) analysis of reconstruction and weak island extraction asymmetries and from Lasnik and Stowell's analysis of *Weakest Crossover* cases. These three configurations and a mechanism of grammatical features non-distinctness would account for the WCO phenomenology.

In conclusion, the current paper is an empirical advancement over Lasnik and Stowell's (1991) standard analysis, opening a new perspective on WCO phenomena and linking it to the study of LF chains and binding mechanisms.

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Conditions on sub-extraction*

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This paper discusses the nature of Huang's (1982) *Condition on Extraction Domains* (CED) in the context of Chomsky's (2005) *Phase Theory*. In particular, we address Chomsky's (2005) analysis, which takes phase edges (i.e., SPEC-v^* and SPEC-C) to give rise to locality problems for sub-extraction. Concentrating on the *Subject Condition* subcase, we provide empirical evidence that the opacity-inducer nature of edges seems to be cross-linguistically non-uniform, and argue for subject islandhood being in fact parasitic on agreement freezing (Chomsky's 2000; 2001 *Activity Condition*), an analysis we extend to sub-extraction from objects.

1. Introduction

The goal of this paper is to address CED effects, building on the mechanics of Chomsky's (2000, 2001) *Agree* mechanism. In so doing, we critically review Chomsky's (2005) proposal that phase *edges* create locality difficulties, restricting ourselves to the predictions this idea makes with elements merged in SPEC-v^* (arguably, subjects and shifted objects; see Chomsky 2001). We eventually argue that the relevant blocking effect has more to do with details pertaining to Chomsky's (2000, 2001) *Activity Condition* than with phase edges *per se*.

(1) *Activity Condition*
DPs with structural Case are *active*.
A-movement (triggered by ϕ-Probes) renders active DPs *frozen*.

The paper is divided as follows. In section 2 we briefly review what kinds of locality devices minimalism has considered in order to capture island effects. Section 3 concentrates on the *Subject Condition* (a subcase of Huang's 1982 CED effects),

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comparing those accounts where SPEC-T is an opaque domain with Chomsky's (2005) phase-based analysis; capitalizing on data from Spanish and Dutch, we conclude that an analysis that relies on agreement conditions is superior on both theoretical and empirical grounds to Chomsky's (2005). In section 4 we turn our attention to objects, noting that only non-agreeing ones block sub-extraction. Section 5 summarizes the main conclusions (and consequences) of this proposal.

2. Islands and minimalism

The Minimalist Program lacks a unified theory of islands.[1] This arguably relates to the desideratum that syntax be geared by both internal and external requirements. Lasnik (2001b), for instance, observes that sluicing can rescue island violations by destroying the offending *PF structure*:

(2) They want to hire someone who speaks a Balkan language, but I don't know
$[_{CP}$ which (Balkan language)$_i$ C $[_{TP}$ ~~they want to hire someone who speaks t$_i$~~]]
(from Lasnik 2001b: 313)

Comparably, Hornstein & Uriagereka (2002) argue that operations taking place *in the LF component* can modify the c-command path between a negative element like *nobody* and a NPI, thereby inducing late islands for relevant quantifiers.

(3) *$[_{CP}$ C $[_{TP}$ Nobody$_i$ T $[_{v*P}$ t$_i$ *v** gave $[_{VP}$ most children a red cent]]]]
(from Hornstein & Uriagereka 2002: 110)

The suggested analysis of facts like (2) and (3) opens the door for the existence of phonetic and semantic factors affecting the dynamics of extraction domains.[2]

In turn purely internal constraints presently reduce to the *Minimal Link Condition* (MLC) and the *Phase Impenetrability Condition* (PIC). The former was proposed by Chomsky (1995) in the context of operations of the type Rizzi (1990) explored.[3,4]

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1. See Boeckx (2003a), Chomsky (2000, 2005), Rackowski & Richards (2005), Rizzi (2001, 2004, 2006a, 2006b), Uriagereka (1999a, 1999b), and references therein.

2. See Hornstein, Lasnik & Uriagereka (2006) for a perspective different from ours.

3. Although the MLC was intended as a derivational version of Rizzi's (1990) *Relativized Minimality*, it was designed to allow syntactic communication between K and β, bypassing α, under conditions of *equidistance* (see Chomsky 1993, 1995, 2000). This makes elements within the same residual domain (SPECs of the same head H) count as equally close from each other and/or a relevant target. Chomsky (2001, 2005) and Hiraiwa (2005) present arguments against *equidistance*.

4. See Rizzi (2004) for a more fine-grained analysis of *Relativized Minimality* effects. Since nothing we have to say here hinges on these modifications, we will ignore them.

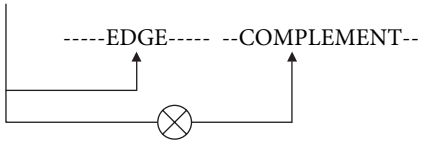
(4) *Minimal Link Condition*
K attracts α only if there is no β, β closer to K than α, such that K attracts β
(from Chomsky 1995: 311)

(5) K > α > β (where ">" indicates c-command)

The PIC was introduced within the realm of *Phase Theory* (see Chomsky 2000 through the present), in order to yield "a strong form of Subjacency" (Chomsky 2000: 14).

(6) *Phase Impenetrability Condition*
The domain H [of a strong phase] is not accessible to operations at ZP [the next strong phase]; only H and its edge are accessible to such operations.
(from Chomsky 2001: 14)

(7) $[_{ZP}$ Z ... $[_{HP}$ (SPEC) H [... XP ...]]]

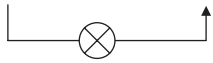


It can be shown that (4)–(5) and (6)–(7) do not have the same empirical coverage. The MLC is restricted to Chomsky's (2000) *defective intervention effects*, illustrated by the Spanish data in (8):

(8) a. **Pedro le me envía.*
Pedro CL.to.him.3.SG.DAT CL.me.1.SG.ACC send.3.SG
'Pedro sends me to him.'
b. *Pedro me lo envía.*
Pedro CL.to.him.1.SG.DAT CL.him/it.3.SG.ACC send.3.SG
'Pedro sends him to me.' (from Ormazabal 2000: 241–242)

The *Person Case Constraint* (Bonet 1994) forces accusative marked DPs to appear in default 3rd person in the presence of dative DPs. Configurationally, this falls into place if the indirect object in (9) intervenes between v^* and the direct object:[5]

(9) $[_{v^*P}$ v^* $[_{VP}$ IO $[_{VP}$ V DO]]]



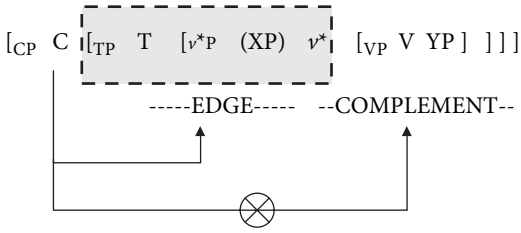
At first glance, both PIC and MLC seem to reduce to a configuration in which an *intervener* is sandwiched between two XPs, triggering syntactic interference. There is, however, an important difference between these constraints: only the MLC is phase bounded. The relevance of this can be seen in (10), a *Superiority* effect:

5. See Jeong (2006) and references therein for recent discussion.

(10) a. *[$_{CP}$ What$_i$ C did [$_{TP}$ who say t$_i$]]?
b. [$_{CP}$ Who$_i$ C [$_{TP}$ t$_i$ said what]]?

Under standard accounts, (10a) yields ungrammaticality because *what* moves to C, bypassing a closer candidate: *who*. (10b) in turn shows that, if the order of *wh*-phrases is changed (avoiding an unwanted, minimality inducing, configuration), no violation arises. So in MLC configurations *things can be fixed* – within a phase. The domain of the PIC, however, involves a phase collapsing that couples the *complement domain* of a higher phase (say, CP) and the *edge domain* of the previous phase (*v**P). The relevant structure is depicted in (11), with the box signalling the collapse zone.[6]

(11)



In (11), regardless of whatever ordering changes we make, it will be impossible for YP to move across XP, simply because it has already been cashed out to the interpretive components. (12), a *Wh-Island Constraint* violation taken from Boeckx & Lasnik (2006: 150–151), illustrates this point:

(12) a. ?*[$_{CP}$ What$_i$ C did Sue wonder [$_{CP}$ where$_j$ Bill bought t$_i$ t$_j$]]?
b. *[$_{CP}$ Where$_j$ C did Sue wonder [$_{CP}$ t$_j$ Bill bought what t$_j$]]?

In (12) it does not matter whether we chose to move *where* (over *what*) or *what* (over *where*): both choices result in an illicit structure. In this sense, the PIC imposes more severe restrictions, leaving very small margins to manoeuvre.

So, MLC and PIC cannot account for the same island phenomena. More importantly for our purposes here, neither the MLC nor the PIC seem useful when it comes to Huang's (1982) CED effects.

3. CED effects

The CED is taken to subsume subject and adjunct sub-extractions. Because of its unstable status cross-linguistically, we will mainly focus on the former, summarizing the analyses under which it is related to the canonical surface position of subjects: SPEC-T. We compare

6. In (11) we put aside the possibility that a phase edge can contain multiple SPECs. If such a configuration is created, both XP and YP might in principle be attracted, depending on whether we take these to be *equidistant*, in the sense of n. 3.

these accounts with Chomsky's (2005), concluding that an *Activity Condition*-based analysis is preferable on both empirical and theoretical grounds. In the last section we consider sub-extraction from different kinds of objects; Spanish Case-marked objects will prove useful in reinforcing the main thesis of this paper.

3.1 On freezing effects in SPEC-T

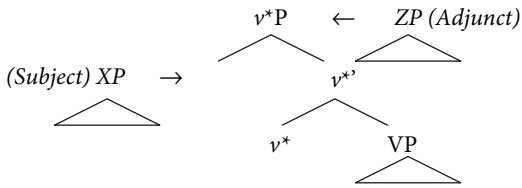
As is well-known, while objects can normally be targeted for sub-extraction operations, subjects and adjuncts cannot:[7]

(13) a. $[_{CP}$ Who$_i$ C did $[_{TP}$ you$_j$ T $[_{v^*P}$ t$_j$ v^* hear [a story about t$_i$]]]]?
b. *$[_{CP}$ Who$_i$ C did $[_{TP}$ [a story about t$_i$]$_j$ T $[_{v^*P}$ t$_j$ v^* amuse you]]]?
c. *$[_{CP}$ Which book$_i$ C did $[_{TP}$ John$_j$ T $[_{v^*P}$ t$_j$ v^* go to class [after he read t$_i$]]]]?

(from Lasnik & Saito 1992: 42,12)

Two broad types of analyses can be identified to address the asymmetry in (13). The first one offers an explanation that relies on a multiple-Transfer approach, assuming that complex non-complements must be independently sent to the interpretive components for linearization to take place. Such is the logic behind Uriagereka's (1999a) *Multiple Spell-out* (MSO) account, whose details can be summarized as in (14):

(14) *Multiple Spell-out of complex non-complements*



Linearization of XP (the subject) and ZP (the adjunct) force us to abandon the v^*P derivational workspace. On the other hand, YP (the object) never imposes that restriction, as objects give rise to what Uriagereka (1999a) calls "command-unit", the simplest derivational object resulting from the monotonic application of *Merge*:

(15) *Command-unit*
a. Merge of α and β: $\{\alpha, \beta\}$
b. Merge δ and $\{\alpha, \beta\}$: $\{\delta, \{\alpha, \beta\}\}$

(16) *Not a Command-unit*
a. Merge of α and β: $\{\alpha, \beta\}$
b. Merge of $\{\delta, \gamma\}$ and $\{\alpha, \beta\}$: $\{\{\delta, \gamma\}, \{\alpha, \beta\}\}$

The crucial distinction in (15)/(16) is in terms of whether complex phrasal elements undergoing Merge have already been constructed in a separate derivational workspace

7. In this paper we put aside the *Specificity Condition*. See section 4.

(as in 16b). This is generally the case for complex specifiers, for instance. Said elements must be transferred to the component(s) where linearization is possible, or they would not be linearizable as such. It is precisely this abandonment of, concretely, *v**P's workspace that forces the system to go into early Spell-out of the relevant cascades, which renders them out-of-sight for computational processes.

A second line of inquiry has approached Huang's findings from the perspective that chains must be uniform representational objects (Ormazabal et al. 1994, Stepanov 2001, and Takahashi 1994). The *Subject Condition* is thus related to the surface position of subjects.[8] Consider, in this regard, Ormazabal et al. 's (1994) *Specifier Condition*:

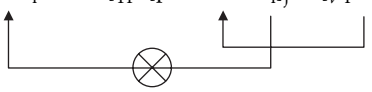
(17) *Specifier Condition*
No movement can take place from inside a phrase that has moved to a specifier position (i.e., to the left). (from Ormazabal et al. 1994: 10)

The intuition here is based on Chomsky & Lasnik's (1995) *Uniformity Condition*:

(18) *Uniformity Condition*
a. The Chain C: $[\alpha_1 \ldots \alpha_n]$ is a legitimate LF object only if C is uniform [or it is an operator variable construction].
b. The Chain C is uniform with respect to a property P if each α_i has property P or each α_i has non-P. (from Chomsky & Lasnik 1995: 91)

With (17)/(18) in mind, consider a subject island violation, where the *wh*-phrase *who* is sub-extracted after the subject has reached its surface position:

(19) *[$_{CP}$ Who$_i$ C did [$_{TP}$ [pictures of t$_i$]$_j$ T [$_{v^*P}$ t$_j$ *v** scare you]]]?



As the arrows in (19) indicate, an implicit assumption is that the subject first moves to SPEC-T, and then *wh*-movement takes place. The factor that rules (19) out relies on the hypothesis that a chain is a representational object *whose occurrences must be regarded as identical*. Thus, if an operation wants to affect a chain, it must apply *to all its occurrences*. In (19) we have an A-uniform chain formed by two occurrences of the DP *pictures of who*; as indicated, this DP is first-Merged in SPEC-*v**, and it then undergoes movement to SPEC-T. If, after that last step, some chunk is sub-extracted, the *Uniformity Condition* – as interpreted here – would be violated, for only one of the occurrences is affected:

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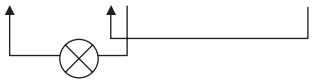
8. Stepanov (2001) capitalizes on linearization restrictions on chains (much in the sense of Nunes 2004 and Uriagereka 1999a). Ormazabal et al.'s (1994) solution is indistinguishable from Takahashi's (1994), and based on *Chain Uniformity* proper (see below). Since what matters for us is that both accounts blame SPEC-T as the position where problems arise, we put these distinctions to the side. See Rizzi (2006a) for a similar account of the *Subject Condition*.

(20) $[_{CP}\ C\ [_{TP}\ [\ \ldots\alpha\ \ldots]_{Subject}\ T\ [_{v^*P}\ t_{Subject}\ v^*\ [_{VP}\ V\ \ Object\ ]\ ]\ ]\ ]$



This second line of reasoning in principle treats adjuncts quite differently from non-complement arguments – unlike the first. This is because arguments have good, systematic, reasons to A-move (creating a chain), whereas this is not the case for adjuncts. In this approach, again, what matters is whether a (non-trivial) chain has been created, and all its occurrences remain identical for the purposes of the *Uniformity Condition*. In contrast, the first line of reasoning could in principle have a unified treatment of both sorts of islands (for better and for worse).[9] This is because the unitary approach is based on a systemic property of all non-complements: that they are not part of the main derivational workspace, and thus they must linearize on their own.

Within the second (broadly non-unitary) line of approaches, there is yet a different analysis that merits attention, particularly so because we will attempt to build on it in the present paper. It has been recently claimed that the *Subject Condition* is insensitive to representational restriction of the uniformity sort (Boeckx's 2003a). Under this approach, the *Subject Condition* reduces to the fact that A-movement triggers a freezing effect, as already pointed out at the outset.

The analysis relies on Chomsky's (2000, 2001) Probe-Goal agreement system. Roughly put, functional heads enter the derivation with unvalued ø-features that act as Probes that seek a matching Goal (i.e., DPs that share the same feature endowment with their Probe). Importantly, for the matching to apply, both Probe and Goal must be *active*. Chomsky (2000, 2001) argues that *uninterpretable morphology* is what renders syntactic objects *active*: ø-features on C and v^* and structural Case on DPs:

(21) $[_{v^*P}$ pictures of who $v^*_{[u\text{ø}]}\ [_{VP}$ V scared you$_{[2.PL]}]]$

The lack of values within v^*'s ø-features activates this functional head, which acts as a Probe. The seeking procedure is assumed to work under closest c-command; so in (21) the closest target, the DP *you*, is matched by v^*, as depicted in (22):

(22) $[_{v^*P}$ pictures of who $v^*_{[u\text{ø}]}\ [_{VP}$ V scared you$_{[2.PL]}]]$ *Match (v*, you)*

9. As Stepanov (2001) shows, sub-extractions from adjuncts are impossible across languages, unlike sub-extractions from subjects.

Match is a symmetric process, caring about *feature types* (the attributes, not their values). A subsequent (asymmetric) operation, parasitic on Match, is thus necessary: *Valuation* (or *Agree* proper). Agree copies the value of the Goal's feature into the Probe's, which in exchange determines structural Case:[10]

(23) a. [$_{v^*P}$ pictures of who $v^*_{[2.PL]}$ [$_{VP}$ V scared you$_{[2.PL]}$]] *Agree (v*, you)*

b. [$_{v^*P}$ pictures of who $v^*_{[2.PL]}$ [$_{VP}$ V scared you$_{\underline{\textbf{ACC}}[2.PL]}$]]

A consequence of the process is interesting for our purposes: once Agree has taken place and the DP has been assigned Case, it is left *inactive* or, as Chomsky puts it, "frozen in place". This is the most widely assumed explanation for facts like (24), where an already Case-marked DP, *John*, is attracted to another Case position (so-called *hyperraising*; see Lasnik & Boeckx 2006):

(24) *[$_{CP}$ C [$_{TP}$ John$_i$ T [seems [$_{CP}$ C that [$_{TP}$ T [$_{v^*P}$ t$_i$ *v** likes Mary]]]]]]

The same logic is extended to examples like (19) above by Boeckx (2003a). Although the technical implementation is different from one based on chain uniformity, "the ban on extraction out of displaced constituents results from what one might call a 'chain conflict', [thus predicting] extraction out of subjects to be possible if the subject remains within VP" (Boeckx 2003a: 104).

There is one aspect of Boeckx's (2003a) analysis that we must re-examine: whether full agreement between T and the subject takes place only in SPEC-T, triggering movement. This is not logically necessary: if long-distance Agree is a possibility, the Probe need not require overt movement of the Goal in order for full-agreement to be established. Boeckx (2003b, 2007) suggests this has to do with the (ill understood) fact that person features are checked in a very local (SPEC-head) relation. Existential constructions seem to support this observation, if in these cases expletive *there* checks T's [person] – its [number] being checked by the distant associate:

(25) a. [$_{CP}$ C [$_{TP}$ There T is *v* [a man in the room]]]
b. [$_{CP}$ C [$_{TP}$ There T are *v* [many men in the room]]]

When long-distance Agree is partial, sub-extraction is possible, as one would expect:

10. Chomsky (2000, 2001) argues that Case itself is not matched, but is literally assigned under Agree. Thus, Case is a reflex of ϕ-feature agreement. For a different perspective see Pesetsky & Torrego (2001).

(26) a. [$_{CP}$ Which candidate$_i$ C were [$_{TP}$ there T [$_{vP}$ *v* [posters of t$_i$] all over the town]]]?
b. *[$_{CP}$ Which candidate$_i$ C were [$_{TP}$ [posters of t$_i$]$_j$ T [$_{vP}$ *v* t$_j$ all over the town]]]? (from Lasnik & Park 2003: 651)

While there is no simple way of relating adjuncts' opaqueness to Chomsky & Lasnik's (1995) *Uniformity Condition*, Chomsky's (2000, 2001) *Activity Condition* offers a more promising approach, as Boeckx (2003a) argues. Just like subjects, adjuncts are islands due to agreement (or its lack thereof). To be precise, while subjects become islands *once they have agreed with T*, adjuncts are islands *from the very beginning of the derivation* – as they have no ϕ-features to be matched. We agree, in this sense, with Boeckx (2003a), when he observes that:

> Agree cannot target adjuncts, as adjuncts have inert ϕ-features. Nor can it target anything inside adjuncts, as no material contained inside adjuncts ever triggers agreement outside them [. . .] Language after language, we see that adjuncts never participate in ϕ-feature sharing, unlike arguments. Also, the Case of adjuncts always appears to be inherent, either through the use of a preposition, of the default use of some Case form (accusative, e.g.), or of a peripheral Case (allative, e.g.). (from Boeckx 2003a: 100)

We differ from Boeckx (2003a), nonetheless, in taking this fact to disfavor a uniform account of CED effects. Conditions on Agree alone may suffice to pursue a unitary treatment to CED phenomena, the only difference being that arguments can (temporarily) agree, while adjuncts never do so. This is consistent with the variable status of the *Subject Condition* across languages, as Stepanov (2001) has shown.[11]

Although the proposals just reviewed all operate under different mechanisms (uniformity, multiple Spell-out, freezing effects, etc.), the important point to keep in mind is that *subject opaqueness basically arises in SPEC-T*. In the next section we present Chomsky's (2005) recent analysis of the *Subject Condition*, which challenges all the accounts reviewed up to this point.

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11. There are, however, counterexamples. Cases like (i) are studied by Browning (1987):

i. [$_{CP}$ Who$_i$ C did [$_{TP}$ you T go there [to visit t$_i$]]]?

Perhaps a *reanalysis* between the matrix verb and the infinitival purpose clause is at stake. This is suggested by the Spanish pair below, as reanalysis is known to be possible across weak prepositions like *a* 'to', but not strong prepositions like *para* 'for':

ii. *¿[$_{CP}$ A quién$_i$ C vienes [a ver t$_i$]]?*
to whom come.2.SG to see.INF
'Who do you come to see?'

iii. *¿[$_{CP}$ A quién$_i$ C vienes [para ver t$_i$]]?*
to whom come.2.SG for see.INF
'Who do you come to see?'

3.2 Phase theory and phase edges

In section 2 we spelled-out the basic traits of the locality hallmark within minimalism: the PIC. Recall that, by the PIC, operations within a phase are restricted to the complement domain: the projection that occupies the complement position of phase heads. The rest (what Chomsky 1993, 1995, 2000 calls *residue*) is the edge:

(27) [(SPEC) P [. . . XP . . .]]
----EDGE---- --COMPLEMENT--

Also by the PIC, only phase edges are accessible from the outside (higher phases), allowing for successive cyclicity and head movement. Consequently, if C wants to attract some XP base-generated within *v**P, that XP must occupy the relevant edge. Interestingly, the base position of subjects is precisely *v**P's edge. Assuming the PIC, one might take this to entail that subjects can always be targeted by C-T Probes (objects too, but only if they previously manage to raise to *v**).

That scenario is consistent with any of the analyses of the *Subject Condition* previously seen: in their base position, subjects never invoke *Chain Uniformity*, or establish full Agree with T, so they are transparent. Chomsky (2005), however, adduces the examples in (28) (his judgments), which challenge the prediction:[12]

(28) a. *[$_{CP}$ Of which car$_i$ C did [$_{TP}$ [the driver t$_i$]$_j$ T [$_{v^*P}$ t$_j$ *v** cause a scandal]]]?
b. [$_{CP}$ Of which car$_i$ C was [$_{TP}$ [the driver t$_i$]$_j$ T [$_{vP}$ *v* awarded t$_j$ a prize]]]?
(from Chomsky 2005: 14)

As Chomsky correctly observes, the minimal pair in (28) is incompatible with the *Subject Condition* being related to SPEC-T. If this were so, one should expect both examples to be out, for the subject ends up occupying SPEC-T in both instances. Surprisingly, (28a) is worse than (28b), which requires an explanation.

Chomsky (2005) suggests that locality factors render edges opaque:

> It remains to explain why the probe for *wh*-movement cannot readily access the *wh*-phrase within the external argument of *α*. That could reduce to a locality

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12. Data along these lines were actually judged degraded by Kuno (1973). Sabel (2002) concurs, judging them directly ungrammatical, at least those that involve extraction from the subject of a small-clause, like (i), with (ii), an ECM, being worse.

i. *[$_{CP}$ Which artists$_i$ C did you find [[works by t$_i$] offensive]]?

ii. *[$_{CP}$ Which artists$_i$ C did you find [[works by t$_i$] to be offensive]]?

In contrast, Kayne (1984: 189) finds some such examples acceptable, as long as no stranding is at stake (see discussion below):

iii. ?[$_{CP}$ Of which words$_i$ C is learning [[the spellings t$_i$] difficult]]?

iv. *[$_{CP}$ Which words$_i$ C is learning [[the spellings of t$_i$] difficult]]?

> condition: *which* in *α* is embedded in the lower phase, which has already been passed in the derivation. We know that the external argument itself can be accessed in the next higher phase, but there is a cost to extracting something embedded in it. (from Chomsky 2005: 14)

The idea can be captured by what we may call the *Edge Condition*:

(29) *Edge Condition*
Syntactic Objects in phase edges are internally frozen.

Chomsky's (2005) reasoning can be seen as a strategy to strengthen the leading role of phase edges, for these are the positions that give rise to interpretive (reconstruction and surface-semantics) and computational effects of the cyclic sort. In this system, therefore, both SPEC-T and SPEC-*v** render DPs opaque. SPEC-*v** does so by pure locality; in the case of SPEC-T, opaqueness follows from the *Activity Condition*, predicting the paradigm in (30) (again, Chomsky's judgments):

(30) a. *[$_{CP}$ Of which car$_i$ C did [$_{TP}$ [the driver t$_i$]$_j$ T
[$_{v^*P}$ *t*$_j$ *v** cause a scandal]]]?
b. [$_{CP}$ Of which car$_i$ C is [$_{TP}$ [the driver t$_i$]$_j$ T likely [$_{TP}$ ***t***$_j$ T to
[$_{v^*P}$ t$_j$ *v** cause a scandal]]]]?
c. [$_{CP}$ Of which car$_i$ C did [$_{TP}$ they believe [the driver t$_i$]$_j$ [$_{TP}$ ***t***$_j$ T to
[$_{v^*P}$ t$_j$ *v** have caused a scandal]]]]? (from Chomsky 2005: 20)

The examples in (30) show that sub-extraction from subjects is actually possible along the movement path of subjects, but *only when they hit the SPEC of a ϕ-defective T* (where we place a boldfaced trace: ***t***). Relevant contexts include raising (30b) and ECM (30c) configurations, where full agreement does not obtain.

Chomsky (2005) argues that the same locality issues are expected in the upper phase edge: SPEC-C. Consider in this regard (31), taken from Lasnik & Saito (1992):[13]

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13. Intriguingly, as Lasnik & Saito (1992: 111) observe, sub-extraction from SPEC-C improves if the wh-phrases are D-linked, for unclear reasons:

i. ?[$_{CP}$ Which athletes$_i$ C do you wonder [$_{CP}$ [which pictures of t$_i$]$_j$ C Mary bought t$_j$]]?

ii. ?[$_{CP}$ Which athletes$_i$ C do you wonder [$_{CP}$ [which pictures of t$_i$]$_j$ C t$_j$ are on sale]]?

Also intriguing is (iii), judged by Kayne (1984: 192) as *marginal* (sic.):

iii. ?[$_{CP}$ Who$_i$ C can't you decide [$_{CP}$ [how many pictures of t$_i$]$_z$ C to buy t$_z$ for your kids]]?

Facts like these were also noticed by Torrego (1985). For recent discussion, see Rizzi (2004) and Uriagereka (2004). The latter also considers Lasnik & Saito's (1992: 101) observation that topicalization seems to have a similar ameliorating effect on sub-extraction:

iv. ??[$_{CP}$ Who$_i$ C do you think [$_{CP}$ C that [pictures of t$_i$]$_j$ John wanted t$_j$]]?

For discussion of these paradigms, see Gallego & Uriagereka (2007).

(31) a. ??[$_{CP}$ Who$_i$ C do you wonder [$_{CP}$ [which picture of t$_i$]$_j$ C [$_{TP}$ Mary bought t$_j$]]]?
b. ??[$_{CP}$ Who$_i$ C do you wonder [$_{CP}$ [which picture of t$_i$]$_j$ C [$_{TP}$ t$_j$ is on sale]]]? (from Lasnik & Saito 1992: 102)

Rizzi (2006a) has recently explored many cases of sub-extraction from left peripheral positions, concluding that there generally is a freezing effect rendering opaque all criterial positions (those determining an interpretive effect: SPEC-Focus, SPEC-Topic, and so on). Rizzi (2006a) dubs this freezing mechanism *Criterial Freezing*:[14]

(32) *Criterial Freezing*
A phrase meeting a criterion is frozen in place. (from Rizzi 2006a: 112)

We have seen how Chomsky (2005) associates the *Subject Condition* to SPEC-*v** (he also predicts SPEC-T to yield opaqueness *qua* the *Activity Condition*). We dedicate the next section to explore some sub-extraction facts in Spanish. As we will see, this language provides direct evidence in favor of an account of subject opaqueness based on the *Activity Condition*.

3.3 More asymmetries on sub-extraction

The previous section was devoted to presenting Chomsky's (2005) claim about phase edges imposing locality restrictions. This, as we saw, does not only give us a rationale to approach the pair in (28), repeated here as (33); it also fits with (34).

(33) a. *[$_{CP}$ Of which car$_i$ C did [$_{TP}$ [the driver t$_i$]$_j$ T [$_{v*P}$ t$_j$ *v** cause a scandal]]]?
b. [$_{CP}$ Of which car$_i$ C was [$_{TP}$ [the driver t$_i$]$_j$ T [$_{vP}$ *v* awarded t$_j$ a prize]]]? (from Chomsky 2005: 14)

(34) [$_{CP}$ Which candidate$_i$ C were [$_{TP}$ there T [$_{vP}$ *v* [posters of t$_i$] all over the town]]]?

The odd thing about (34) is that the *Subject Condition* does not hold for it. The logic of Boeckx's (2003a) account is not threatened by this fact, though, as the subject does not undergo raising, avoiding full agreement, and freezing thereof. The result in (34) is also predicted by Chomsky's (2005) phase-based account: in this example, the subject DP *posters of which candidate* remains in the internal position of an unaccusative *v*P structure, which does not qualify as a phase for Chomsky (2001).[15]

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14. Rizzi (2006b) refines this definition by making a distinction between the entire XP moving to a criterial position and the relevant chunk actually meeting the criterion. In his system only the latter gets frozen, so the rest of material can still undergo further movement.

15. Chomsky (2001) calls these defective *v*Ps *weak* phases – as opposed to the standard, or *strong* (transitive), ones. This is at odds with the findings in Legate (2003). If weak phase edges leave reconstruction sites, why should they behave differently as far as sub-extraction is concerned? An alternative would be that the relevant DP does not occupy SPEC-*v* when sub-extraction takes place, the element, instead, being within the small clause [$_{SC}$ [posters of which candidate] [all over the town]].

Let's now consider a language like Spanish. As the data in (35) show, a phase-based system like Chomsky's correctly predicts sub-extraction from unaccusative (35a) and passive (35b) structures: since no phase boundary is involved, C can directly target the relevant DPs in their first-Merge position, the PIC being irrelevant.

(35) a. *¿[$_{CP}$ De qué lingüista$_i$ C han llegado ya [$_{vP}$ v [muchos libros t$_i$]]]?*
of what linguist have.3.PL arrived already many books
'Which linguist have many books by already arrived?'

b. *¿[$_{CP}$ De qué escritor$_i$ C han [$_{vP}$ v sido vendidas [muchas novelas t$_i$]]]?*
of what writer have.3.PL been sold many novels.
'Which writer have many novels by been sold?'

The crucial empirical test, however, involves sub-extraction from the subject of transitive *v**Ps, the true phases. As noted by Uriagereka (1988: 118), post-verbal subjects allow sub-extraction in Spanish:

(36) *¿[$_{CP}$ De qué conferenciantes$_i$ C te parece que . . .*
of what speakers CL.to.you seem.3.SG that . . .

a. (?) *me$_z$ van a impresionar$_v$ [$_{v*P}$ [las propuestas t$_i$] v* t$_z$ t$_v$]]?*
CL.to.me go.3.PL to impress.INF the proposals

b. **[$_{TP}$ [las propuestas t$_i$]$_j$ T me$_z$ van a impresionar$_v$ [$_{v*P}$ t$_j$ v* t$_z$ t$_v$]]]?*
the proposals CL.to.me go.3.PL to impress.INF
'Which speakers does it seem to you that the proposals by will impress me?' (from Uriagereka 1988: 118)

The relevance of examples like (36a) lies on the fact that the post-verbal subject is in the base (first-Merge) position of a transitive predicate; that is, on a *bona fide* phase edge.[16,17] The prediction, under Chomsky's (2005) phase system, is then clear: (36a) should be ungrammatical – unfortunately, contrary to fact.[18]

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16. We limit the data to structures where the object is either not realized at all (incorporated, as in Hale & Keyser's 2002 treatment of unergatives) or else realized as a clitic, concentrating on whether the verb is transitive or not, for this is the criterion that identifies phases.

17. The verb in (36) is a psychological predicate, which might be favoring a post-verbal position for subjects, as M. Lluïsa Hernanz and Luisa Martí observe through personal communication; this might somehow ameliorate sub-extraction. Note, however, that (i), which is a true non-psychological transitive verb, still allows the type of sub-extraction we are interested in:

i. *¿[$_{CP}$ De qué equipo$_i$ C dices que han bailado [dos participantes t$_i$]]?*
of what team say.2.SG that have.3.PL danced two participants
'Which team do you say that two members of have danced?'

In the same vein, a reviewer doubts that transitive predicates actually allow sub-extraction from subjects in Spanish, even if these stay in their first-Merge position. According to the reviewer's

Similar facts are noted by Broekhuis (2006), who provides Dutch data of the *wat-voor*-split sort. Just as seen in the Spanish examples in (36), the contrast between (37) and (38) below shows that sub-extraction from subjects is possible *only if these stay in their first-Merge position*: SPEC-*v**. In order to test Chomsky's (2005) paradigm in complete detail, consider first sub-extraction from a derived subject (i.e., an object); according to Chomsky (2005), this operation should yield a grammatical result, independently of the final (landing) site of the object. Facts, however, prove otherwise.[19]

(37) a. $[_{CP}$ *Wat*$_i$ *C zijn* $[_{TP}$ *(er) T* $[_{vP}$ *v jouw vader* [*t*$_i$ *voor rare verhalen]*
what be.3.PL EXP your father for strange stories
verteld]]]?
told
'What kind of strange stories have been told to your father?'

b. *$[_{CP}$ *Wat*$_i$ *C zijn* $[_{TP}$ [*t*$_i$ *voor rare verhalen*]$_z$ *T* $[_{vP}$ *v jouw vader t*$_z$
what be.3.PL for strange stories your father
verteld]]]?
told
'What kind of strange stories have been told to your father?'

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judgments, (ii), which is formally analogous to further data considered by Chomsky (2005) when addressing the *Subject Condition*, is unacceptable:

ii. *Fue [el auto*$_i$ *(no el camión)] [del que causaron un escándalo*
was.3.SG the car (not the truck) of.the that caused.3.PL a scandal
[varios conductores t$_i$ *]]*
several drivers
'It was the CAR (not the TRUCK) of which several drivers caused a scandal.'

We agree that (ii) is rather degraded, but for irrelevant reasons. Additional factors interfere in this type of structure, whose status has been highly debated in the literature (see Brucart 1994: 151–163 for discussion). Note in particular that (iii) and (iv), which are minor parametric variants of (ii), are much better:

iii. *Fue [del auto*$_i$ *(no del camión)] [del que causaron un escándalo*
was.3.SG of.the car (not of.the truck) of.the that caused.3.PL a scandal
[varios conductores t$_i$ *]]*
several drivers
'It was the CAR (not the TRUCK) of which several drivers caused a scandal.'

iv. *Fue [del auto*$_i$ *(no del camión)] [que causaron un escándalo*
was.3.SG of.the car (not of.the truck) that caused.3.PL a scandal
[varios conductores t$_i$ *]]*
several drivers
'It was the CAR (not the TRUCK) of which several drivers caused a scandal.'

Consider now sub-extraction from a non-derived subject (the examples, once again, are taken from Broekhuis 2006):

(38) a. *[$_{CP}$ Wat$_i$ C hebben [$_{TP}$ er T [$_{v*P}$ [t$_i$ voor mensen] v* je moeder*
what have.3.PL EXP for people your mother
bezocht]]]?*
visited
'What sort of people has visited your mother?'

b. **[$_{CP}$ Wat$_i$ C hebben [$_{TP}$ [t$_i$ voor mensen]$_z$ T [$_{v*P}$ t$_z$ v* je moeder*
what have.3.PL for people your mother
bezocht]]]?*
visited
'What sort of people has visited your mother?'

The facts in (37)–(38) leave relatively little room for doubt: it does not matter whether sub-extraction targets a base object or a base subject, what is important is *whether the relevant argument DP has been deactivated by a ϕ-Probe launched by T*. This conclusion is confirmed, once again, by Spanish, where sub-extraction degrades from base objects when these move to SPEC-T:

(39) a. *¿[$_{CP}$ De qué países$_i$ C quieres que vengan [$_{vP}$ v [muchos*
of what countries want.2.SG that come.3.PL many
delegados t$_i$]]]?*
representatives
'Which countries do you want many representatives of to come?'

Due to space restrictions, we cannot address the specifics of these pseudo-cleft constructions (see Brucart 1994 for an analysis), but the key thing is this: in both (iii) and (iv), the relative clause where sub-extraction takes place is left intact (only the relative's antecedent's categorical status is modified), and the outcome is fine. Importantly for our purposes, if the subject is placed in preverbal position, sub-extraction is degraded, as our account predicts.

v. ??*Fue [del auto$_i$ (no del camión)] [del que [varios conductores t$_i$]*
was.3.SG of.the car (not of.the truck) of.the that several drivers
causaron un escándalo]
caused.3.PL a scandal
'It was the CAR (not the TRUCK) of which several drivers caused a scandal.'

vi. ??*Fue [del auto$_i$ (no del camión)] [que [varios conductores t$_i$]*
was.3.SG of.the car (not of.the truck) that several drivers
causaron un escándalo]
caused.3.PL a scandal
'It was the CAR (not the TRUCK) of which several drivers caused a scandal.'

18. The same facts do not hold in Catalan or Italian, where sub-extraction from post-verbal subjects, though not totally impossible, for unclear reasons, is worse. See Belletti (2004) for discussion.

19. In (37) and (38) we ignore whether OV order in Dutch is derived through movement.

b. ??¿$[_{CP}$ *De qué países$_i$ C quieres que* $[_{TP}$ *[muchos delegados* $t_i]_j$ *T vengan* $[_{vP}$ *v* t_j *]]]?*
of what countries want.2.SG that many representatives come.3.PL
'Which countries do you want many representatives of to come?'

The fact that sub-extraction from the subject DP in (39b) is degraded, even when C's Probe can target the transparent base position, is hard to explain under Chomsky's (2005) proposal. Things are different for Boeckx (2003a): sub-extraction targets the subject in its derived position, where a ϕ-triggered freezing has already occurred.

To be sure, other explanations come to mind. For instance: a) post-verbal subjects may have passed through a position analogous to ϕ-defective T that renders them transparent; or b) sub-extraction is possible due to the special interpretive (focal) properties of post-verbal subjects. The first possibility is tempting, but unavailable within our restricted framework, where we assume two subject positions: SPEC-v^* and SPEC-T, for post-verbal and pre-verbal subjects respectively.[20] In turn the possibility of focal interpretation of post-verbal subjects will face difficulties under a proposal along the lines of Belletti's (2004), where post-verbal subjects are said to move to a left-peripheral projection above the v^*P. If Belletti's analysis is on track, the satisfaction of a *Focus Criterion* should trigger a freezing – blocking sub-extraction, again contrary to fact.[21,22]

We are basically cornered, then, into the conclusion that *only SPEC-T blocks sub-extraction*. This still raises the question of how come (28b), repeated below as (40), is grammatical: assuming strict cyclicity, sub-extraction here occurs from SPEC-T.

(40) $[_{CP}$ Of which car$_i$ C was $[_{TP}$ [the driver t_i $]_j$ T $[_{vP}$ *v* awarded t_j a prize]]]?

To make things even more perplexing, (41), from Chomsky (1995: 328) – which is almost identical to (40) – yields an illicit structure.

(41) *$[_{CP}$ Who$_i$ C was $[_{TP}$ [a picture of t_i $]_j$ T $[_{vP}$ *v* taken t_j by Bill]]]?

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20. See Cardinaletti (2004) for a different view.

21. For different implementations also involving a FocusP, see Irurtzun (in progress) and Uriagereka (2004). These analyses, though, would arguably run into the same problem: it is not obvious how subjects can be transparent for sub-extraction after movement to a derived, left-peripheral, position – though see n. 14 for a possible approach, raised by Luigi Rizzi (p.c.), refining the details of *Criterial Freezing*.

22. Yet a third route is pursued by Gallego (2006). Assuming Chomsky's (2005) phase based analysis, Gallego argues that v^*-to-T movement yields a process of *Phase Sliding* (PhS) that redefines phase boundaries, rendering SPEC-v^* within the complement domain of v^*, and thus transparent to sub-extraction. See Gallego & Uriagereka (2006) for a PhS based analysis of the *Subject Condition*, different from the one explored in this paper.

Attributing the original observation to Susumu Kuno (see Kuno 1973), Chomsky (1986) notes that facts like (40) and (41) indicate that sub-extraction and pied-piping are somehow connected (see also Chomsky 2005: 13, n. 38).

Let's consider different pieces of evidence adduced in that regard, starting with (42). In these examples, both pied-piping and stranding yield a correct result.

(42) a. $[_{CP}$ Who$_i$ C did $[_{TP}$ Peter$_j$ T $[_{v^*P}$ t$_j$ v^* take [a picture of t$_i$]]]]?
b. $[_{CP}$ Of whom$_i$ C did $[_{TP}$ Peter$_j$ T $[_{v^*P}$ t$_j$ v^* take [a picture t$_i$]]]]?

In turn compare (43) and (44) (the latter from Kuno 1973), which suggest that, somehow, sub-extraction from a displaced constituent is licit if it involves no preposition stranding:

(43) a. *$[_{CP}$ Who$_i$ C was $[_{TP}$ [a picture of t$_i$]$_j$ T $[_{vP}$ *v* taken t$_j$ by Peter]]]?
b. $[_{CP}$ Of whom$_i$ C was $[_{TP}$ [a picture t$_i$]$_j$ T $[_{vP}$ *v* taken t$_j$ by Peter]]]?

(44) a. *$[_{CP}$ Which words$_i$ C is $[_{TP}$ [learning the spellings of t$_i$]$_j$ T $[_{vP}$ *v* [t$_j$ difficult]]]]?
b. ?$[_{CP}$ Of which words$_i$ C is $[_{TP}$ [learning the spellings t$_i$]$_j$ T $[_{vP}$ *v* [t$_j$ difficult]]]]? (from Kuno 1973: 379)

Note that (43) and (44) raise a very intriguing point: the position we identified as triggering freezing effects (namely, SPEC-T) actually seems to allow sub-extraction when mediated via pied-piping.[23] The issue is of course why and how.

In his paper, Kuno (1973) argued for a solution that capitalizes on the incomplete status of the sub-extraction domain; that is, assuming DPs of the form $[_{DP}$ D $[_{NP}$ N *of* t]] are *incomplete*, Kuno (1973) put forward the condition in (45):

(45) *The Incomplete Subject Constraint (ISC)*
It is not possible to move any element of a subject noun phrase/clause if what is left over constitutes an incomplete noun phrase/clause.
(from Kuno 1973: 380)

One could attempt to characterize NP-incompleteness as follows:

(46) *NP Incompleteness*
A noun phrase/clause is incomplete if an obligatory element is missing. Thus, the [NP Prep] pattern is incomplete because the object of the preposition is missing.
(from Kuno 1973: 380)

Unfortunately, this is hard to formulate precisely within current assumptions.

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23. These judgments are admittedly subtle. As Kuno (1973: 378) puts it: "[*j*]udgment of the degree of acceptability of [sub-extraction qua pied-piping] may differ from speaker to speaker, but it seems clear to all that [sub-extraction qua pied-piping] is considerably better than [sub-extraction without pied-piping]".

Being deliberately naïve about it, it seems that displacement is the key when comparing (43) and (44), vis-à-vis (42): if a DP has moved to a freezing position, only further pied-piping allows sub-extraction. But this is at odds with the very idea of freezing: frozen DPs are islands, no matter what. Furthermore, pied-piping does not ameliorate sub-extraction from adjuncts:

(47) a. *[$_{CP}$ Of which author$_i$ C did [$_{TP}$ John$_j$ T [$_{v^*P}$ t$_j$ v^* call Mary [after he read the book t$_i$]]]]?
b. *[$_{CP}$ Which author$_i$ C did [$_{TP}$ John$_j$ T [$_{v^*P}$ t$_j$ v^* call Mary [after he read the book of t$_i$]]]]?

To proceed rationally, consider why – let's say in the specific case of (28b)/(40) – *of which car* can be sub-extracted from a DP that has been displaced. We know two things: first, sub-extraction cannot have occurred from the final landing site, because of freezing; second, sub-extraction cannot have occurred from the base position either, since that would predict grammatical the stranding version (e.g., **Which car was the driver of awarded a prize?*). The conclusion, therefore, is much in the spirit of Chomsky's (2005) analysis of sub-extraction from subjects in ECM and raising constructions: *sub-extraction occurs from an intermediate step* (signalled below as ***t***) along the movement path of the phrase under investigation, as roughly indicated in (48). This explains also why (28a) is bad: since in this case *there is no intermediate position available* between the base and the final sites, sub-extraction is barred.

(48) [$_{CP}$ Of which car$_i$ C was [$_{TP}$ [the driver t$_i$]$_j$ T [$_{vP}$ ***t***$_j$ v awarded t$_j$ a prize]]]?

In (48) we are assuming that sub-extraction of *of which car* takes place from SPEC-v, an intermediate landing side (i.e., neither the base nor the final one, which as we saw are problematic). An appealing advantage of this solution is that it appears to fit with the observation by Postal (1974) that stranding is disallowed in intermediate positions:

(49) a. [$_{CP}$ Who$_i$ C do you think [$_{CP}$ C (that) John talked [$_{PP}$ to t$_i$]]]?
b. *[$_{CP}$ Who$_i$ C do you think [$_{CP}$ [$_{PP}$ to t$_i$]$_j$ C (that) John talked t$_j$]]?

The main goal of this section was to reinforce the hypothesis we advanced at the outset of the paper, providing additional evidence that the *Subject Condition* is parasitic on agreement, and not structural factors concerning phase edges. We have drawn data from Dutch and Spanish showing that what matters for viable sub-extraction from subjects is the possibility for these DPs to remain *in situ*, circumventing freezing. This possibility is normally barred in English (due to the ubiquitous EPP), which is why the *Subject Condition* is not normally violated; but we see a version of the relevant sub-extraction even in this language, in *there*-type sentences, which, besides blocking subject raising (*there* takes care of EPP requirements), display partial agreement.

If this proposal is on track, what calls for an explanation is Chomsky's (2005) minimal pair in (28). Here we have related the relevant contrast to a paradigm noted by Kuno (1973), who presented his data in terms of *incomplete* subject DPs. As we

have seen, there are grounds to doubt that *(in)completeness* is a decisive factor in sub-extraction from subjects: what would appear to matter, instead, is freezing. The analysis we have proposed points towards why (28a) is bad while (28b) is not: the latter is grammatical because sub-extraction of the *wh*-phrase *of which car* has taken place from an intermediate (non-freezing) position, SPEC-*v*, precisely where Legate (2003) locates reconstruction effects for so-called weak phases.

4. Sub-extraction from objects

In this section we want to extend the consequences of our *Activity Condition*-based approach to sub-extraction from objects. The basic facts are as indicated in (50): objects allow sub-extraction, unless displaced to a position where accusative Case is checked off, as Lasnik (2001a) points out (see Johnson 1991 and Koizumi 1995):[24]

(50) a. $[_{CP}$ Who$_i$ C did $[_{TP}$ Mary$_j$ T $[_{v^*P}$ t$_j$ v^* call up [friends of t$_i$]]]]?
b. $*[_{CP}$ Who$_i$ C did $[_{TP}$ Mary$_j$ T $[_{v^*P}$ t$_j$ v^* call [friends of t$_i$]$_z$ up t$_z$]]]?
(from Lasnik 2001a: 111)

The first question that arises is where the object DP *friends of who* raises in examples like (50b). Such a position ought to be the one identified in Lasnik's (1999, 2001b) analysis of pseudogapping: SPEC-Agr$_O$, a Case checking (freezing) one.

(51) John will select me, and Bill$_j$ will $[_{v^*P}$ t$_j$ v^* $[_{AgrO}$ you$_i$ ⫞$_{\text{~~VP~~}}$ ~~select t$_i$~~ ⫟]]

Chomsky (2005) reinterprets Lasnik's (1999, 2001a, 2001b, 2002) analysis by arguing that objects raise to SPEC-V, a step masked by V-to-v^* movement.[25] Chomsky (2005) further argues that raising to SPEC-V operates under the same conditions raising to SPEC-T does, thus triggered by ø-features too. Freezing effects on (in these terms, optional) Object Shift thus fall into place.

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24. As is well-known since Chomsky (1973), specific objects block sub-extraction:

i. $*[_{CP}$ What$_i$ C do you want to see [the picture of t$_i$]]?

Due to space limitations, we cannot investigate here the process responsible for this interpretation of objects, nor its implications for sub-extraction. See Boeckx (2003a), Mahajan (1992), Ormazabal (1992), Stepanov (2001), Uriagereka (1993), and references therein.

25. Stepanov (2001) restricts raising to specific objects, proposing that these move to SPEC-v^* (not SPEC-V). However, there is evidence against such an account. First, Lasnik's (1999, 2001a) examples show that specificity is not a requirement for object raising to take place; second, it cannot be the case that shifted objects raise to SPEC-v^* in non elliptical contexts: that would predict OV order in English (assuming English verbs do not move beyond T).

For comparative purposes, consider Spanish again. As noted in the previous section, object DPs allow sub-extraction.

(52) *¿[$_{CP}$ De qué lingüista$_i$ C vais a leer [$_{v*P}$ pro v* [muchos artículos t_i]]]?*
of what linguist go.2.PL to read.INF many papers
'Which linguist are you going to read many papers by?'

Interestingly (and surprisingly from the perspective adopted here), *prima facie* object movement does not seem to block sub-extraction in the case of Spanish:

(53) a. *¿[$_{CP}$ De qué escritor$_i$ C ha comprado [$_{v*P}$ [dos libros t_i]$_j$*
of what writer have.3.SG bought two books
María v t_j]]?*
María
'Which writer has María bought two books by?'

b. *¿[$_{CP}$ De qué escritor$_i$ C ha comprado [$_{v*P}$ María v**
of what writer have.3.SG bought María
[dos libros t_i]]]?
two books
'Which writer has María bought two books by?'

The unexpected case is (53a). Here we assume, with Ordóñez (1998, 2005), that VOS sequences in Spanish are created by Object Shift across the subject, and not, say, *v**P-topicalization. That this analysis is the correct one in Spanish (but perhaps not in Italian; see Belletti 2004 and Cardinaletti 2004 for discussion) can be shown by the binding effect in (54), taken from Ordóñez (2005):

(54) *Ayer visitó a cada chico su mentor.*
yesterday visited.3.SG to each boy his mentor
'Yesterday his mentor visited each boy.'

So why doesn't object-raising block sub-extraction in Spanish? The datum is especially puzzling because subject-raising does have the expected freezing effect.

One possibility that comes to mind is that the lack of opaqueness in shifted objects is due to the lack of overt object agreement in Spanish. A non-trivial problem for such an approach, however, comes from English: it obviously does not have overt object agreement either, but it nonetheless does block sub-extraction in (50b). Then again, Spanish may actually have some form of object agreement: object clitics, particularly because in this language they can be more or less systematically doubled by full associate DPs (see Solà 2002 and references therein). In this regard, it is interesting that the double of the clitic must be introduced by what looks like a Case-marker – which is known as *Kayne's Generalization*. Thus (55a) and (55b) are ungrammatical if the doubled element is not introduced by the dative preposition *a*:

(55) a. *Lo vimos *(a) él.*
CL.him saw.1.PL to him
'We saw him.'

b. *Le dimos el libro *(a) María.*
CL.to.her gave.1.PL the book to María
'We gave the book to María.'

If clitics *count* as object agreement marks on the verb (regardless of whether they are actually pronounced or not), we have a rationale for why Case-marked direct objects and indirect objects are opaque, as shown in (56a) and (56b), respectively – with more severe deviance in the latter case, for reasons we return to shortly:

(56) a. ?*¿[$_{CP}$ *De quién$_i$ C has visitado* [$_{v^*P}$ *pro v* [a muchos amigos t$_i$]]]?*
of whom have.2.SG visited to many friends
'Who have you visited many friends of?'

b. *¿[$_{CP}$ *De quién$_i$ C le diste* [$_{v^*P}$ *pro v* los libros [a los padres t$_i$]]]?*
of whom CL.to.him gave.2.SG the books to the parents
'Who did you give the books to the parents of?'

On one hand, it could be claimed that Case-marked DPs are opaque because they occupy the edge of the *v**P phase. Torrego (1998) in fact analyzes *a*-marked objects as involving movement to SPEC-*v**.[26] This possibility is consistent with the following data, where only the Case-marked direct object has scope over the indirect object:

(57) a. *Enviamos un especialista a todos los departamentos afectados.*
sent.1.PL a specialist to all the departments affected
'We sent a specialist to all the affected departments.'

b. *Enviamos a un especialista a todos los departamentos afectados.*
sent.1.PL to a specialist to all the departments affected
'We sent a specialist to all the affected departments.'

(from Leonetti 2004: 102)

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26. Another plausible source is specificity (see n. 24 and 25), but we doubt that, since Case-marked objects can, but need not, be interpreted as specific. As Bosque (2001) shows, specificity in Spanish can be signalled, for instance, by the prenominal position of adjectives. Compare:

i. *Las cinco muchachas habían conocido a un actor famoso.*
the five girls had.3.PL met to a actor famous
'The five girls had met a [specific/non-specific] famous actor.'

ii. *Las cinco muchachas habían conocido a un famoso actor.*
the five girls had.3.PL met to a famous actor
'The five girls had met a [specific] famous actor.'

Bosque notes that only in (ii) is *un famoso actor* 'a famous actor' obligatorily specific, the corresponding phrase in (i) being ambiguous. Crucially, the phrase is obviously Case-marked in both instances.

At the same time, although facts like (57) suggest that Case-marked objects occupy a high position in the *v**P (an edge, as claimed by Torrego 1998), the same cannot be easily extended to datives, assuming these occupy an independent VP-shell (see section 2).

On the other hand, a more plausible way to go about (56) takes agreement itself (more precisely, its absence) to be responsible for the impossibility of sub-extracting from Case-marked DPs, as argued by Boeckx (2003a: 51). The so-called impersonal/passive alternation involving the clitic *se* in Spanish (see Raposo & Uriagereka 1996) supports this analysis. Consider first (58a), a passive-*se*, where the verb actually overtly agrees with the logical object, as if it were a subject. Importantly, when a Case-marked object is involved as in (58b), verb-object agreement is blocked, and a default 3.SG value ensues on the verb (traditionally called impersonal-*se*):

(58) a. *Se limpiaron los cuadros.*
CL.SE cleaned.3.PL the paintings
'Paintings were cleaned up (by someone).'
b. *Se limpió a los chicos.*
CL.SE cleaned.3.SG to the children
'Children were cleaned up (by someone).'

Arguably at least, passive and impersonal *se* share a common origin: in both cases, *se* blocks the presence of an external argument, thereby sanctioning verb agreement with the object. However, if the object ends up being Case-marked, which bars Agree (T, Obj), sub-extraction from the object becomes impossible, crucially for our purposes:[27]

(59) a. (?)¿$[_{CP}$ *De qué artistas$_i$ C se limpiaron ya* $[_{v^*P}$ *v**
of which artists CL.SE cleaned.3.PL already
[los cuadros t$_i$]]]?
the paintings
'Which artists were the paintings by already cleaned up (by someone)?'
b. ?*¿$[_{CP}$ *De qué padres$_i$ C se limpió ya* $[_{v^*P}$ *v**
of which parents CL.SE cleaned.3.SG already
[a los hijos t$_i$]]]?
to the children
'Of which parents were the children already cleaned up (by someone)?'

27. Although in (58)/(59) we chose a verb where object Case-marking appears to be a mere possibility, this particular structure actually depends, in many instances, on the lexical choice of the verb. It is beyond the scope of this paper to account for this, or for that matter how exactly agreement proceeds in each case.

Consider, finally, the following paradigm, noted by Torrego (1998: 37–38). The contrast between (60b) and (60c) is subtle (and, as it turns out, bad for our purposes), but we agree with it.

(60) a. *El chico* $[_{CP}$ *del que*$_i$ *C he visto [varias hermanas* t_i*] ayer]*
the boy of.the that have.1.SG seen several sisters yesterday
'The boy of whom I have seen several sisters yesterday.'

b. ?*El chico* $[_{CP}$ *del que*$_i$ *C han visto [a varias hermanas* t_i*] ayer]*
the boy of.the that have.3.PL seen to several sisters yesterday
'The boy of whom they have seen several sisters yesterday.'

c. **El chico* $[_{CP}$ *del que*$_i$ *C han acusado [a una hermana* t_i*]]*
the boy of.the that have.3.PL accused to a sister
'The boy of whom they have accused one sister.'

Torrego (1998: 38) accounts for the asymmetry in (60) by claiming that the *affected* object in (60c) receives inherent accusative Case (standard datives would always involve this variety of Case, as shown by the semantics of the preposition). As argued by Gallego (2007), Torrego's (1998) idea can be recast by positing a more complex structure to verbs assigning inherent accusative, such as *acusar* 'accuse', as in (61b):

(61) a. $[_{v^*P}$ *v** $[_{VP}$ V see [several sisters of whom]]]
b. $[_{v^*P}$ *v** $[_{VP}$ V *provide* [several sisters of whom [P √*accusation*]]]]

(61b) tries to encode the fact that *inherent accusative* depends on a complex structure, where the object starts its derivational life as the SPEC of a small clause selected by the light verb *provide* (see Hale & Keyser 2002). On the other hand, *structural accusative* is assigned to objects base generated as direct dependents of the verb.[28] An analysis along these lines would provide an explanation for why sub-extraction from objects with inherent accusative Case, as well as DPs that receive oblique Case (e.g., datives and some adjuncts), is impossible.

This section has focused on the nature of sub-extraction from (non-specific) objects. Evidence has accumulated in favor of an approach under which sub-extraction from a given domain is ruled out if agreement cannot be established with the domain in question. This has been tested with shifted objects in English and Case-marked objects in Spanish – assuming that only those agree with *v**.

28. This raises the question of how the structural vs. inherent distinction is to be understood within minimalism, particularly if D-Structure and S-Structure representations are not assumed.

5. Concluding remarks

With Boeckx (2003a), we have outlined an approach to CED effects in terms of agreement, therefore adopting the hypothesis that opaqueness is parasitic on Chomsky's (2000, 2001) *Activity Condition*: an agreeing DP can be targeted for sub-extraction, but once it has been assigned Case (and thus the agreement process has finished), it is rendered opaque.

In so doing, we have reviewed Chomsky's (2005) proposal that phase edges pose a locality problem that freezes the internal part of DPs occupying those dedicated *escape hatches*. As we have seen, however, cross-linguistic evidence appears to indicate otherwise, for *bona fide* subjects behave as transparent domains if they remain *in situ*, in SPEC-*v**, a position that does not feed full agreement.

Our alternative, *Activity Condition*-based, analysis has been tested in the case of subjects and objects, and it seems to make the relevant distinctions: if no Probe can establish Agree with a DP (be it a subject or an object), no sub-extraction can occur. This explains – we claim – why sub-extraction is barred from Case-marked (i.e., agreeing) direct objects, displaced subjects, indirect objects – and, of course, adjuncts.

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Focus, exhaustivity, and deletion in English Pseudogapping*

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The aim of this paper is to give a preliminary answer to the question of how focus contributes to the derivation of ellipsis. With the example of the Pseudogapping construction (as in *John invited Mary less often than Mary did Jane*), I show that focus is responsible not only for the finding of semantically correct alternatives in the contrastive focus settings in ellipsis, but also for the syntactic movement process. Concerning the semantics, I adopt Kratzer's (1991) analysis of VP Ellipsis and extend it to other cases of ellipsis, notably Pseudogapping. With regard to the syntax, I will assume (following Jayaseelan 2001) that there is a focus projection above *v*P which serves as landing site for the Pseudogapping remnant.

1. Introduction

It is a long-standing assumption that the concepts of *givenness* and focus may play an important role in ellipsis constructions. In particular, we observe the following.

Firstly, with respect to focus, we find that in sentences where no ellipsis takes place (1), prosodic prominence indicates where the two parts of the sentence differ, i.e., SHE vs. SUE, and prosodic reduction serves to mark the material that is invariant (Rooth 1992: 1; his example (1)).[1]

(1) SHE beats me more often than SUE beats me.

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1. Here and throughout the paper, I use capital letters to indicate prosodic prominence/focus.

In sentences where there is ellipsis, this interaction between prominence and reduction is even more obvious, as illustrated in (2) and (3).

(2) a. John left, and Bill did, too.
b. John [$_{VP}$ left], and Bill did [$_{VP}$ leave], too.[2]

(3) John [$_{VP}$ left], and Bill$_{F}$ did [$_{VP}$ leave], (too).

(both examples from Rooth 1992: 13)

According to Rooth, *Bill* is prominent (Rooth 1992: 13), which allows the conjecture that it may be a contrastive focus (where *Bill*$_{F}$ signals focus on Bill, in Rooth's notation). With respect to the identical material, ellipsis can be treated as a case of ultimate de-accentuation, i.e., total phonological reduction. Rooth thus concludes that the "link between ellipsis and contrastive focus is tenable" (1992: 14).

Secondly, concerning the notion of *givenness*, one of the principal observations is the fact that non-given material cannot be elided, and, vice versa, that only given material can be elided. This causal relationship between givenness and ellipsis is captured, for instance, in Merchant's (2001) account of Sluicing. Merchant introduces a feature, the *E-feature*, which is based on the (semantic) requirement of givenness. This feature, placed on given elements, then instructs the grammar to phonologically delete the constituents of the syntactic structure which are marked with the E-feature.[3]

The paper is structured as follows. Section 2 provides a brief overview of the data under discussion. Section 3 is concerned with the question of how focus is treated in different semantic theories. Based on proposals by Kratzer (1991) and Rooth (1985, 1992), I argue that an answer to the question of what the alternatives (i.e., the elements yielding the contrastive focus) in ellipsis are requires the inclusion of the notion of contrast in its interaction with focus. In section 4, I will suggest that the syntactic derivation of Pseudogapping in particular depends on focus. Section 5 discusses the exhaustivity problem in ellipsis. Section 6 provides an extension of the proposed analysis to other ellipsis constructions, and section 7 concludes the paper.

2. Pseudogapping

With respect to the status of focus in ellipsis constructions, the Pseudogapping construction ((4) to (7)) is very interesting, since it might be argued (as I will do in what

2. This example is a slightly modified version of Rooth's (1992: 13) example (22).

3. As this paper focuses on the properties of the remnants in ellipsis constructions, I refrain from a detailed discussion of the E-feature which would lead too far afield. I believe that for the purposes of this paper, it is sufficient to know that it marks given elements in the numeration, and causes their phonological deletion. For the actual implementation, I refer the reader to Merchant (2001, 2004), and to Gengel (2006a) for a modified E-feature mechanism.

follows) that focus is not only semantically and prosodically present in this particular structure, but that it also has an overt impact on the syntactic derivation, which, in general, seems not to be the case in English (in contrast to languages where overt syntactic movement is assumed, e.g., Hungarian (cf. Kíss 1998, among many others), Italian and Hebrew (e.g., Belletti and Shlonsky 1995, a.o.)).

(4) 'Gerard *Logan*!' The tall dog-walker, astounded, bending to look at me, knew me by sight, as I did him. (Dick Francis, *Shattered*, 68)

(5) He asked curiously, 'Which of all those sculptures in the book was the hardest for you to make?' 'The most difficult was the gypsy's crystal ball.' It surprised him, as it did most people. (Dick Francis, *Shattered*, 226)

(6) John will select me, and Bill will you. (Lasnik 1999: 141)

(7) Mary hasn't dated Bill, but she has Harry. (ex. from Sag 1976, cited in Lasnik 1999: 142)

Pseudogapping seems to occur mostly in comparative constructions (as pointed out in Levin 1986), as in (4) and (5). Intuitively, this circumstance alone already supports the view that some kind of contrast (perhaps realised as focus) is involved in this particular structure.

A second property that defines Pseudogapping is the fact that it seems to be a hybrid phenomenon, unifying properties of two other instances of ellipsis, namely VP Ellipsis (8) and Gapping (9).

(8) That Betty won the batting crown is not surprising, but that Peter didn't know she did is indeed surprising. (ex. from Sag 1976, cited in Johnson 2001: 446)

(9) Some gave the men peanuts and others chocolates. (Johnson 1996, his (74a))

Like VP Ellipsis, Pseudogapping always has a finite auxiliary (e.g., *did* in (4), and *did* in the VP Ellipsis in (8)), and, like Gapping, it has a contrastive remnant (e.g., *most people* in (5), and *chocolates* in the Gapping construction in (9)).

The claim made in the literature (e.g., in Jayaseelan 1990, 2001, a.o.) that this contrastive remnant bears some form of contrastive stress or focus will be the basis for the discussion in the next section.

3. The role of focus in the semantics of ellipsis

3.1 The question of alternatives

In Rooth's (1985) theory of focus, focus is computed by a procedure that gives any intensional logic expression a *normal* denotation, and a second denotation that incorporates the focus structure. To this end, a focus feature F is assumed, and focused

constituents are marked with this feature in the syntax.[4] These features are then used to yield the second denotation mentioned above. More specifically, the focus feature determines a set of alternatives (cf. also von Stechow 1991: 814), which is illustrated below for the sentence in (10) that contains the focus-sensitive particle *only* to mark exhaustivity.

(10) John only introduced $[\text{Bill}]_F$ to $[\text{Sue}]_F$.

In principle, $[\text{Bill}]_F$ and $[\text{Sue}]_F$ are considered to be a kind of variable, for which we can substitute all possible, contextually salient individuals. With the set of individuals containing {Bill, Sue, Ede}, nine combinations are possible. The alternatives in (11) show the set of alternatives we obtain for $[\text{Bill}]_F$:

(11) For the structure ||introduced $[\text{Bill}]_F$ to Sue|| we obtain:
{||introduced Bill to Sue||, ||introduced Ede to Sue||, ||introduced Sue to Sue||}
(von Stechow 1991: 814)

Whilst the sentence in (10) is true if, from the alternatives in (11), *Bill* is chosen, as well as *Sue* from a different alternative set, the set of possible alternatives needs to be limited in some instances, a problem that is addressed in Kratzer (1991).

Kratzer (1991) points out that VP Ellipsis poses a challenge with respect to the computation of alternatives. For instance, in a context such as in (13) the Roothian focus analysis generates too many alternatives and creates a wrong presupposition set of the sentence in (12).

(12) I only $_{VP}$[went to $_F$[Tanglewood]]because you did $_{VP}$ [e].

(13) Imagine now you are angry at me and start voicing the following accusations. "What a copy cat you are! You went to Block Island because I did. You went to Elk Lake Lodge because I did. And you went to Tanglewood because I did." I feel you exaggerate and reply [(12)]: (both examples from Kratzer 1991: 830)

As VP Ellipsis entails a process of reconstruction, which copies the missing VP from the antecedent VP, after reconstruction the sentence in (12) looks as in (14).

(14) I $_{I'}$[past $_{VP}$[only $_{VP}$[$_{VP}$[go to $_F$[Tanglewood]] because you did $_{VP}$[go to $_F$[Tanglewood]]]]].

4. Both Rooth (1985) and Kratzer (1991) use the term *surface structure* (i.e., the syntax). In current terminology, the F-marking could also take place in the numeration already, and the F-marked elements could then come into the syntax already specified as F-marked (and, presumably, F-indexed, cf. Kratzer 1991).

Following Rooth's mechanism of focus interpretation, we obtain the following alternatives for the two foci, if the alternatives are taken from the set {Block Island, Elk Lake Lodge, Tanglewood}:

(15) {||go to Tanglewood because you went to Tanglewood||, ||go to Tanglewood because you went to Block Island||, ||go to Tanglewood because you went to Elk Lake Lodge||, ||go to Block Island because you went to Block Island||, ||go to Block Island because you went to Elk Lake Lodge||, ||go to Block Island because you went to Tanglewood||, ||go to Elk Lake Lodge because you went to Block Island||, ||go to Elk Lake Lodge because you went to Elk Lake Lodge||, ||go to Elk Lake Lodge because you went to Tanglewood||} (Kratzer 1991: 830)

However, in the case at hand, the only valid alternatives are those where the two elements of the antecedent and the elided clause are the same. Hence, we obtain the following:

(16) {||go to Block Island because you went to Block Island||, ||go to Elk Lake Lodge because you went to Elk Lake Lodge||, ||go to Tanglewood because you went to Tanglewood||} (Kratzer 1991: 830)

3.2 Kratzer's (1991) account

Kratzer (1991) suggests a modification of Rooth's (1985) account to overcome the problem in VP Ellipsis. She assumes that the F-marked constituents (that are marked at the Surface Structure) also bear an F-index, where no two constituents may bear the same F-index (the *novelty condition* of F-indexing, Kratzer 1991: 831). Following Rooth's account in keeping the two denotations of the logical form of a given sentence, Kratzer then modifies the treatment of the F-marked constituents, which are now translated as designated variables. In the definition below α' is taken to be the usual semantic denotation at LF, and α" is the presupposition skeleton (in Kratzer's terms (p. 831), who follows the terminology in Rooth 1985).

(17) Whenever α is an F-marked constituent bearing the F-index n, and α' is of type τ, then α" is the nth designated variable of type τ. (Kratzer 1991: 831)

The intensional language used is then modified to accommodate these designated variables $V_{n,\tau}$ as well as two variable assignments, ordinary variable assignments and distinguished variables. All meaningful expressions are assigned intensions relative to these two variable assignments. The denotation of the designated variables in question is thus as in (18), where g is an ordinary assignment and h is a distinguished assignment.

(18) Denotations for the designated variables
$||V_{\tau,n}||^{g,h} = h(V_{\tau,n})$ (Kratzer 1991: 831)

This particular variable assignment procedure, which characterises the presuppositional sets, allows Kratzer to assume that "variable assignments assign the same

values to different occurrences of the same variable" (Kratzer 1991: 832). This then is what ultimately accounts for the correct derivation of alternatives in VP Ellipsis, i.e., the set of alternatives in (16). More specifically, the presupposition skeleton Kratzer derives for the sentence in (12) (from the reconstructed structure repeated in (19)) is shown in (20).

(19) I $_{I'}$[past $_{VP}$[only $_{VP}$[$_{VP}$[go to $_{F}$[Tanglewood]] because you did $_{VP}$[go to $_{F}$[Tanglewood]]]]].

(20) $\lambda v_{e,1}$ [because'(go'($V_{e,2}$)($v_{e,1}$)) (go'($V_{e,2}$)(you'))]

We see that the suggested variable assignment causes the two occurrences of $_{F}$[Tanglewood] to have the same values, which then yields the desired presupposition set, here repeated as (21).

(21) {||go to Block Island because you went to Block Island||, ||go to Elk Lake Lodge because you went to Elk Lake Lodge||, ||go to Tanglewood because you went to Tanglewood||} (Kratzer 1991: 830)

Kratzer (1991: 833) notes that a presupposition skeleton such as the one in (21) can only be derived via a copy operation taking place after syntax. Otherwise, the novelty constraint on F-indexing (i.e., no two variables should bear the same index) would prohibit the occurrence of the same designated variable.

In what follows, I will show how Kratzer's assumption of an F-indexing procedure in the syntax and its consequences at the level of Logical Form can serve to incorporate the identity condition on elided constituents.

3.3 Alternatives and contrastiveness: An extension of Kratzer's (1991) theory

If we make use of Kratzer's (1991) assignment of variables, we have a means to explain how the VP Ellipsis cases are derived, i.e., when the same values are assigned to different occurrences of the same variable.

This variable assignment can be used for other cases of ellipsis, too, however, provided it is combined with a special requirement of contrastiveness. What generally seems to hold for ellipsis cases is a relationship of identity vs. non-identity of elements in the antecedent clause and the second conjunct. If we depart from the VP Ellipsis case where the two objects under discussion are identical, and the second one is deleted, we find that a non-identity requirement holds in e.g., Pseudogapping (22), where *most people* contrasts with *him* in the antecedent clause:

(22) He asked curiously, 'Which of all those sculptures in the book was the hardest for you to make?' 'The most difficult was the gypsy's crystal ball.'
It surprised him, as it did most people. (Dick Francis, *Shattered*, 226)

Thus, there seems to be a relationship of non-identity of variables with respect to the antecedent clause, or, according to Kratzer, the two elements would be assigned different F-indices.

That there is indeed a strong non-identity requirement is shown in (23) and (24), since unlike cases of de-accenting, Pseudogapping becomes ungrammatical if the element of the antecedent clause is repeated:

(23) *John invited him$_1$ more often than George did him$_1$.

The only way to make (23) acceptable is if *him* in the antecedent and *HIM* in the ellipsis clause are not co-indexed:

(24) John invited him$_1$ more often than George did HIM$_2$.

This non-identity requirement (henceforth: contrastiveness requirement) is not only valid for Pseudogapping, however. Consider the following Sluicing (25), Gapping (26), and NP Ellipsis (27) examples:

(25) Mary bought something, but I don't know what.

(26) Heather read more books than Terry magazines.

(27) I bought the red coat, and you bought the blue (one).

In all these examples, we find that there is one element – the element not targeted by ellipsis – standing in contrast to its corresponding element in the first clause, e.g., *something* vs. *what* in (25), *books* vs. *magazines* in the Gapping example in (26) (as well as the contrastive subjects, *Heather* vs. *Terry*), and *red* vs. *blue* in the NP Ellipsis in (27).

The data above suggest that it is indeed possible to extend Kratzer's (1991) account for VP Ellipsis to other cases of ellipsis if one includes the requirement that in other cases of ellipsis, there are not two occurrences of the same variable, i.e., never the same F-indices. In fact, as mentioned above, Kratzer herself (1991: 833) points out that the setting of the alternatives in VP Ellipsis can only arise if there are copying operations beyond Surface Structure, and that "the *novelty* constraint for F-indexing wouldn't (and shouldn't [. . .]) allow the appearance of two occurrences of the same designated variables otherwise." This novelty requirement on F-indexing would be a very natural way to account for the fact that the remnant and the antecedent need to be contrastive in Pseudogapping and other types of ellipsis. As we will see from the discussion below, the novelty condition equals the contrastiveness requirement that I propose for the remnants in ellipsis constructions.

In sum, the contrastiveness requirement is an additional requirement in the case of ellipsis, restricting the computation of alternatives. This can be captured with a variable assignment process à la Kratzer (1991), and is also reflected in the syntax with the means of contrastiveness-driven focus movement, as I will show in what follows.

4. The role of focus in the syntactic derivation of Pseudogapping in English

4.1 Previous analyses of Pseudogapping

Due to its similarity to VP Ellipsis, previous syntactic approaches (e.g., Jayaseelan 1990, 2001, Lasnik 1995, 1999) have treated Pseudogapping as a special instance of VP Ellipsis, where the remnant has moved out of the VP prior to VP deletion. Whilst Jayaseelan (1990) assumed Heavy Noun Phrase Shift to be responsible for the movement, Lasnik's object shift account is based on the assumption of an EPP for objects.

4.1.1 *Movement of the remnant: HNPS and Pseudogapping*

Although Jayaseelan's (1990) Heavy Noun Phrase Shift account includes an information-structural dimension (heaviness and contrast) in the Pseudogapping derivation, there is evidence, as given by Lasnik (1999) that HNPS does less closely correlate with Pseudogapping than expected.

For instance, the first object in a double object construction appears as Pseudogapping remnant (28), but doesn't do so in a HNPS construction (29) (Lasnik 1999: 143, his (15) and (16)):

(28) ?John gave Bill a lot of money, and Mary will Susan.

(29) *John gave *t* a lot of money the fund for the preservation of VOS languages.

The second object in a double object, on the other hand, is a bad Pseudogapping remnant (30), while it is perfect in HNPS (31) (Lasnik 1999: 143, his (17) and (18)):

(30) *John gave Bill a lot of money, and Mary will a lot of advice.

(31) John gave Bill *t* yesterday more money than he had ever seen.

On the basis of these data, Lasnik (1999) concludes that the HNPS approach may not be the correct analysis for Pseudogapping, and suggests that the movement operation in question is object shift.[5]

4.1.2 *Movement of the remnant: Object Shift*

Lasnik (1999) retains Jayaseelan's (1990) basic insight that a remnant has to be moved out of the VP before this VP then gets deleted. More specifically, he assumes a projection above VP to which the object moves in the course of the Pseudogapping derivation, Agr_O, as illustrated in (33) below. This movement is triggered by an EPP-feature in Agr_O, which specifies that the specifier of the projection in question must be filled,

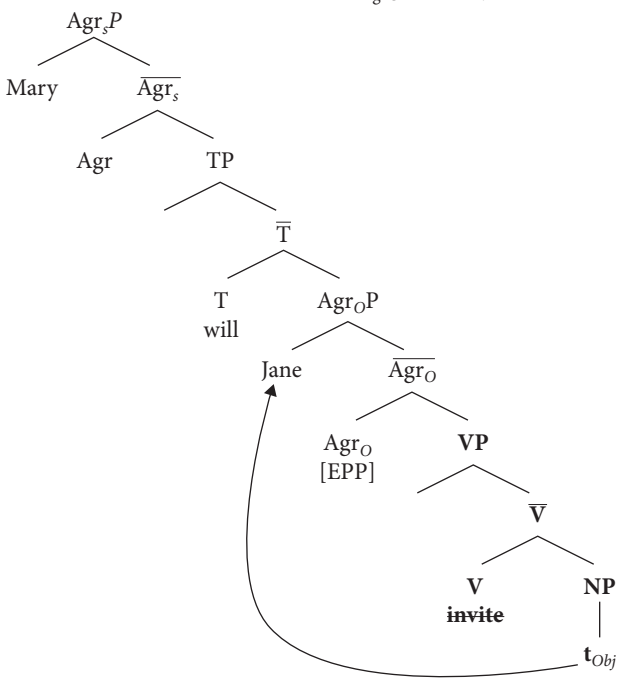
5. See Takahashi (2004) for an eclectic approach to Pseudogapping, combining HNPS and object shift.

i.e., that Agr_O needs a specifier. The object remnant of Pseudogapping moves to the specifier position and thus fills that position. Lasnik's analysis of the Pseudogapping example in (32) is illustrated in (33).

(32) John invited Sarah, and Mary will Jane.

(33) a. John invited Sarah, and Mary will $[_{AgrO}$ $Jane_i]$ $[_{VP}$ ~~invite~~ $t_i]$

b.



At first sight, Lasnik's approach is more appealing since there seem to be other phenomena in English that are subject to the same kind of movement, *object shift*, as Lasnik called it (Lasnik 1995, 1999). For instance, particle constructions (in (34)) and ECM constructions (in (35)) involve movement of the object, as proposed by Johnson (1991) and Lasnik (2001).

(34) a. Mary made Bill out to be a fool.
b. Mary made out Bill to be a fool.

(35) John believes everyone [*t* not to be there yet].

(36) John will select me, and Bill will YOU.

However, there is one puzzle that remains, which I will address in the following section.

4.2 The EPP and focus

Compared to the other constructions under discussion that undergo object shift, only the Pseudogapping case in (36) seems to exhibit a clear focal structure. On the one

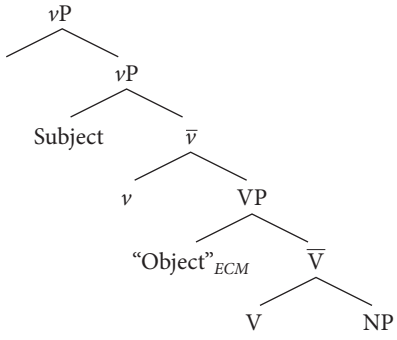
hand, this points yet again to a close connection between focus and ellipsis; on the other hand, it is not clear how this information-structural feature of Pseudogapping should be accounted for with the EPP alone.

In principle, there are two ways to go from here: we can either assume that the EPP sometimes incorporates information-structural features, and that sometimes it doesn't, or we need to allow a second (or an entirely different) dimension into the derivation of Pseudogapping. I will pursue the latter option here, claiming that the syntactic derivation of Pseudogapping and other ellipsis cases needs to include the notion of focus.

There has been cross-linguistic evidence for a focus position above *v*P (e.g., Belletti & Shlonsky 1995, Kíss 1998). Jayaseelan (2001) uses this focal position for his claim that the remnant in English Pseudogapping is moved via focus movement, and ends up in this focus position. From this setting, illustrated in (38) below, the contrastiveness of and the focus on the remnant in Pseudogapping would receive a natural explanation.

Although this now accounts for the fact that the Pseudogapping remnant is focused, we would also like to find an explanation for the observation that particle cases and ECM construction lack this kind of focus, given that Lasnik (1995, 1999) assumed the same type of movement involved. I suggest that this could be due to a different syntactic derivation. Following Chomsky's (2005) assumptions concerning the structure for ECM constructions, sketched in (37) below, I contend that the movement triggered by the EPP is shorter than the actual focus movement. In (37) the relevant *object* moves only to the specifier of *VP*, via EPP-driven object shift (basically following Lasnik's assumptions).

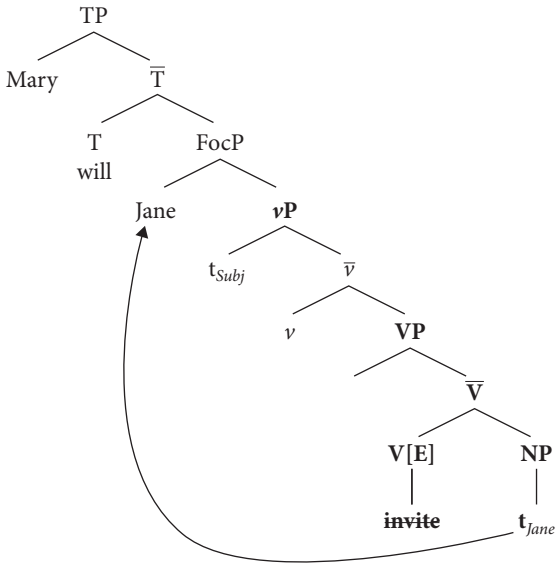
(37)



In Pseudogapping, the remnant moves beyond that position, i.e., past [Spec,VP] into a higher focal position. This position could be Jayaseelan's (2001) focus position, as in (38), or, as Chomsky (2005) suggests, the outer specifier of *v*P in a structure with multiple specifiers – this specifier has A-bar properties (as also assumed in Chomsky 2005).[6]

6. See Gengel (2006b) for further discussion.

(38) John invited Sarah, and Mary will Jane.



5. The exhaustivity problem

5.1 Focus movement in Hungarian

In languages other than English, for example in Hungarian, Italian, Hebrew (among many other languages; cf. Kíss 1998, Belletti and Shlonsky 1995) overt focus movement can be assumed. This is not the case for English. Thus, if we claim that syntactic focus movement exists in English, notably in ellipsis contexts, the question arises whether this instance of focus movement is similar to the movement found in other languages. Taking Hungarian as an example, I will consider one property in Hungarian focus movement that seems closely related to ellipsis phenomena, namely the question of exhaustivity.

Hungarian (long) focus movement, for instance, is shown in (39):

(39) $[_{IP}$ *A gyerekek* $[_{VP}$ *a földrengestöl*$_1$ $[_{V'}$ *montak* $[_{CP}$ *hogy* $[_{IP}[_{VP}[_{V'}$ *Attila*
The kids the earthquake.from said that Attila
felt $t_1]]]]]]]$
feared
'It is the earthquake that the kids said Attila had been afraid of.'
(cited in von Stechow 1991: 813, his (60)).

According to von Stechow (1991: 813), *the earthquake* undergoes long focus movement, using the specifier position of the complementizer *hogy* as an escape hatch.

As mentioned at the beginning of this section, exhaustivity seems to play a crucial role in overt focus movement in Hungarian. In the example in (40), for instance, *Peterre* has an exhaustive reading, as in it being Peter and nobody else that Mari voted for.

(40) *Mari Peterre szavazott.*
Mari Peter.on voted.she
'(As for) Mary, it was *Peter* that she voted on.'
(Kíss 1998: 256, her example (29))

That the moved focus constituent acquires an exhaustive reading is also pointed out by von Stechow (1991: 813), who cites an example from Szabolcsi (1981).

(41) a. *[$_F$ Máriát és Évát] sereti János.*
[$_F$ Mary.ACC and Eva.ACC] loves John.NOM
'It is Mary and Eva that John loves.'
b. *[$_F$ Máriát] sereti János.*
[$_F$ Mary.ACC] loves John.NOM
'It is Mary that John loves.'

The two sentences in (41) are incompatible with each other, which suggests, as von Stechow puts it, that "the NP in focus position is interpreted as an exhaustive list, i.e., as a strong version of *only*-NP. Thus, [$_F$ Máriát és Évat] means Mary and Eva and no one else." (von Stechow 1991: 813)[7]

In the syntax, the concept of exhaustivity seems to be what triggers overt focus movement. This is argued, for instance, by Kíss (1998), who contends that there are two different types of foci which behave differently with respect to overt syntactic displacement. Whereas *information focus* (or *presentational focus*) does not cause the movement of the focused constituent, *identificational focus* (or *contrastive focus*) does. The exhaustivity requirement is included in Kíss' definition of identificational focus (42).

(42) *Identificational (=contrastive) Focus (Kíss 1998)*
An identificational focus represents a subset of the set of contextually or situationally given elements for which the predicate phrase can potentially hold; it is identified as the exhaustive subset of this set for which the predicate actually holds.

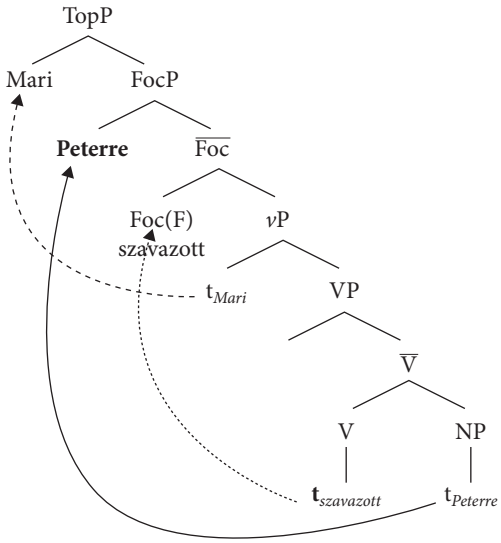
Whilst the general distinction between different types of foci is not paramount to the questions addressed in this paper, the syntactic displacement seems to be tied to

7. A reviewer raises the question whether exhaustivity holds for all cases of (contrastive) focus, e.g., also in the English *MARY loves Peter*. I believe that this is not necessarily the case since this sentence does not seem to imply that only Mary loves Peter. Since a discussion of the specific properties of contrastive focus is beyond the scope of this paper, I leave this specific point for further research. Note, however, that the general line of argument with respect to the similarity between focus movement in Hungarian and focus movement in English would still be valid even if both instances of focus movement were due to exhaustivity. (But see also Szendroï 2001 for the view that Hungarian focus movement is due to contrastiveness rather than exhaustivity.)

certain features that the focused constituent has in Hungarian, notably exhaustivity. With respect to the syntactic structure, there are parallels between the focus movement proposed for English Pseudogapping and Hungarian focus movement, since in both instances, the focused constituent targets the specifier of a Focus phrase above *v*P, as shown in (43) for the Hungarian example.

(43) a. *Mari Peterre szavazott.*
'(As for) Mary, it was *Peter* that she voted on.' (Kíss 1998: 256)

b.



If we assume that focus movement in English Pseudogapping is similar to focus movement found in Hungarian, the question arises whether the focused constituents display the same semantic properties. In what follows, I will argue that focus movement in English differs from Hungarian focus movement in that it requires contrastiveness rather than exhaustivity.

5.2 Exhaustivity in ellipsis

Although the structure in (43) seems to mirror the situation in English Pseudogapping, where the focus can also be assumed to be contrastive, the crucial difference between the two constructions is the requirement of exhaustivity that Kíss posits in her definition of identificational focus (42). If we apply this definition to Pseudogapping, the null hypothesis would be that, if the remnant is contrastively focused, it can be moved to a focus phrase, like in Hungarian. If that were true, then, following Kíss, the focus in the ellipsis structure should also be exhaustive.

This exhaustivity requirement for contrastive focus poses a problem, however. If we consider the Pseudogapping examples from above, we find that the question of exhaustivity, i.e., the exclusion of all possible alternatives, is not easy to answer. Generally speaking, the exhaustivity requirement, like in the von Stechow/Szabolcsi example

in (41) is defined such that the predicate holds of only the element mentioned, and no other. Surely, in this narrow sense, this cannot be maintained if we consider the Pseudogapping sentences in (44) to (48). The only sentence that could be said to convey exhaustivity is the sentence in (46), if the process of selecting somebody is understood such that only one person is selected. From (47), however, we cannot conclude that Mary has dated nobody but Harry, and, similarly, strictly speaking, (48) does not permit the conclusion that Mary will only invite Jane and nobody else.

(44) 'Gerard *Logan*!' The tall dog-walker, astounded, bending to look at me, knew me by sight, as I did him. (Dick Francis, *Shattered*, 68)

(45) He asked curiously, 'Which of all those sculptures in the book was the hardest for you to make?' 'The most difficult was the gypsy's crystal ball.'
It surprised him, as it did most people. (Dick Francis, *Shattered*, 226)

(46) John will select me, and Bill will you. (Lasnik 1999: 141)

(47) Mary hasn't dated Bill, but she has Harry.
(ex. from Sag 1976, cited in Lasnik 1999: 142)

(48) John invited Sarah, and Mary will Jane.

The Pseudogapping examples in (44) and (45) are even less straightforward, since, for instance, in (44), the predicate *know by sight* surely cannot be restricted to only one person, the one mentioned in the sentence.

From the above we have to conclude that the contrastive focus said to be on the remnant in Pseudogapping does not seem to obey the exhaustivity requirement that can be assumed for the Hungarian cases of focus movement. Hence, I suggest replacing this requirement with the contrastiveness requirement from section 3 above.

5.3 Syntactic focus movement and contrastiveness

On the basis of the discussion above, I suggest that the contrastiveness requirement on the Pseudogapping remnant triggers syntactic movement of the remnant out of the phrase to be deleted.

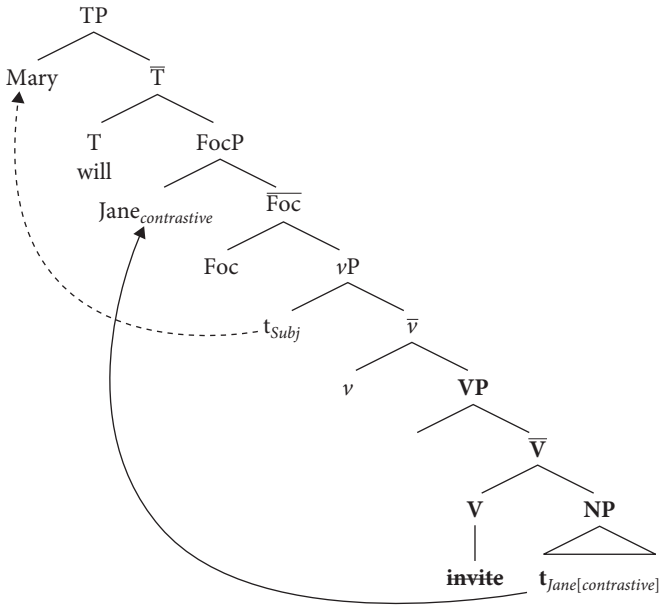
In particular, I propose that movement is to the focal position that Jayaseelan (2001) assumed, and that this movement is caused by a [+contrastive] feature. This feature is placed on the element that contrasts with its corresponding element in the antecedent, for instance, the object in Pseudogapping. The specification of this feature is as follows:

(49) *The [+contrastive]-feature (Gengel 2006a)*
The contrastive feature
   a. captures the impossibility of deleting focused or new material, i.e., blocks deletion of a phrase when it is present in that phrase, and
   b. triggers movement of contrasted elements out of the phrase marked for deletion.

The resulting syntactic structure for the sentence in (50) is illustrated in (51) below. As the object *Jane* is contrastive, it needs to move out of the VP prior to VP deletion.

(50) John invited Sarah, and Mary will Jane.

(51)



It is important to note at this point that movement based on contrastiveness is limited to cases of ellipsis. Otherwise, if it were allowed to move contrastive elements independently of ellipsis, we would encounter severe over-generation. Whilst focus movement can proceed quite independently from ellipsis (as shown in the Hungarian cases above, or in English cleft sentences), the close link to the antecedent, which lies at the heart of the contrastive feature, is crucial only in ellipsis processes, where contrastive material needs to be moved out of clauses that are specified for deletion. Of course, this movement is special, then, in applying only to ellipsis cases. However, as contrastiveness-based movement can be extended to other cases of ellipsis, it is not restricted to one instance, e.g., Pseudogapping, but can be applied to a group of phenomena that share the same characteristics. As such, it might be preferred over a general focus movement account.[8]

Another advantage lies in the fact that the contrastiveness account ties in with Kratzer's (1991) F-indexing account. If we assume that F-marking (and F-indexing) are present in the syntactic structure (possibly already assigned in the numeration, cf. n. 4), the indexing procedure can be exploited to yield an explanation for the difference between VP Ellipsis and Pseudogapping. I presume that [+contrastive] elements

8. A reviewer reminds me that a consequence of this approach is that the syntactic derivation necessarily has to have a large amount of information at its disposal to avoid the movement of contrastive elements in non-ellipsis contexts. One way to address this problem is discussed in Gengel (2006a), where I tried to establish a link between the E-feature and the [+contrastive]-feature.

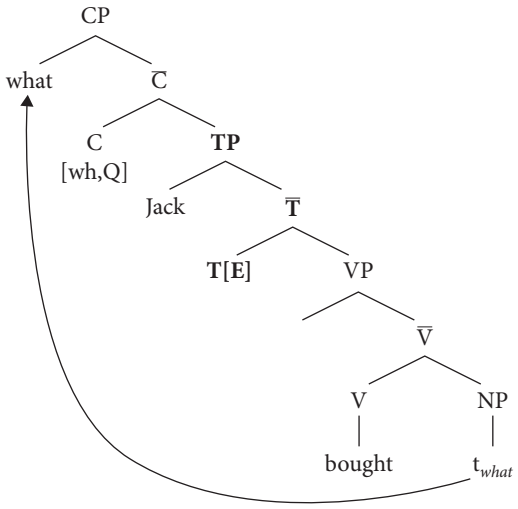
necessarily bear an F-index that is different from the one on the corresponding antecedent. Hence, the F-indexing mechanism could be used to incorporate the contrastiveness condition in Pseudogapping (and probably in other ellipsis types as well), thus precisely excluding the same referent from the set of alternatives that are generated. In this sense, Kratzer's (1991) proposal can be extended to other ellipsis types, if we take the novelty requirement on F-indices to include the contrastiveness condition. In the syntax, in cases where there is no contrast, and the same F-indices could be assigned, no movement takes place (i.e., in VP Ellipsis), and the remnant may stay in situ. In contrast to that, if there is a contrastive element in an ellipsis environment in the syntax, the difference in the F-index could induce movement in the syntax.

Hence, by means of conclusion, I suggest that the core problem in the ellipsis cases can be rendered with the help of the notion of contrastiveness, which is (at least prosodically) encoded via focus.

6. Extension to other ellipsis cases: Sluicing

In this final section I will illustrate how an analysis in terms of contrastiveness and focus can be extended from Pseudogapping to other types of ellipsis. In particular, I will demonstrate how this account can be applied to Sluicing.[9] Under the syntactic account presented in section 4, the Sluicing construction can be rendered with the structure below ((52), where the [E]-feature on T specifies that the TP and the material below is deleted, cf. Gengel 2006a,b).

(52) Jack bought something, but I don't know what.



9. For a detailed analysis of Gapping, see Gengel (2006a) and Gengel & McNay (2006).

On the assumption that *something* in the antecedent clause and *what* in the second conjunct form another pair of contrastive elements, it could be concluded that the same type of contrast-induced focus movement applies.

This contrast can be corroborated with facts from German, where phonetically similar but lexically different material yields a correct Sluicing example:

(53) Er hat was gekauft, aber ich weiß nicht, was.

Here, the first *was* in the antecedent is a short form of *etwas* 'something', and the second *was* is the question pronoun *was* 'what'.

If we follow Rizzi (1997) in general and van Craenenbroeck (2004) for Sluicing in assuming a split-CP structure, we have a focus projection at our disposal where the sluicing remnant (e.g., *what* in (52)) could move.

7. Conclusion

In this paper I have discussed the question of how focus contributes to the derivation of ellipsis. With the example of the Pseudogapping construction I have shown that focus is not only responsible for the computation of semantically correct alternatives in the contrastive focus settings, but also for the syntactic movement process involved.

With respect to the semantics of focus, I have argued for a semantic representation of focus along the lines of Kratzer (1991), which, in turn, is a modification of Rooth's (1985) proposal of focus representation. With regard to the syntax, I have incorporated the presence of focus in the derivation of ellipsis structures, and I assumed that there is a focus projection above *v*P, as suggested in e.g., Jayaseelan (2001), which serves as landing site for the Pseudogapping remnant.

I have shown further that the question of exhaustivity is secondary in the treatment of ellipsis, and that we need a requirement stated in terms of contrastiveness instead.

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Reconstruction and scope in exclamative sentences*

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This paper proposes that the constraints on the presence of negation in exclamative sentences follow from scope relations established between the wh-phrase and negation, and provides further support for the syntactic reconstruction approach to derive these scope relations (cf. Fox 2000). In order to explain these constraints, I concentrate on the interaction between these types of operators, the wh-phrase and negation, showing that negation can appear in exclamative sentences when the wh-phrase is not within the scope of negation; when the negative operator has wide scope, the sentence is ungrammatical. I argue that the impossibility of the latter scope relation is due to the fact that exclamative wh-phrases are positive polarity items, since they are upper-endpoint oriented modifiers.

1. Introduction

This paper deals with the (im)possibility of negating exclamative sentences in Spanish. The phenomenon to be addressed is the presence of a standard negation in exclamative sentences (as opposed to focusing on expletive negation, as in Espinal's 1997, 2000 and Portner and Zanuttini's 2000 works). Exclamatives show restrictions with regard to the possibility of being negated in Spanish: whereas some exclamatives reject the presence of negation (cf. (1)), others allow it (cf. (2)) (cf. Masullo 2003, Villalba 2004).

(1) a. *¡Qué clara (*no) fue su exposición!*
how clear not was his presentation
'How clear his presentation was not!'
b. *¡Cómo (*no) estaba de contento!*
how not was of happy
'How happy he was not!'

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(2) a. *¡Cuántos regalos (no) ha comprado!*
how-many gifts not has bought
'How many gifts he has not bought!'
b. *¡Qué de material (no) ha recogido!*
how of material not has collected
'How much material he has not collected!'

The negative marker in (2) contributes to the negative meaning of the sentences, modifying the truth value of the propositions (regardless of whether the expletive reading is also possible).[1] That the negative operator in (2) can be interpreted as non-expletive is shown by the possibility of licensing negative polarity items (cf. Villalba 2004), such as the bold-faced expressions in (3):

(3) a. *¡Cuántos regalos no ha comprado* ***todavía****!*
how-many gifts not has bought yet
'How many gifts he has not bought yet!'
b. *¡Qué de material no ha recogido* ***todavía****!*
how of material not has collected yet
'How much material he has not collected yet!'

The purpose of this paper is twofold; on the one hand, I will propose an analysis that accounts for the (im)possibility of negating exclamative sentences and, on the other, I will provide evidence for the syntactic reconstruction approach to derive the scope relations established between two operators. The structure of the paper is as follows: section 2 establishes a classification of exclamative sentences that will allow us to distinguish those that can be negated from those that cannot; section 3 provides an analysis of the constraints on the presence of negation in exclamative sentences; section 4 discusses how the scope relations that the wh-phrase and negation establish are derived from the syntax.

2. Two types of exclamative sentences

The literature on exclamative sentences mostly establishes a distinction of this type of sentence based on the category of the restrictor of the exclamative quantifier

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1. According to some speakers' judgments, negation in (2) can be an expletive operator, but it is easier to obtain the expletive interpretation with future or conditional verbal forms:

i. a. *¡A cuántas personas no engañaría en su juventud!*
to how.many persons not deceive.COND in his/her youth
'(S)he must have deceived so many people in his/ her youth!'
b. *¡Qué crímenes no habrá cometido alguien así!*
what crimes not have.FUT committed somebody like.that
'So many crimes must have been committed by such a person!'
(Espinal1997: 77)

I will avoid the use of these verbal forms in my examples.

(cf. Gutiérrez-Rexach 2001, Ono 2002, Villalba 2004, among others). For instance, the sentence in (4) is an adjectival exclamative; the construction in (5) is a nominal exclamative and the sentence in (6) represents verbal exclamatives:

(4) Adjectival exclamative
¡Qué guapo está tu hijo!
how handsome is your son
'How handsome your son is!'

(5) Nominal exclamative
¡Cuántos actores han trabajado en esa película!
how.many actors have worked in that film
'How many actors have worked in that film!'

(6) Verbal exclamative
¡Cómo llovió anoche!
how rained last.night
'How it rained last night!'

However, I will not follow this classification of exclamative sentences because it does not allow us to distinguish those that permit the presence of negation from those that do not. As noted by Villalba (2004), there is an asymmetry with regard to the possibility of negating nominal exclamatives as well as verbal exclamatives. As we see in (7), while some nominal exclamatives can be negated (cf. (7a)), others cannot (cf. (7b)). The same asymmetry is shown in verbal exclamatives (cf. (8)):

(7) Nominal exclamatives
a. *¡Cuántos actores (no) han trabajado en esa película!*
how.many actors not have worked in that film
'How many actors have not worked in that film!'
b. *¡Qué coche (*no) se ha comprado!*
what car not CL has bought
'What a car he has not bought!'

(8) Verbal exclamatives
a. *¡Cuánto (no) han leído esta semana!*
how.much not have read this week
'How much they have not read this week!'
b. *¡Cómo (*no) llovió anoche!*
how not rained last.night
'How it did not rain last night!'

The classification that is most relevant to the contrast shown above seems to be the one described in Octavio de Toledo and Sánchez López (in press). According to this classification, exclamative sentences are divided in two groups, depending on the type of quantification denoted: quantitative exclamatives and qualitative exclamatives. In the former (cf. (9)), the quantifier measures the amount of individuals or objects expressed by the restrictor; in other words, quantitative exclamatives express

quantities. In qualitative exclamatives (cf. (10)), the quantifier modifies those items associated with a scale, measuring the degree to which the property is held:

(9) Quantitative exclamatives
a. *¡Qué de criminales han sido arrestados!*
how of criminals have been arrested
'How many criminals have been arrested!'
b. *¡Cuánto han leído esta semana!*
how.much have read this week
'How much they have read this week!'

(10) Qualitative exclamatives
a. *¡Qué novio le buscaron!*
what boyfriend CL got
'What a boyfriend they got for her!'
b. *¡Cómo llovió anoche!*
how rained last.night
'How it rained last night!'
c. *¡Qué inteligente es Isabel!*
how intelligent is Isabel
'How intelligent Isabel is!'

Although this classification of exclamative sentences is based on their semantics, I would like to suggest that the distinction between quantitative and qualitative exclamatives is encoded in the morphology of wh-phrases, in line with Zanuttini and Portner's (2003) proposal. These authors argue that wh-phrases which can only occur in exclamatives contain a morpheme glossed as *E-only*. These wh-phrases also have a wh-morpheme and can contain a measure specification and a sortal specification:

(11) a. how very many books (Italian)
WH E-ONLY MEASURE SORTAL
b. che t-anti libri ('how many books')
WH E-ONLY + MEASURE SORTAL (Zanuttini and Portner 2003: 69)

According to Zanuttini and Portner (2003), wh-phrases which can appear in exclamative sentences and in interrogative sentences have two different internal structures, depending on the type of clause in which they occur. When they are exclamative wh-phrases, they contain a null morpheme (∈) which codifies that the phrase is exclamative (cf. (12a)). In contrast, if wh-phrases are interrogative, they do not have the null morpheme ∈ (cf. (12b)):

(12) a. che ∈ libri (. . . che ha comprato!) (Italian)
WH E-ONLY SORTAL
which books that has bought
'What books s/he bought!'
b. che libri
WH SORTAL (Zanuttini and Portner 2003: 70)

As is shown in (11b), those authors argue that, in Italian, the morpheme *-anti* specifies the measure. Interestingly, in Spanish, some wh-phrases contain the same morpheme (*-anto*); in particular, this morpheme appears in quantitative wh-phrases (cf. (9b)). In contrast, qualitative wh-phrases do not have that morpheme (cf. (10)). This leads me to suggest that, in Spanish, the morpheme *-ant-* not only codifies the measure, it also specifies that the wh-phrase must quantify over individuals or objects, as is shown in (13a). The preposition *de* 'of' in (9a) would codify the same information as the morpheme *-anto* in (9b), the reason being that, if the preposition is removed, the sentence must be interpreted as a qualitative exclamative (cf. (14)):

(13) a. cu-ánto
WH + QUANTITATIVE QUANTIFICATION (MEASURE)
b. qué ∈ de
WH E-ONLY QUANTITATIVE QUANTIFICATION (MEASURE)

(14) *¡Qué criminal han arrestado!*
what criminal have arrested
'What a criminal they have arrested!'

As I pointed out above, qualitative wh-phrases do not contain these morphemes or any other phonetically realized element that specifies measure. As a consequence, two possible hypotheses arise. On the one hand, we could argue that qualitative quantification occurs when the wh-phrase does not contain a (null or phonetically realized) morpheme of measure (cf. (15)). On the other hand, we could postulate that a null morpheme codifies the measure when wh-phrases quantify over degrees (cf. (16)).[2] Further investigation of the internal structure of wh-phrases may reveal the right track, but I leave this issue for future research.

(15) a. qué
WH
b. cómo
WH

2. Zanuttini and Portner (2003: 74) postulate that the specification of measure can be encoded by a null morpheme, as is shown in (i), where the wh-phrase is qualitative:

i. how very tall
WH E-ONLY SORTAL

However, these linguists do not establish any distinction between a morpheme of quantitative quantification and a morpheme of qualitative quantification. This seems reasonable since, in Italian, the morpheme *-ant-* can specify the measure not only in quantitative exclamatives (cf. iia), but also in qualitative exclamatives (cf. iib):

ii. a. che t-anti libri ('how very many books')
WH E-ONLY + MEASURE SORTAL
b. qu-anto alto ('how much tall')
WH + MEASURE SORTAL (Zanuttini and Portner 2003: 69–70)

(16) a. qué ø
WH QUALITATIVE QUANTIFICATION (MEASURE)
b. cómo ø
WH QUALITATIVE QUANTIFICATION (MEASURE)

As is shown in table 1, adjectival exclamatives are always qualitative, since they measure the degree of the property in question, as in (a). In contrast, verbal and nominal exclamatives do not have a unitary behavior with regard to the type of quantification denoted, and these can be either qualitatives or quantitatives. The quantitative verbal exclamative in (b) expresses the amount of readings achieved. As noted by Bosque and Masullo (1998), in these cases, the quantifier does not modify the predicate, it modifies an argument of its lexical structure. In contrast, in the qualitative exclamative (cf. c), the meaning of the predicate is associated with a scale; thus, the sentence can be paraphrased as *It rained hard*. Bosque and Masullo (1998: 20) propose that, in this type of quantification, "the degree modifiers quantify over a component of the sub-lexical structure of the predicate, more specifically, the lowest predicate available in a lexical relational structure".[3] A similar situation is found in nominal exclamatives. The quantifier in the quantitative exclamative (cf. d) expresses the amount of individuals; on the other hand, the qualitative nominal exclamative in (e) denotes that the boyfriend they got for her has a certain property to an extreme degree, as shown by the possibility of explicitly expressing that quality, as in (17).

Table 1

	Quantitative exclamatives	**Qualitative exclamatives**
Adjectival exclamatives		a. *¡Qué inteligente es Isabel!* 'How intelligent Isabel is!'
Verbal exclamatives	b. *¡Cuánto han leído esta semana!* 'How much they have read this week!'	c. *¡Cómo llovió anoche!* 'How it rained last night!'
Nominal exclamatives	d. *¡Cuántos criminales han sido arrestados!* 'How many criminals have been arrested!'	e. *¡Qué novio le buscaron!* 'What a boyfriend they got for her!'

(17) *¡Qué novio tan guapo le buscaron!*
what boyfriend so handsome CL got
'What a handsome boyfriend they got for her!'

The distinction between qualitative and quantitative exclamatives has an important role regarding the (im)possibility of introducing the negative marker, as opposed to

3. See Bosque and Masullo (1998) for a detailed analysis of this type of verbal quantification.

what happens with the classification that distinguishes between verbal, nominal, and adjectival exclamatives. As the contrast between (18) and (19) shows, quantitative exclamatives can be negated (cf. (18)), whereas qualitative exclamatives cannot (cf. (19)):[4,5]

(18) Quantitative exclamatives
  a. *¡Qué de criminales (no) han sido arrestados!*
     how of criminals not have been arrested
     'How many criminals have not been arrested!'
  b. *¡Cuánto (no) han leído esta semana!*
     how.much not have read this week
     'How much they have not read this week!'

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4. This contrast also holds for interrogative sentences, as shown in the examples in (i), which are instances of the negative island phenomenon:

i. a. *¿Cuántos criminales no han sido arrestados?*
     how.many criminals not have been arrested
     'How many criminals have not been arrested?'
  b. **¿Cómo de inteligente no es Isabel?*
     how of intelligent not is Isabel
     'How intelligent is not Isabel?'

But, although the literature on the extraction of interrogative wh-phrases out of negative islands is very rich (cf. Cinque 1990, Kuno and Takami 1997, Rizzi 1990, Ross 1984, Szabolcsi and Zwarts 1997, among others), these works have not paid any attention to the island effects induced by negation in exclamative sentences. In contrast, this paper focuses on exclamative sentences, but I will discuss the possibility of extending my hypothesis to interrogatives in note 19.

5. As Marcel den Dikken (personal communication) notes, the Spanish facts seem to be reproduced in Dutch in a very interesting way. In Dutch, there are certain degree expressions which are ambiguous between a quantitative interpretation and a qualitative interpretation, but, if the negative operator is included in the sentence, the only reading available is the first one. Thus, whereas (ia) without *niet* 'not' is perfectly ambiguous between a quantitative and a qualitative interpretation of *wat een acteurs* ('what a large number of actors' vs. 'what great actors'), when *niet* 'not' is included, only the quantitative reading survives ('what a large number of actors'). The same holds for (ib), which only has the quantitative reading ('what a large number of mistakes') when negation is included; if the negative marker does not appear, the qualitative reading ('what dreadful mistakes', for instance) also arises. In contrast, (ic), where the restrictor of the quantifier is an adjective, forcing the qualitative interpretation, rejects the presence of *niet* 'not':

i. a. *Wat een acteurs hebben er (niet) meegewerkt aan die film!*
     what an actors have there not contributed to that movie
  b. *Wat een fouten heeft hij (niet) gemaakt!*
     what a mistakes has he not made
  c. *Wat is Jan (*niet) intelligent!*
     what is Jan not intelligent

(19) Qualitative exclamatives
a. *¡Qué novio (*no) le buscaron!*
what boyfriend not CL got
'What a boyfriend they did not get for her!'
b. *¡Cómo (*no) llovió anoche!*
how not rained last.night
'How it did not rain last night!'
c. *¡Qué inteligente (*no) es Isabel!*
how intelligent not is Isabel
'How intelligent Isabel is not!'

Consequently, my analysis must not only deal with the impossibility of negating certain exclamative sentences, but it must also explain that others, more precisely quantitative exclamatives, can be negated.

3. Negation in exclamative sentences

The proposal I put forward here is that the (im)possibility of negating exclamative sentences depends on scope relations established between the wh-phrase and negation. In particular, I propose that negation can appear in exclamative sentences when it does not take scope over the wh-phrase (cf. (20a)); if the scope relation established is the one in (20b), where the wh-phrase is within the scope of negation, the sentence is ungrammatical. As I will show, the scope relation in (20b) is not possible because exclamative quantifiers are positive polarity items, and, therefore, cannot occur within the scope of negation:

(20) a. Wh-Phrase … Negation … [$_{\text{Scope}}$ …]

b. *Negation … [$_{\text{Scope}}$ … Wh-Phrase …

3.1 Scope effects in exclamative sentences

As I pointed out, while quantitative exclamatives can be negated, qualitative exclamatives cannot. Crucially, one of the differences between qualitative and quantitative quantifiers is the scope relations these types of operators establish. Qualitative quantifiers always have narrow scope with respect to the rest of operators that appear in its sentence (cf. Kennedy 1997, Morón Pastor 2004).[6] Thus, in (21), the only possible reading is the

6. This led Kennedy (1997) to propose that degree quantifiers are not operators. In contrast, Morón Pastor (2004) argues that this fact does not necessarily mean that they are not operators.

one in (a), in which *muy* 'very' has narrow scope with respect to negation. The readings in (b) and (c) are not available. (21b), where negation takes wide scope, is not possible because it denies the existence of a high degree on the scale. The unavailability of the interpretation in (21c), in which the degree operator is not within the scope of negation, is due to the fact that it does not associate the individual with a degree on the scale:

(21) *Irene no es muy alta.*
Irene not is very tall
'Irene is not very tall.'
a. 'There is a degree d, such that Irene is tall to degree d, and d is not a high degree on the scale of tallness'
[Neg > Very]
b. 'There is not a degree d, such that d is a high degree on the scale of tallness, and Irene is tall to degree d'
*[Neg > Very]
c. 'There is a degree d, such that d is a high degree on the scale of tallness, and Irene is not tall to degree d'
*[Very > Neg]

Let us consider the behavior of exclamative qualitative quantifiers. In (22), the only expected interpretation is the one in (a), where the wh-phrase has narrow scope. However, this reading is unavailable:[7]

(22) *¡*Qué alta no es Irene!*
how tall not is Irene
'How tall Irene is not!'
a. 'There is a degree d, such that Irene is tall to degree d, and d is not the maximal degree on the scale of tallness'
*[Neg > Wh-Phrase]

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7. Contrary to my judgments and Kennedy's (1997) view, Gutiérrez-Rexach (2001: 175) and Villalba (2004: 15) defend that exclamative degree operators always have wide scope. To illustrate this, Villalba (2004: 15) offers the example in (i), pointing out that the only possible interpretation is the one in (a):

i. How expensive all the books are!
a. Only one degree d exists such that d is the maximal degree on the scale of expensiveness and such that for every y, y = book, y is expensive to degree d.
b. *For every y, y = book, only one degree d exists such that d is the maximal degree on the scale of expensiveness and such that y is expensive to degree d.

However, I consider that the reading of this sentence is the one in (b), but removing *only*, that is, the one in which each book has a different price. Note that, if we assume that degrees are intervals on a scale (cf. Kennedy 1997, 2001, Schwarzschild and Wilkinson 2002), that interpretation does not cancel the existence of a maximal degree on the scale. Any degree included in the highest interval is grammatically codified as an extreme degree.

b. 'There is not a degree d, such that d is the maximal degree on the scale of tallness, and Irene is tall to degree d'
*[Neg > Wh-Phrase]
c. 'There is a degree d, such that d is the maximal degree on the scale of tallness, and Irene is not tall to degree d'
*[Wh-Phrase > Neg]

As expected, the readings in (22b) and (22c) are not possible. The former denies the existence of a maximal degree on the scale. In the latter, the degree operator takes wide scope, and the individual in question (Irene) is not associated with a degree on the scale (cf. Villalba 2004). Nevertheless, it is not obvious why the interpretation paraphrased in (22a) is not available, yielding a grammatical sentence, in the same way as in (21).[8]

Quantitative quantifiers, unlike qualitative ones, establish different scope relations with other operators. Thus, the sentence in (23) is ambiguous between the interpretations in (23a) and (23c); in the former, the quantifier has narrow scope, in the latter, it takes scope over negation. Note that the scope relation in which negation has wide scope is only possible if it affects the appraisal of the quantity, as in (23a), but not if the resulting interpretation implies the non existence of a certain number of mysteries, as shown in (23b):

(23) *Los detectives no despejaron muchas incógnitas.*
the detectives not solved many mysteries
'The detectives did not solve many mysteries.'
a. 'There were mysteries that the detectives solved, and these were not many'
[Neg > Many]
b. 'There were not many mysteries that the detectives solved'
*[Neg > Many]
c. 'There were many mysteries that the detectives did not solve'
[Many > Neg]

However, quantitative exclamatives do not present the same behavior when they contain the negative marker, since the wh-phrase must be interpreted with wide scope. The presence of negation in quantitative exclamatives blocks the interpretation resulting from the wh-phrase having narrow scope. In these cases, the quantitative quantifier does not present different scope relations with respect to negation. Thus, in (24), the only available interpretation is the one in (24c). The readings in (24a) and (24b) are not available:

(24) *¡Cuántas incógnitas no despejaron los detectives!*
how.many mysteries not solved the detectives
'How many mysteries the detectives did not solve!'
a. 'There were mysteries that the detectives solved, and these were not many'
*[Neg > Wh-Phrase]

8. Attention is not drawn to this paraphrase in Villalba (2004).

b. 'There were not many mysteries that the detectives solved'
*[Neg > Wh-Phrase]
c. 'There were many mysteries that the detectives did not solve'
[Wh-Phrase > Neg]

The contrast between (23a) and (24a) shows that only the interpretation resulting from negation having narrow scope is available in negative exclamatives. But, again, there seems to be no explanation for the unavailability of the interpretation where the wh-phrase is within the scope of negation.

Summarizing the results so far, the (im)possibility of negating exclamative sentences depends on the interaction between the wh-phrase and negation. The data have clearly shown that negation cannot take scope over exclamative wh-phrases. As is shown in table 2, this scope relation is expected, though unavailable, in qualitative (cf. (22a)) and quantitative exclamatives (cf. (24a)). Furthermore, there is another reading resulting from the negation having wide scope, illustrated in (22b) and (24b), but this reading is unexpected and unavailable, in a way that is parallel to what happens when non-exclamative quantifiers interact with negation. When the wh-phrase has wide scope, exclamative quantifiers present the same behavior as non-exclamative ones. In qualitative exclamatives, the reading resulting from this configuration is unexpected and unavailable (cf. (22c)); in quantitative exclamatives, it is expected and available (cf. (24c)). Consequently, negation is allowed in exclamative sentences when it has narrow scope with respect to the degree operator. This scope relation arises when the quantifier is quantitative, but not when it is qualitative, since these always have narrow scope. Given this, we can account for the asymmetry between quantitative exclamatives and qualitative exclamatives with regard to the possibility of being negated: the former admit the negative marker, while the latter reject it.

Table 2

	Qualitative exclamatives	**Quantitative exclamatives**
Neg > Wh-P	– Expected, though unavailable (cf. (22a)) – Unexpected and unavailable (cf. (22b))	– Expected, though unavailable (cf. (24a)) – Unexpected and unavailable (cf. (24b))
Wh-P > Neg	– Unexpected and unavailable (cf. (22c))	– Expected and available (cf. (24c))

3.2 Apparent counterexamples

Certain exclamatives seem to escape the description I have just provided and, therefore, constitute a counterexample. First, the quantitative exclamatives in (25) do not admit the presence of negation, in spite of the fact that the amount of individuals is quantified:[9]

9. Note that these sentences are grammatical if *más* is interpreted as an additive operator, but this reading must be excluded.

(25) a. *¡*No consiguieron más simpatizantes. . .!*
not got more supporters
'They did not get so many supporters. . .!'
b. *¡*No visitaron más pueblos. . .!*
no visited more towns
'They did not visit so many towns!'

However, the ungrammaticality of (25) is due to a particular behavior of the quantifier *más* 'so many'. There exists a difference between the quantifier in (25) and the rest of the quantitative operators that accounts for the impossibility of negating those constructions. In spite of being quantitative, *más* 'so many' cannot have wide scope with respect to other operators, thus, it resembles qualitative quantifiers. This is shown in (26). The only possible reading for this sentence is (a), where the exclamative quantifier is within the scope of the universal operator. The reading in (b), where the exclamative quantifier takes wide scope, is not possible:[10]

(26) *¡Todos los emigrantes pasaron más desgracias . . .!*
all the emigrants endured more miseries
'All emigrants endured so many miseries!'
a. 'For each emigrant there are many miseries that had to be endured'
[All > Many]
b. 'There are many miseries that all emigrants had to endure'
*[Many > All]

Keeping this fact in mind, it is to be expected that the scope of this quantifier may not outscope negation. In fact, this is what happens, as shown by the impossibility of interpreting the sentence in (27) according to the paraphrase in (a). The reading in (b), where negation has wide scope, is the expected (though unavailable) one:

(27) **¡No estropearon más ordenadores . . .!*
not damaged more computers
'They did not damage so many computers!'
a. 'There are many computers that were not damaged'
*[Many > Neg]
b. 'There are computers that were damaged, and these were not many'
*[Neg > Many]

Secondly, exclamatives in (28) do not seem to follow the presented generalization either, since, in spite of being qualitatives, they can be negated:

(28) a. *¡Qué increíble que no te llamaran!*
how incredible that not CL phoned.SUBJ
'How surprising that they did not phone you!'

10. As I pointed out (see footnote 7), Gutiérrez-Rexach (2001) and Villalba (2004) take the opposite view.

b. *¡Qué pena que no te seleccionaran!*[11]
what pity that not CL selected.SUBJ
'What a pity that you were not selected!'

The possibility of negating these exclamatives is due to the fact that they do not have the same structure as the rest. From a descriptive point of view, the complementizer *que* in these sentences is not optional, as in other exclamatives (cf. (29)), but mandatory, notwithstanding the fact that negation may be present or not, as shown in (30):[12]

(29) *¡Qué inteligente (que) es Pedro!*
how intelligent that is Peter
'How intelligent Peter is!'

(30) a. **¡Qué increíble (no) te llamaran!*
how incredible not CL phoned.SUBJ
'How surprising they did not phone you!'
b. **¡Qué pena (no) te seleccionaran!*
what pity not CL selected.SUBJ
'What a pity you were not selected!'

Exclamatives in (28) have a predicative structure, where the wh-expression must be treated as the predicate of a copulative construction and the C(omplementizer) P(hrase) as its subject, as proposed by Bosque (1984). This predicative structure is structurally represented in terms of a small clause (SC), in which the wh-constituent is the predicate and the CP is the subject. The predicate, that is, the wh-expression moves to an A'-position because it carries a [Focus] feature which must be checked against the head of the Focus Phrase (cf. Rizzi 1997). Therefore, the structure of those sentences is as follows:[13]

(31) a. [$_{\text{FocusP}}$ Qué increíble] [$_{\text{SC}}$ [$_{\text{CP}}$ que no te llamaran] [$_{\text{Wh-P}}$ ~~qué increíble~~]]
[$_{\text{FocusP}}$ How surprising] [$_{\text{SC}}$ [$_{\text{CP}}$ that they did not phone you]
[$_{\text{Wh-P}}$ ~~how surprising~~]]
b. [$_{\text{FocusP}}$ Qué pena] [$_{\text{SC}}$ [$_{\text{CP}}$ que no te hayan seleccionado] [$_{\text{Wh-P}}$ ~~qué pena~~]]
[$_{\text{FocusP}}$ What a pity] [$_{\text{SC}}$ [$_{\text{CP}}$ that you were not selected] [$_{\text{Wh-P}}$ ~~what a pity~~]]

According to this structure, the negative operator and the wh-phrase are not in the same clause, and, therefore, interaction between them is not possible. The wh-phrase is outside of the scope of negation, which explains why the sentence is not ungrammatical. Evidence for this explanation comes from the fact that, if the copulative predicate verb *ser* 'to be' is introduced, it cannot be negated, as shown in (32):

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11. Remember that this type of nominal exclamatives expresses qualitative quantification.

12. See Ambar (2003), Brucart (1993) and Octavio de Toledo and Sánchez López (in press) for the presence of *que* 'that' in exclamative sentences.

13. Although I present a simplified structure, it serves my purposes.

(32) *¡Qué increíble (*no) es que te llamaran!*
how incredible not is that CL phoned.SUBJ
'How surprising it is not that they phoned you!'

In this construction, the negative operator and the quantifier are in the same clause. As I pointed out, the qualitative quantifier always has narrow scope and, therefore, is within the scope of negation, causing the ungrammaticality of the sentence. Exclamatives that require the complementizer *que* 'that' follow the generalization established above, since the wh-phrase in these sentences outscopes negation.

In sum, the generalization established above seems to be right: negation is allowed in exclamative sentences when it has narrow scope with respect to the degree operator.

3.3 Exclamative quantifiers as positive polarity items

In the previous section, I have shown that exclamative wh-phrases cannot be within the scope of negation. However, I have not explained why this scope relation is not possible. To address this question, I would like to propose that exclamative quantifiers cannot have narrow scope with respect to negation due to the fact that they are Positive Polarity Items (PPIs). Exclamative quantifiers are associated with positive polarity in view of their semantic properties. As noted by Gutiérrez-Rexach (1996) and Zanuttini and Portner (2003), exclamative quantifiers are operators that bind a variable, inducing a scalar implicature.[14] These elements express that the scale in question has been extended far beyond the speaker's expectations. For example, (33) indicates that the price of the ticket has exceeded the expectations of the speaker:

(33) *¡Qué caro ha sido el billete!*
how expensive has been the ticket
'How expensive the ticket has been!'

Building on Kadmon and Landman (1993), Zanuttini and Portner (2003) name this property *widening* because the bound variable is outside the domain of quantification expected by the speaker, which has the effect of widening the domain. In (33), the expected domain with regard to prices of a plane ticket to Boston would be (34a), for instance, and the exclamative widens the domain to (34b):

(34) a. D_1: {400, 500, 600}
b. D_2: {400, 500, 600, 700, 800, 900, 1000, 1100, 1200}

Moreover, exclamative wh-phrases are extreme degree quantifiers. *How expensive the ticket has been!* denotes that 'the ticket is d-expensive', where d is the highest degree on

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14. It should be noted that it is not contradictory to simultaneously assert that exclamative wh-phrases are operators which bind a variable and that they are PPIs. The reason is that I am assuming a theory of Positive Polarity in which PPIs are not variables which must be bound by a positive operator, but they are anti-licensed items (cf. Giannakidou 1998, González Rodríguez 2006). Thus, PPIs are characterized by being incompatible with negative contexts as a consequence of the lexical semantics of PPIs.

the scale.[15] This explains the impossibility of continuing this sentence with expressions such as *pero no tanto como* 'but not as much as', as is shown in (35). The quantifier in this sentence takes the property in question to the maximal degree of the scale and, therefore, is not allowed to introduce constructions which imply the existence of a higher degree.

(35) *¡Qué caro ha sido el billete a Boston!, #pero no tanto como*
how expensive has been the ticket to Boston, but not as.much as
el de Toronto.
the of Toronto
'How expensive the ticket to Boston has been!, but not as much as the one for Toronto.'

That exclamative wh-phrases are extreme degree quantifiers can also explain the contrast in (36) (cf. Gutiérrez-Rexach 1999, Villalba 2003). In (36a), the degree modifier *extremadamente* 'extremely' is compatible with the exclamative quantifier, since it is also an extreme degree quantifier. Other types of degree expressions, such as the one in (36b), cannot appear with exclamative quantifiers:

(36) a. *¡Qué extremadamente simpático es Javier!*
how extremely nice is Javier
'How extremely nice Javier is!'
b. **¡Qué bastante simpático es Javier!*
how reasonably nice is Javier
'How reasonably nice Javier is!'

As a referee notes, the wh-phrase in (37) seems to be a lower-endpoint oriented modifier, but it is not an upper-endpoint modifier:

(37) *¡Qué poco inteligente es María!*
how little intelligent is Mary
'How little intelligence Mary has got!'

However, if we assume the algebra of degrees proposed by Kennedy (1997, 2001), it is possible to argue that the exclamative sentence in (37) does not differ from the one in (33). Kennedy (1997) proposes that gradable adjectives denote functions from objects to intervals (or extensions) on a scale and distinguishes between positive extensions and negative extensions:

(38) A positive extent on a scale is a proper extent which ranges from the lower end of the scale to some positive point.

(39) A negative extent on a scale is a proper extent which ranges from some positive point to the upper end of the scale. (Kennedy 1997: 200)

15. This property of exclamative wh-phrases implies that these quantifiers close an open scale, the reason being that an adjective such as *expensive* is associated with an open scale (cf. Kennedy and McNally 2005). I leave this issue for future work.

This distinction allows Kennedy to account for the fact that antonymous pairs of adjectives, such as *intelligent* and *fool*, express complementary perspectives regarding the projection of an adjective on a scale. Positive adjectives denote functions from objects to positive extensions; negative adjectives denote functions from objects to negative extensions. In this sense, it is reasonable to argue that the wh-phrase expression in (37) refers not to a positive extension, but to a negative extension. When *poco* 'little' modifies an adjective, it points to a low interval on the scale (cf. Bosque 1980, Morón Pastor 2004, Sánchez López 1999a). Under Kennedy's proposal, this means that '*poco* + positive adjective' is equivalent to a negative adjective, that is, that '*poco* + adjective' denotes a function from objects to negative extensions.[16] Thus, *¡Qué poco inteligente es María!* ('How little intelligence Mary has got!') could be paraphrased as *María es extremadamente tonta* ('Mary is extremely foolish'). As a consequence, the wh-phrase in (37) takes the property to the maximal endpoint of the negative extension on the scale. Therefore, all the wh-phrases in (40) are upper-endpoint oriented modifiers. The difference between (40a) and (40b) is that the former points to the maximal endpoint of the positive extension, while the latter points to the maximal endpoint of the negative extension.

(40) a. *¡Qué amable es tu madre!*
how nice is your mother
'How nice your mother is!'
b. *¡Qué poco amable es tu madre!*
how little nice is your mother

Therefore, exclamative wh-phrases are extreme degree quantifiers. As such, they affirm emphatically the degree to which a property is held, and the sentences containing them constitute emphatic assertions. My proposal is that this denotation explains that extreme degree quantification patterns with PPIs.[17] The polarity of these expressions is due to the fact that they take the relevant property to the maximal endpoint of the scale. The relation between this emphatic value and positive polarity is completely parallel to the one described between certain idioms and negative polarity. As noted by Bosque (1980), Facounnier (1975) and Sánchez López (1999b), the idioms in (41) have a complement which lexically denotes a minimal value. The negation of the constituent in brackets reinforces the fact that somebody does not see anything, something is worthless, etc.

(41) a. **(No) ver {un alma / tres en un burro. . .}.*
not to.see a soul three in a donkey
'He is (not) able to see absolutely anything.'

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16. Evidence for this proposal comes from the ungrammaticality of (i), where *poco* 'little' modifies a negative adjective. Since this adjective refers to a negative extension, it cannot be modified by *poco*:

i. **¡Qué poco tonta es María!*
how little foolish is Mary

17. See Israel (1997) and Chierchia (2004) for the relation between scalar implicatures and polarity.

b. **(No) costar un {céntimo / real / duro. . .}.*
not to.cost a cent dime five.cents
'It does not cost a thing.' (Bosque 1980: 124)

I propose that upper-endpoint oriented modifiers are associated with positive polarity in the same way as minimizers are associated with negative polarity. Each extreme of the scale reinforces a type of polarity: upper-endpoint oriented modifiers (extreme degree quantification) show the same behavior as PPIs; minimizers behave as negative polarity items (NPI's).[18] Thus, the behavior of exclamative quantifiers as positive polarity items does not differ from other quantified expressions that also are extreme degree modifiers, such as the ones in (42), where the interpretation of external negation must be excluded. The expressions in bold face of these examples are PPIs, and, therefore, the presence of negation is not possible (cf. González Rodríguez 2006):

(42) a. *Irene (*no) es* ***extremadamente*** *lista.*
Irene not is extremely clever
'Irene is not extremely clever.'
b. *Sus amigos (*no) son* ***rematadamente*** *tontos.*
her friends not are utterly silly
'Her friends are not utterly silly.'

Since exclamative quantifiers are PPIs, they cannot be within the scope of operators that license negative polarity items (cf. Nilsen 2004), such as downward entailing determiners and negation (cf. Bosque 1980, Nilsen 2004, among others). Note that the exclamative wh-phrase in (43a) is compatible with a determiner that is not downward entailing, such as *muchos* 'many'; in (43b), the determiner *pocos* 'few' is incompatible with the degree operator because it is downward entailing:

(43) a. *¡Qué altos son muchos edificios!*
how high are many buildings
'How high many buildings are!'
b. **¡Qué altos son pocos edificios!*
how high are few buildings
'How high few buildings are!'

This also explains that the derivation of negative exclamative sentences crashes at the semantic interface if the relevant reading is the one in (44b), where negation takes wide scope; in these cases, the PPI is within the scope of negation. When the wh-phrase has wide scope, as in (44a), incompatibility does not arise between these operators, and the derivation converges. The situation shown in (44a) is not found in qualitative exclamatives, since the wh-phrase is a qualitative quantifier, and, thus, must have narrow scope, causing

18. See Israel (2001) for a theory of polarity which predicts the parallelism between forms denoting maximal degrees and forms denoting minimal degrees.

the ungrammaticality of the sentence. In contrast, the degree operator in quantitative exclamatives can be outside the scope of negation, causing the derivation to converge. As shown, the opposite scope relation is expected, though unavailable, since the wh-phrase is a PPI, and, thus, cannot be within the scope of negation.[19]

(44) a. Wh-Phrase … Negation … [$_{\text{Scope}}$ …

b. *Negation … [$_{\text{Scope}}$ … Wh-Phrase .

19. As I pointed out (see note 4), one might wonder whether the analysis proposed can be extended to interrogative sentences, and I think that an account of the contrast in (i) is possible in these terms:

i. a. *¿A cuántos amigos no invitó a cenar?*
to how.many friends not invited to dinner
'How many friends didn't he invite to dinner?'
b. **¿Cómo de alto no es Sergio?*
how of tall not is Sergio
'How tall is not Sergio?'

I suggest that the constraints regarding the (im)possibility of extracting interrogative wh-phrases out of negative islands can be also explained by the factors discussed: the scope relations established between the wh-phrase and negation, and the semantic properties of the interrogative operator. Thus, my view of negative islands is more sympathetic to the semantic approaches (cf. Kuno and Takami 1997, Szabolcsi and Zwarts 1997) than to the syntactic ones (cf. Cinque 1990, Rizzi 1990). The scope relations are illustrated in (ii) and (iii):

ii. *¿A cuántos amigos no invitó a cenar?*
'How many friends didn't he invite to dinner?'
a. 'There is a set of friends that were not invited to dinner by him: what is the cardinality of that set?' [Wh-Phrase > Neg]
b. 'There is a set of friends that were invited to dinner: what is not the cardinality of that set?' *[Neg > Wh-Phrase]

iii. **¿Cómo de alto no es Sergio?*
'How tall is not Sergio?'
a. 'There is a degree of tallness, such that Sergio is not tall to that degree: what is that degree?' *[Wh-Phrase > Neg]
b. 'There is a degree on the scale of tallness, such that Sergio is tall to that degree: what is not that degree?' *[Neg > Wh-Phrase]

The only possible interpretation is the one resulting from negation having narrow scope, in the same way as in exclamative sentences (see Kuno and Takami 1997 for a similar description of the facts). This reading is available in (ii) (cf. iia), since it denotes a quantitative quantification; the quantifier in (iii) is qualitative, and, therefore, it cannot outscope negation (cf. iiia) (see Szabolcsi and Zwarts 1997 for an analysis of this asymmetry).

4. Reconstruction and scope

This section explores how the scope relations established between two operators, such as negation and exclamative wh-phrases, are derived from syntax (cf. Hornstein 1995, 1999; Szabolcsi 1997). Focusing on the phenomenon discussed here, the relation in (44a), where the wh-phrase has wide scope with respect to negation, is obtained by the surface order of these operators. In contrast, it is not obvious how the scope relation in (44b), in which the wh-phrase is within the scope of negation is obtained; the degree operator needs to be c-commanded by negation, but this is not what the surface order shows.[20] I argue that the inverse scope relation in (44b) is obtained by syntactic reconstruction of the wh-phrase, in line with Agüero-Bautista's (2001) and Fox's (2000) analyses of other types of operators. Syntactic reconstruction does not consist of downward movement of the wh-phrase, but of interpreting the lowest or the intermediate copy of the degree operator. On the other hand, the surface scope in (44a) is obtained when the highest copy is interpreted by the semantic interface. The following is a sample derivation:[21]

(45) *¡Cuántos avances no ha conseguido la Física!*
how.many advances not has achieved the Physics
'How many advances Physics has not achieved!'

a. 'There are many advances that Physics has not achieved'
[Wh-Phrase > Neg]
[$_{\text{FocusP}}$ Cuántos avances [$_{\text{Foc'}}$ [$_{\text{NegP}}$ [$_{\text{Neg'}}$ no [$_{\text{TP}}$ la física [$_{\text{T'}}$ ha conseguido [$_{v\text{P}}$ ~~cuántos avances~~ [$_{v\text{P}}$ ~~la física~~ [$_{v'}$ ~~conseguir~~ [$_{\text{VP}}$ [$_{\text{V'}}$ ~~conseguir~~ [$_{\text{Wh-P}}$ ~~cuántos avances~~]]]]]]]]]]]]

b. 'There are advances that Physics has achieved, and they are not many'
*[Neg > Wh-Phrase]
[$_{\text{FocusP}}$ ~~Cuántos avances~~ [$_{\text{Foc'}}$ [$_{\text{NegP}}$ [$_{\text{Neg'}}$ no [$_{\text{TP}}$ la física [$_{\text{T'}}$ ha conseguido [$_{v\text{P}}$ cuántos avances [$_{v\text{P}}$ ~~la física~~ [$_{v'}$ ~~conseguir~~ [$_{\text{VP}}$ [$_{\text{V'}}$ ~~conseguir~~ [$_{\text{Wh-P}}$ ~~cuántos avances~~]]]]]]]]]]]]

In this derivation, the phrase *cuántos avances* 'how many advances' merges with the verb for thematic reasons. As can be observed in the structures represented above, this phrase moves to the edge of the *v*P-phase because it must remain in that position in

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The impossibility of the other interpretation, in which the negative operator has wide scope, is due to semantic reasons in both cases. These questions have too many correct answers, and, thus, they are pragmatically useless (cf. Kuno and Takami 1997).

20. I assume that the syntactic structure is the one that determines the semantic interpretation and not vice versa. Nevertheless, this assumption does not prevent resorting to different interpretations of a sentence in order to determine its syntax.

21. I do not deal with subject inversion in exclamatives because it is not relevant here.

order to escape this phase, and in this way, can continue its derivation (cf. Chomsky 1998, 2001, 2004). Finally, since *cuántos avances* 'how many advances' has a [Focus] feature, it must rise to the Focus Phrase in order to check the feature against its head.[22] Therefore, the wh-phrase goes through three structural positions, and in each one there remains a copy. When the reading in (45a), where the wh-phrase has wide scope, is obtained, the highest copy is interpreted by the semantic interface, as shown in (44a). The reading paraphrased in (45b), where the inverse scope relation is established, comes from interpreting the lowest or the intermediate copy of the wh-phrase.[23] The resulting configuration is the one in (44b), where negation takes scope over the quantifier. As I said, the reading yielding this configuration is expected, though unavailable, as the quantifier is a PPI and hence is semantically incompatible with the negative marker.

Several phenomena provide evidence for my analysis and for the fact that negation can appear in exclamative sentences when it takes narrow scope. This evidence is based on constructions which require the wh-phrase to be interpreted in its base position. According to my proposal, if negation appears in these constructions, the sentence should be ungrammatical, since negation takes scope over the quantifier. This prediction is borne out in the following cases:

a. Binding relations may require that the semantic interface interpret the lowest copy of the wh-phrase, as shown in (46):

(46) a. *¡Cuántos retratos de sí mismo$_i$ ha enviado cada artista$_i$ __ !*
how.many portraits of him.self has sent every artist
'How many portraits of himself$_i$ every artist$_i$ has sent__!'

b. **¡Cuántos retratos de sí mismo$_i$ no ha enviado cada artista$_i$ __!*
how.many portraits of him.self not has sent every artist
'How many portraits of himself$_i$ every artist$_i$ has not sent __!'

c. *¡Cuántos retratos no han enviado esos artistas!*
how.many portraits not have sent those artists
'How many portraits those artists have not sent!'

In (46a), the wh-phrase contains an anaphor that must be bound by an operator, in this case, the distributive quantifier, *cada* 'every'. The anaphor must be c-commanded by the element that binds it, and this can be obtained by the reconstruction of the wh-phrase. The ungrammaticality of (46b) is due to the conflict that arises from the requirements

22. The uninterpretable feature of the FocusP must have the [EPP] property in order to cause the movement of the relevant item. If it does not have this property, the uninterpretable feature could be deleted via (long-distance) Agree.

23. Which of the two copies is interpreted is irrelevant to our purposes. On this issue, see Agüero-Bautista (2001) and Fox (2000).

imposed by the anaphor and the degree operator: the former forces the wh-phrase to be interpreted in the lowest position; the latter is a PPI which must be interpreted in the highest position. In (46c), no binding relation is established, and, therefore, *cuántos retratos* 'how many portraits' can be interpreted in its surface position. Consequently, this phrase may escape the scope of negation.

b. When the complement of a creation verb, such as *invent,* is a wh-expression, the only possibility is to interpret the copy corresponding to the position in which it is merged (cf. Heycock 1995). The reason is that the semantics of these verbs is incompatible with the presuppositional nature of its object, which results when the quantifier has wide scope. If the degree operator is interpreted in its theta position, it does not lead to any presupposition of its existence (cf. Heycock 1995). Therefore, creation verbs require the reconstruction of their objects, as shown in the contrast in (47):

(47) a. *How many stories about Diana$_i$ is she$_i$ likely to invent __?
b. How many stories about Diana$_i$ was she$_i$ really upset by __?
(Heycock 1995: 560)

In (47a), Condition C prevents the reconstruction of the wh-phrase of its theta position, while the creation verb *invent* requires the interpretation of the lowest copy. This mismatch renders the sentence ungrammatical. The verb in (47b) does not belong to the same semantic class, so that it does not demand the reconstruction of the wh-phrase. This can be interpreted in its surface position, in which Condition C is satisfied.

A similar contrast arises if we observe what happens in negative exclamatives with a creation verb. In (48a), the predicate forces the reconstruction of the wh-phrase, but then the degree operator is within the scope of negation, inducing ungrammaticality. If the exclamative sentence contains another type of verb, the sentence will be grammatical whether there is a negation or not, since the highest copy of the quantifier can be interpreted (48b):

(48) a. *¡Cuántas historias (*no) es probable que invente __!*
how.many stories not is likely that invent
'How many stories he is not likely to invent __!'
b. *¡Cuántas historias (no) es probable que reinvente __!*
how.many stories not is likely that reinvent
'How many stories he is not likely to reinvent __!'

c. Existential constructions also demand the reconstruction of the wh-phrase (cf. Heim 1987). The *definiteness effect* requires the quantifier to be interpreted not referentially, as it is in its theta position. Given this fact, my proposal explains the impossibility of negating an exclamative of an existential nature. The negative marker does not allow reconstruction of the wh-phrase. However, the existential predicate needs reconstruction of the wh-phrase, as shown in (49a), where negation induces the

ungrammaticality of the sentence.[24] Example (49b) is not an existential construction, and, consequently, the presence of negation is possible:

(49) a. *¡Cuántas incógnitas (*no) hubo __ en aquel crimen!*
how.many mysteries not there.were in that crime
'How many mysteries there were not __ in that crime!'
b. *¡Cuántas incógnitas no se resolvieron __ en aquel crimen!*
how.many mysteries not CL resolved in that crime
'How many mysteries were not resolved __ in that crime!'

5. Conclusions

In this paper, I have argued that exclamative quantifiers are PPIs, since they are upper-endpoint oriented modifiers, and thus cannot be within the scope of negation. This fact explains why exclamative sentences can only be negated when the quantifier is not within the scope of negation. The opposite situation would lead to the ungrammaticality of the sentence. Furthermore, my analysis provides evidence for the syntactic reconstruction approach to derive the scope relations established between two operators.

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Reconstruction without movement*

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The goal of our study is to provide empirical limits to traditional analyses of reconstruction as an exclusive consequence of movement, and to propose a more adequate one as a consequence of any copying process, which includes movement, but also specific cases of ellipsis or NP deletion. More precisely, we show how Elbourne's (2001) analysis of pronouns (based on NP deletion) can shed light on both unexpected cases of reconstruction with resumptive pronouns (such as reconstruction within islands) and further asymmetries with respect to that phenomenon (such as weak resumption vs. strong resumption).

1. Introduction

Traditional accounts of reconstruction, a well-known phenomenon by which displaced constituents are (partly) interpreted in their original site, mostly rely on the following claim and analysis:

(1) Be it via resumption or not, if an XP allows for (Ā) reconstruction, movement of that XP has occurred (see Lebeaux 1990, Chomsky 1995, Aoun et al. 2001 among others).

From this assumption, the aim of our paper is twofold. Firstly, we present novel data from French and Jordanian Arabic involving resumption that clearly argue for reconstruction within strong islands, hence casting doubt on the traditional generalization. Secondly, we propose to modify the traditional analysis of reconstruction in the following way:

(2) Be it via resumption or not, if an XP allows for (Ā) reconstruction, a copy of that XP (rather than movement of that XP) should be present.

More precisely, we argue that unexpected cases of reconstruction within strong islands just follow from the NP-deletion analysis of pronouns (see Elbourne 2001) applied to resumption.

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The paper is organized as follows. In Sections 2, 3 and 4, we introduce traditional assumptions about respectively resumption, reconstruction and the interaction between these two phenomena. Section 5 provides critical data showing the limits of these traditional assumptions, and Section 6 investigates crucial issues and parameters playing a role in banning or allowing reconstruction. Section 7 will be dedicated to our proposal and shows how this analysis accounts for all the parameters investigated in this paper.

2. Resumption

Cross-linguistically speaking, the resumption strategy, i.e., the strategy whereby a pronominal element occurs at the tail of an Ā chain, instead of a gap/trace, is not a uniform strategy. Namely, it has been observed that, in certain languages, resumptive pronouns (RPs) have the same distribution and behavior as traces of Ā-movement (see McCloskey 1990 for Irish and Georgopoulos 1984 for Belauan).[1] In other languages, RPs are in complementary distribution with traces of Ā-movement. That is, RPs occur where traces of Ā-movement cannot occur. Swedish provides a clear example of such a case. In Swedish, a resumptive pronoun must appear in an embedded subject position, as (3) shows:

(3) Swedish
*ett förslag$_i$ som vi inte kan avgöra om *(det$_i$) fungerar utan att pröva.*
a proposal that we cannot decide if it works without trying
'A proposal that we cannot decide if it works without trying.'

In the latter cases, RPs can be typically found in islands, which prohibit Ā-extraction (see Aoun, Choueiri & Hornstein 2001, henceforth ACH, Choueiri 2002, or Suñer 1998 among others). Consider then the following examples taken from Spanish and Lebanese Arabic:[2]

(4) Spanish
*¿Qué libro$_i$ me dijiste (tú) que no recuerdas dónde *(lo$_i$) pusiste?*
which book to.me told you that no remember.2SG where *(it) put.2SG
'Which book did you tell me that you don't remember where you put (it)?'

(5) Lebanese Arabic (LA)
ha-l-muttahamme$_i$ tfeeja?to lamma çrifto ?enno ħabasuw-(a$_i$).*
this the defendant surprised.2PL because learnt.2PL that imprisoned-her
'This defendant, you were surprised because you learnt that they sent her to jail.'

1. That is, RPs trigger weak crossover effects, and can license parasitic gaps in these languages.

2. Traditionally, we distinguish two types of islands: weak islands (*wh*-island . . .), which are sensitive to the nature of the moved phrase (argument/adjunct), and strong islands which are not (adjunct, complex-NP . . .).

(4) and (5) contain, respectively, a weak island (*wh*-structure) island and a strong one (adjunct introduced by *because*). These structures ban any kind of movement. However, the presence of the RPs in these sentences seems to rescue the long-dependency.

This state of affairs led to an analysis of RPs as Ā-bound pronouns, i.e., pronouns that occur in the variable position of an Ā-chain and whose antecedent is base-generated in its surface Ā-position (see Chao and Sells 1983, McCloskey 1990).

3. Reconstruction

Reconstruction corresponds to the interaction between movement (dislocation, topicalization, interrogation, relativization) and interpretation procedures such as binding conditions or scope statements.

(6) a. Mary saw the picture of him that each man prefers.
b. Which patient did every doctor examine?

Both (6a) and (6b) can have a *reconstructed* functional reading. (6a) is often viewed as a case of binding reconstruction, as the intended *reconstructed* reading mapping a different *picture* for *each man* can be obtained through interpretation of the pronoun *him* as a variable bound by the quantifier *each man*.

Contrastingly, (6b) is referred to as a case of scope reconstruction. To appreciate how scope reconstruction works in (6b), consider the following context: there are three patients and three doctors. In such a context, the most plausible reading for (6b) is the distributive reading, the one where *every doctor* examined a different *patient*. Notice however that another reading is available for this sentence, the reading in which *every doctor* examined the same *patient*, called the non-distributive or individual reading.

To account for the availability of the distributive reading in both (6a) and (6b), most studies on the subject agree on the copy theory of movement, a syntactic mechanism given by Lebeaux (1990), Bianchi (1995), Sauerland (2004) among others, to allow interpretation of a displaced constituent in its base position:

(7) a. Mary saw the picture of him each man prefers ~~picture of him~~.
b. Which patient did every doctor examine ~~patient~~?

The presence of a copy in (7a) accounts for the functional reading, as the pronoun *him* within the copy falls within the c-command domain of the quantifier phrase *each man* at LF, hence allowing for its bound variable interpretation.

The case of (7b) is also straightforward if we assume that copies can be interpreted as indefinite, as claimed by Kayne (1994) for relative clauses and by Bautista (2001) for *wh*-structures. Following Kratzer (1998)'s analysis of indefinites, we propose that a copy can then be interpreted as a skolemized choice function, which takes two arguments, one individual x and a set of entities P and returns one individual of that set

(written $f_x(P)$). Interpretation of the copy in (7b) as indefinite gives rise to the following partial LF where the function is bound by the quantifier, hence predicting the *reconstructed* functional reading mapping *every doctor* to a different *patient*:

(8) Partial LF of (7b): λp.∃f. true(p) ∧ p = every doctor x examined f_x(patient)

To summarize, in the traditional literature dealing with reconstruction effects (see Chomsky 1977, Kayne 1994, Bianchi 1995 among others), there is generally a consensus that these effects originate from the presence of movement. This leads to the following condition:

(9) If an XP allows for reconstruction, movement of that XP has occurred.

4. Reconstruction and resumption

A first problem with the assumption in (9) comes from the study of reconstruction facts with resumption. Several studies on resumption argue that the resumptive strategy should be derived without movement, as a kind of last resort strategy. A natural deduction from this is then that reconstruction should never occur when a resumptive element resumes the displaced constituent.

However, this prediction does not hold, as reconstruction effects can appear with the resumptive strategy, as the following contrast with dislocation structures in Lebanese Arabic (LA) shows:

(10) *[telmiiz-[a]$_i$ l-kesleen]$_j$ ma baddna nxabbir [wala mçallme]$_i$*
student-her the-bad NEG want.1PL tell.1PL no teacher
?inno huwwe$_j$ / ha-l-majduub$_j$ zaçbar b-l-faħiṣ.
that he / this-the-idiot cheated.3SM in-the-exam
'Her bad student, we don't want to tell any teacher that he / this idiot cheated in the exam.'

(11) **[telmiiz-[a]$_i$ l-kesleen]$_j$ ma badda taçrif [wala mçallme]$_i$*
student-her the-bad NEG want.3FS know.3FS no teacher
lee l-mudiira ʃaħaṭit- o$_j$ mn l-madrase.
why the-principal expelled-him from the school
'Her bad student, no teacher wants to know why the principal expelled him from school.'

(12) **[telmiiz-[a]$_i$ l-kesleen]$_j$ ma ħkiina maç [wala mçallme]$_i$*
student-her the-bad NEG talked.1PL with no teacher
?able ma huwwe$_j$ / ha-l-majduub$_j$ yuusal.
before he / this-the-idiot arrive.3SM
'Her bad student, we didn't talk to any teacher before he / this idiot arrived.'

Assuming reconstruction to be a consequence of movement chains, this leads us to the conclusion that the movement strategy is indeed available in presence of resumption,

at least when no island intervenes. Thus, the functional reading (a *different student* for *each teacher*) is allowed in (10) as there is no syntactic island, suggesting a kind of (binding) reconstruction of the displaced constituent in the site occupied by the strong resumptive pronoun *huwwe*. Contrastingly, presence of an island (see the *wh*- and adjunct islands in (11) and (12)) bans this reading.

To account for this contrast, ACH (2001) propose a distinction between apparent resumption when no island intervenes, and true resumption in presence of an island.

The bound reading of the pronoun within the clitic left-dislocated DP in (10) follows from the assumption that the fronted phrases reconstruct below the QP (hence c-commanded by that QP). Since reconstruction is a consequence of movement, ACH (2001) conclude that apparent resumption in (13) involves movement, as the following schema shows (RE stands for Resumptive Element):

(13) Apparent resumption:
$[_{DP} \ldots \text{pronoun}_i \ldots]_j [_{IP} \ldots QP_i \ldots [_{CP} \ldots [_{DP} [_{DP} \ldots \sout{\text{pronoun}}_i \ldots]_j RE_j]]]$

The absence of the functional reading in (11) and (12) comes from the fact that an element generated within an island cannot be extracted out of this island (see Ross 1967, or Chomsky 1986). Thus, the QP within the island in these sentences will never be in a position to c-command the pronoun contained within the clitic left-dislocated DP. The sentences in (11) and (12) display configurations of what ACH (2001) call true resumption, as schematized in (14):

(14) True resumption:
$[_{DP} \ldots \text{pronoun}_i \ldots]_j [_{IP} \ldots QP_i \ldots [_{Island} \ldots [_{DP} RE_j]]]$

The contrast between (10) versus (11) and (12) is now predicted. Interpretation of the copy in (10) gives rise to the functional reading (through the bound pronoun), whereas no copy is available in (11) and (12). The phenomenon we have observed in this section is indeed due to binding reconstruction, i.e., to a kind of *lowering* of the pronoun within the dislocated DP to a position c-commanded by the quantifier phrase. Siding with Aoun and Choueiri (1997) and Aoun and Benmamoun (1998), Choueiri (2002) argues that the availability of reconstructed readings is correlated with the availability of movement in the generation of the dislocation structures in LA. This can be stated in the following way:

(15) Even with resumption, if an XP allows for reconstruction, movement of that XP has occurred.

5. The paradox

Traditional accounts of reconstruction mostly capitalize on the presence of syntactic movement, as summarized by the following condition on reconstruction:

(16) Be it via resumption or not, if an XP allows for reconstruction, movement of that XP has occurred.

This analysis then makes the following prediction:

(17) Reconstruction of an XP should never occur within islands.

However, consider the following dislocation structures from Jordanian Arabic (henceforth, JA) in (18) to (21), and French in (22), and *wh*-structure from French in (23). All these examples involve resumption (clitic or doubled clitic) within a strong (adjunct) island:

(18) Clitic inside strong (adjunct) island
√*[ṭalib-[ha]$_i$ l-kassul]$_j$ l-mudiirah ziçlat laʔannuh*
student-her the-bad the-principal upset.3SF because
[kul mçalmih]$_i$ ʃafat-uh$_j$ ğaʃ bi-li-mtiħan.
every teacher saw.3SF-CL cheated.3SM in-the-exam
'Her bad student, the principal got upset because every teacher saw him cheating in the exam.'

(19) Doubled clitic inside strong (adjunct) island
√*[ṭalib-[ha]$_i$ l-kassul]$_j$ l-mudiirah ziçlat laʔannuh*
student-her the-bad the-principal upset.3SF because
[kul mçalmih]$_i$ ʃafat-uh hu$_j$ ğaʃ bi-li-mtiħan.
every teacher saw.3SF-CL he cheated.3SM in-the-exam
'Her bad student, the principal got upset because every teacher saw him cheating in the exam.'

(20) Clitic inside weak (wh-) island
√*[ṭalib-[ha]$_i$ l-kassul]$_j$ ma badku tisʔalu [wala mçalmih]$_i$*
student-her the-bad NEG want.1PL ask no teacher
lajʃ l-mudiira kaħʃat- uh$_j$ mn l-madrase.
why the-principal expelled.3SF-CL from the-school
'Her bad student, you don't want to ask any teacher why the principal expelled him from school.'

(21) Doubled clitic inside weak (wh-) island
√*[ṭalib-[ha]$_i$ l-kassul]$_j$ ma badku tisʔalu [wala mçalmih]$_i$*
student-her the-bad NEG want.1PL ask no teacher
lajʃ l-mudiira kaħʃat-uh hu$_j$ mn l-madrase.
why the-principal expelled.3SF-CL he from the-school
'Her bad student, you don't want to ask any teacher why the principal expelled him from school.'

(22) Clitic inside strong (adjunct) island
√*[La photo de [sa]$_i$ classe]$_j$, tu es fâché parce que chaque prof$_i$ l$_j$'a déchirée.*
'The picture of his class, you're furious because each teacher tore it.'

(23) Clitic inside strong (adjunct) island
√*[Quelle photo de lui$_i$]$_j$ es-tu fâché parce que chaque homme$_i$ l$_j$'a déchirée?*
'Which picture of him are you furious because each man tore it?'

Unexpectedly, all the examples from (18) to (23) can have a *reconstructed* functional reading, a reading in which the QP should have scope over the pronoun embedded within the left-dislocated DP. Examples from (18) to (21) in JA clearly allow for a strict mapping between teachers and students, suggesting binding reconstruction in the site occupied by the resumptive clitic *-uh* 'him' (the possessive *-ha* 'her' being interpreted as a bound variable). This can be obtained if we suppose that the left-dislocated DP is reconstructed within the scope of that QP. Thus, Bound Variable Anaphora (BVA) would be satisfied. The same goes for (22). Finally, the *wh*-structure in (23) also clearly allows for the functional reading, as it can give rise to a functional answer like *la photo de lui à son mariage* 'the picture of him at his wedding'. But this means that reconstruction effects *can* appear when resumption is embedded in an island.

The paradox is then the following: if reconstruction is only a consequence of syntactic movement, as suggested in Lebeaux (1990), Chomsky (1995) and ACH (2001) among others, how is reconstruction possible in a strong island? Therefore, if an XP allows for reconstruction within an island, as data from (18) to (23) clearly suggest, movement cannot be the trigger for it.

6. Reconstruction: Issues and parameters

Before turning to our proposal, we first show that presence versus absence of reconstruction depends descriptively on four crucial parameters:

a. Weak vs. strong resumption.
b. Positive vs. negative binding conditions.
c. Gap vs. resumption.
d. Scope vs. binding.

These parameters will be exemplified mainly with JA, but also with French for some of them.

6.1 Type of resumption

The distinction between strong resumption (strong pronoun or epithet) and weak resumption (clitic and doubled clitic) plays an important role in allowing or banning reconstruction, but this only within strong islands, as the contrast in (24) to (27) shows:

(24) Clitic inside an adjunct island
√[ṭalib-[ha]$_i$ l-kassul]$_j$ ma ħakjan maç [wala mçalmih]$_i$
student-her the-bad NEG talked.1PL with no teacher
gabl ma tʃuf-uh$_j$ l-mudirah.
before saw.3SF-CL the-director.3SF
'Her bad student, we didn't talk to any teacher before the director saw him.'

(25) Doubled clitic inside an adjunct island
√*[ṭalib-[ha]$_i$ l-kassul]$_j$ ma ħakjan maç [wala mçalmih]$_i$*
student-her the-bad NEG talked.1PL with no teacher
gabl ma tʃuf-uh hu$_j$ l-mudirah.
before saw.3SF-CL he the-director.3SF
'Her bad student, we didn't talk to any teacher before the director saw him.'

(26) Strong pronoun inside an adjunct island
**[ṭalib-[ha]$_i$ l-kassul]$_j$ ma ħakjan maç [wala mçalmih]$_i$*
student-her the-bad NEG talked.1PL with no teacher
gabl ma hu$_j$ yesal.
before he arrive.3SM
'Her bad student, we didn't talk to any teacher before he arrived.'

(27) Epithet inside an adjunct island
**[ṭalib-[ha]$_i$ l-kassul]$_j$ ma ħakjan maç [wala mçalmih]$_i$*
student-her the-bad NEG talked.1PL with no teacher
gabl ma ha-l-ġabi$_j$ yesal.
before the-idiot arrive.3SM
'Her bad student, we didn't talk to any teacher before this idiot arrived.'

Within strong islands (adjunct islands in (24) to (27)), weak resumptives (see the clitic in (24) or the doubled clitic in (25)) allow for the *reconstructed* functional reading (meaning that the bound variable interpretation of *-ha* 'her' is available), whereas strong resumptives (see the strong pronoun in (26) or the epithet in (27)) ban this reading.

6.2 Type of binding condition: positive vs. negative

Within weak resumption cases, the type of binding condition is equally essential to determine presence or absence of reconstruction. As shown by (24) and (25) from the preceding section, weak resumption allows for reconstruction within islands with BVA. However, notice that, within the same environment, reconstruction is not present anymore when condition C, rather than BVA, is at stake. Indeed, consider (28) and (29), which are perfectly grammatical under the intended reading where the embedded subject refers to *Laila*:

(28) Condition C with strong island
[ʔakhu Laila$_i$]$_j$ pro$_i$ ziçlat laʔannuh l-mudirrah Tardat-uh$_j$.
brother Laila upset.3SF because the-principal expelled-CL
'The brother of Laila, she got upset because the director expelled him.'

(29) Condition C with strong island
[ʔakhu Laila$_i$]$_j$ pro$_i$ ziçlat laʔannuh l-mudirrah Tardat-uh hu$_j$
brother Laila upset.3SF because the-principal expelled-CL he
'The brother of Laila, she got upset because the director expelled him.'

The sentences in (28) and (29), in which the R-expresssion *Laila* appears inside the left-dislocated DP, are both acceptable under the co-reference reading. Both sentences clearly argue for the absence of reconstruction in this case, as reconstruction of the displaced constituent would create a condition C violation (*Laila* being bound by the embedded subject).

Notice that this contrast between a positive binding condition (BVA) and a negative one (condition C) can be generalized to contexts where no island intervenes, as shown by the similar contrast in (30). The grammaticality of (30) under the intended reading (bound variable interpretation) argues for the presence of reconstruction, whereas the grammaticality of (31) argues for the absence.

(30) BVA with no island
[ṭalib-[ha]$_i$ l-kassul]$_j$ ma biddna nxabbir [wala mçalmih]$_i$.
student-her the-bad NEG want.1PL tell.1PL no teacher
?inno l-mudiirah kaħʃaṭ-uh$_j$ mn l-midrasih.
that the-principal expelled.3SF-CL from the-school
'Her bad student, we don't want to tell any teacher that the principal expelled him from school.'

(31) Condition C with no island
[çalamit Karim$_i$]$_j$, bitfakir ?innu pro$_i$ lazim ?iġayyar-ha$_j$.
note Karim think.2SM that must change-CL
'The note of Karim, you think that he must change (it).'

Finally notice that strong resumption does not exhibit this contrast at all, as positive and negative binding conditions follow exactly the same pattern: reconstruction is present with any binding condition when no island intervenes, as shown by (32) and (33), whereas no reconstruction holds (with any binding condition) when a strong island (adjunct island) intervenes, as (34) and (35) show:

(32) BVA with no island
a. *[ṭalib-[ha]$_i$ l-kassul]$_j$ ma biddna nxabbir [wala mçalmih]$_i$*
student-her the-bad NEG want.1PL tell.1PL no teacher
?inno hu$_j$ ğaʃ bi-li-mtiħan.
that he cheated.3SM in-the-exam
'Her bad student, we don't want to tell any teacher that he cheated in the exam.'
b. *[ṭalib-[ha]$_i$ l-kassul]$_j$ ma biddna nxabbir [wala mçalmih]$_i$*
student-her the-bad NEG want.1PL tell.1PL no teacher
?inno ha-l-habilih$_j$ ğaʃ bi-li-mtiħan.
that this-the-idiot cheated.3SM in-the-exam
'Her bad student, we don't want to tell any teacher that the idiot cheated in the exam.'

(33) Condition C with no island
a. **[?akhu Laila$_i$]$_j$ pro$_i$ galat ?innu hu$_j$ safar.*
brother Laila said.3SF that he left.3SM
'The brother of Laila, she said that he left.'

b. *[ʔakhu Laila$_i$]$_j$ pro$_i$ galat ʔinnu ha-l-habilih$_j$ safar.
brother Laila said.3SF that this-the-idiot left.3SM
'The brother of Laila, she said that the idiot left.'

BVA constraint is satisfied in (32a). The clitic *ha* 'her' within the left-dislocated DP, can fall within the scopal domain of the universal quantifier QP *wala mçalmih* 'no teacher', and then the distributive functional reading becomes available. Furthermore, the same reconstruction effects appear with condition C, as (33b) is ungrammatical with co-reference between the R-expression *Laila* and the embedded subject *pro*, suggesting a condition C violation.

In contrast with no island contexts, reconstruction disappears with strong resumption when the latter is embedded in a strong island (see (34) and (35)). And notice again that both BVA and condition C follow the same pattern. In (34a), BVA is violated, suggesting absence of reconstruction; in (35b), reconstruction does not hold either, as condition C is not violated (co-reference between the R-expression and the embedded pronoun is now licit).

(34) BVA in strong island
a. *[ṭalib-[ha]$_i$ l-kassul]$_j$ ma ħakjan maç [wala mçalmih]$_i$
student-her the-bad NEG talked.1PL with no teacher
gabl ma hu$_j$ yesal.
before he arrive.3SM
'Her bad student, we didn't talk to any teacher before he arrived.'
b. *[ṭalib-[ha]$_i$ l-kassul]$_j$ ma ħakjan maç [wala mçalmih]$_i$
student-her the-bad NEG talked.1PL with no teacher
gabl ma ha-l-ġabi$_j$ yesal.
before this-the-idiot arrive.3SM
'Her bad student, we didn't talk to any teacher before this idiot arrived.'

(35) Condition C in strong island
a. [ʔakhu Laila$_i$]$_j$ pro$_i$ ziçlat liʔannuh hu$_j$ safar.
brother Laila upset.3SF because he left.3SM
'The brother of Laila, she got upset because he left.'
b. [ʔakhu Laila$_i$]$_j$ pro$_i$ ziçlat liʔannuh ha-l-habilih$_j$ safar.
brother Laila upset.3SF because this-the-idiot left.3SM
'The brother of Laila, she got upset because the idiot left.'

In (32) and (33), presence of reconstruction gives rise to satisfaction of BVA in (32) and condition C violation in (33), whereas in (34) and (35), absence of reconstruction gives rise to BVA violation in (34) and satisfaction of condition C in (35).

To summarize these two crucial parameters that govern the presence versus the absence of reconstruction, i.e., the type of resumption and the type of binding condition, consider the following table:[3]

3. Notice that Condition A unsurprisingly behaves in parallel to BVA, as both conditions are positive binding conditions, i.e., licensing conditions.

Table 1. Reconstruction with resumption, islandhood and binding conditions

	Weak resumption		**Strong resumption**	
	Reconstruction with BVA	**Reconstruction with condition C**	**Reconstruction with BVA**	**Reconstruction with condition C**
No Island	Yes	No	Yes	Yes
Strong island	Yes	No	No	No

This table leads to the following generalization: reconstruction with weak resumption is sensitive to the type of binding condition, but insensitive to islandhood (available even in strong islands), whereas reconstruction with strong resumption is sensitive to islandhood (present in no or weak island contexts, but absent in strong island contexts), but insensitive to the type of binding condition. In what follows, we will offer a straightforward account for these puzzling generalizations on weak and strong resumption.

6.3 Gap vs. resumption

Another contrast that clearly emerges with respect to reconstruction is the distinction between two kinds of strategies for the creation of a long-distance dependency: either a kind of direct strategy leaving a gap in the original site, or the resumptive strategy leaving a pronoun (or another resumptive element) in this site. The contrast then has to do with scope reconstruction, as first observed by Doron (1982). Consider then the following contrast both in JA and French:

(36) a. *?aya Surah$_j$ kul zalamih mazaç _$_j$?* (√functional)
which picture every man tear.PAST
'Which picture did each man tear?'

b. ***??**aya Surah$_j$ kul zalamih mazaç-ha$_j$?* (* functional)
which picture every man tear.PAST-CL
'Which picture did each man tear (it)?'

(37) a. *Quelle photo$_j$ chaque homme a-t-il déchirée _$_j$?* (√functional)
'Which picture did each man tear?'

b. ***?**Quelle photo$_j$ es-tu fâché parce que chaque homme l$_j$'a déchirée?* (* functional)
'Which picture are you furious because every man tore it?'

The *reconstructed* functional reading mapping a different picture for each man is available with a gap, as shown by (36a) and (37a). Recall that this reading follows from scope reconstruction of *picture* within the scope of the universal quantifier. But surprisingly, in (36b) and (37b), insertion of a resumptive element in the original site blocks the functional reading. The only reading available in these two examples is the individual one suggesting that each man tore the same picture.

6.4 Scope vs. binding reconstruction

The last parameter investigated in this paper is closely related to the preceding one. Consider again the examples in (36b) and (37b) which clearly argue for the absence of reconstruction with resumption when scope is at stake. And compare these examples with the following ones, in which binding reconstruction is at stake:

(38) *?aya Surah$_j$ il-uh$_i$ kul zalamih$_i$ mazaç-ha$_j$?* (√ functional)
Which picture of-him every man tear.PAST-CL
'Which picture of him every man tear (it)?'

(39) *Quelle photo$_j$ de lui$_i$ es-tu fâché parce que chaque homme$_i$ l$_j$'a déchirée?* (√ functional)
'Which picture of him are you furious because each man tore it?'

Surprisingly, when binding reconstruction is at stake, the reconstructed functional reading reappears in both JA and French even with the resumptive strategy.

The contrast is then the following: although reconstruction with resumption is impossible when scope reconstruction is considered, it suddenly reappears when binding reconstruction is at stake.

7. Our proposal: What copies can do

Our analysis of reconstruction is based on the following central claim:

(40) Reconstruction of a displaced XP follows from interpretation of a copy of that XP either as definite or indefinite.

This analysis has two facets: one is syntactic, the other is semantic. On the syntactic point of view, the notion of *copy* is crucial. Indeed, the existence of syntactic copies originates from two distinct processes: *movement* or *ellipsis*. Building on this distinction, we then argue that reconstruction with weak resumption follows from ellipsis via NP-deletion's analysis of resumptive pronouns (see Elbourne 2001 among others), whereas reconstruction with strong resumption is based on movement when available (along the lines of ACH 2001). This syntactic assumption will account for the fact that the type of resumption and the type of binding condition play a role in reconstruction.

Our analysis also has semantic consequences: the fact that copies can in principle be interpreted either as definite or indefinite. We then argue that the presence of resumption along with an elided copy will force a definite interpretation of that copy. This semantic assumption will suffice to account for the other parameters considered in the preceding section: the gap versus resumption distinction and the asymmetry between scope reconstruction and binding reconstruction.

7.1 Syntactic asymmetries: On copy processes

Our analysis of reconstruction syntactically relies on the presence of copies within the structure. However, two different mechanisms are claimed to be dependent on the

notion of copy in the literature, namely movement and ellipsis. We then argue that movement will be relevant for reconstruction with strong resumption, whereas ellipsis will be at stake for reconstruction with weak resumption.

7.1.1 *Reconstruction with weak resumption via ellipsis*

Elbourne (2001) proposes a unified theory of third-person pronouns and determiners along the following lines. Pronouns are definite articles, and further have the following structures corresponding to two different interpretations:

(41) a. [[the/it] ~~NP~~]
b. [the/it *i*]

The NP complement of third-person pronouns must be phonologically null. There are two ways in which this can happen: the complement can be a common or garden NP affected by NP-deletion under identity with a preceding linguistic antecedent (41a); or it can be an index (variable), an NP which is also phonologically null (41b).

Elbourne uses the structure in (41a) to account for the unexpected reading of pronouns in *paycheck sentences* like (42):

(42) John gave his paycheck to his mistress. Everybody else put *it* in the bank.

The interpretation of *it* in (42) is problematic as it has a kind of bound variable interpretation (as it can refer to a different *paycheck* for each person) although it is not syntactically bound by any quantified element. To account for that strange reading for the pronoun, Elbourne (2001) argues for LFs such as the ones in (43), where *it* is understood as 'the', hence allowing for a structure similar to the one in (41a):

(43) a. John gave [$_{DP}$ *the* [$_{NP}$ paycheck of him]] to his mistress
b. Everyvbody else put [$_{DP}$ *it* [$_{NP}$ ~~paycheck of him~~]] in the bank

Through the presence of the elided copy, the possessor pronoun *him* can be interpreted under the scope of the QP *everybody else*, hence giving rise to the covariant reading of the pronoun *it*.

The theory presented in (41) assumes that pronouns and definite articles have exactly the same structure, despite the fact that *the* and *it* in English are phonologically distinct. However, it has been noticed by Postal (1966) among others that pronouns and definite articles are indeed homophonous in many languages.[4] Building on this great similarity between pronouns and determiners, we basically argue that *weak resumptives* can also be treated as determiners.

To account for reconstruction data with weak resumption, we thus generalize Elbourne's (2001) assumption in (41) to weak resumptives. Added to our principle in (40) based on the presence of a copy, this proposal nicely accounts for widely

4. Romance languages are good examples of that homophony between pronouns (clitics) and determiners.

unexpected data with reconstruction with weak resumption, and more precisely the fact that it is: insensitive to islandhood (always available with BVA), as ellipsis is insensitive to islandhood, but sensitive to the type of binding condition, as weak resumptives can be analysed either with the structure proposed in (41a) (in which the pronoun takes an NP-complement as argument, which is deleted under identity with the antecedent NP in Ā position) or the one in (41b).

Accordingly, reconstruction with weak resumption is always available in all contexts of positive binding conditions (BVA), even within strong islands (recall examples from (18) to (23)), as it follows from ellipsis, and not movement. In (44) below, the *reconstructed* functional reading is predicted if one applies NP-deletion's analysis of pronouns to the weak resumptive *–uh*, hence leading to the schema in (45): presence of the elided copy allows for the bound variable interpretation of *-ha*.

(44) *[ṭalib-[ha]$_i$ l-kassul]$_j$ l-mudiirah ziçlat la?annuh*
student-her the-bad the-principal upset.3SF because
[kul mçalmih]$_i$ ʃafat-uh$_j$ ğaʃ bi-li-mtiħan.
every teacher saw.3SF-CL cheated.3SM in-the-exam
'Her bad student, the principal got upset because every teacher saw him cheating in the exam.'

(45) *[ṭalib-[ha]$_i$ l-kassul]$_j$ . . . . . [kul mçalmih]$_i$ . . .*
student-her the-bad every teacher
. . .[$_{DP}$ -uh [$_{NP}$ ~~ṭalib-[ha]$_i$ l-kassul~~]] $_j$.
. . .[$_{DP}$ -him [$_{NP}$ ~~bad student of her$_i$~~]]$_j$

Recall however from (28), repeated here in (46), that no reconstruction appears with weak resumption when condition C is at stake, as co-reference between *Laila* and the embedded subject is available. The account is also straightforward if we assume that weak resumptives can also be analysed with an index as argument (see the structure in (41b)), giving rise to the schema in (47): the absence of any copy predicts the absence of condition C violation.

(46) *[?akhu Laila$_i$]$_j$ pro$_i$ ziçlat la?annuh l-mudirrah Tardat-uh$_j$.*
brother Laila upset.3SF because the-principal expelled-CL
'The brother of Laila, she got upset because the director expelled him'

(47) *[?akhu Laila$_i$]$_j$ . . . pro$_i$ . . . . . Tardat [$_{DP}$-uh [$_j$]].*
the brother$_j$ of *Laila*$_i$ . . . she$_i$ . . . . . expelled [$_{DP}$-him [$_j$]]

To summarize, we argue that *weak resumptives* can be interpreted in the same way as *definite determiners*, hence followed either by a deleted NP as argument (presence of a bound pronoun within that elided copy will give rise to the covariant reading of the weak resumptive), or by an index (variable) as argument.

7.1.2 *Reconstruction with strong resumption via movement*

Recall that reconstruction with strong resumption, in contrast to reconstruction with weak resumption, is sensitive to islandhood (present in no-island/weak island contexts,

but absent in strong island contexts), but insensitive to the type of binding condition. To account for these properties, we propose that ACH's (2001) distinction between apparent and true resumption should be preserved, but only for strong resumption. A natural question is then: why should it be restricted in that way? Recall that ACH's (2001) structure for apparent resumption in (13), repeated here in (48) crucially relies on an adjunction structure between the copy of the moved constituent and any resumptive element (RE), be it weak or strong:

(48) Apparent resumption:
$[_{DP} \ldots \text{pronoun}_i \ldots]_j [_{IP} \ldots QP_i \ldots [_{CP} \ldots [_{DP} [_{DP} \ldots \sout{\text{pronoun}}_i \ldots]_j RE_j]]]$

But, as pointed out by Elbourne (2001, ch. 3), weak pronouns cannot be cliticized onto DPs in the surface, as (49a) shows, whereas both strong pronouns in (49b) and epithets in (49c) can appear overtly adjoined (be used in apposition) to a DP:

(49) a. **Karim-uh illi ʃuft-uh mat.*
Karim-CL that saw.1SG-CL dead
b. *hu Karim illi ʃuft-uh mat.*
he Karim that saw.1SG-CL dead
'Karim that I saw is dead.'
c. *ʃuft Karim ha-l-habilih.*
saw.1SG Karim the-idiot
'I saw karim, the idiot.'

Now, our proposal to restrict ACH's (2001) analysis to strong resumption comes as no surprise, as only strong pronouns and epithets can be adjoined to a DP. Furthermore, this claim nicely accounts for the fact that reconstruction with strong resumption is sensitive to islandhood (available only when no/weak island intervenes), but insensitive to binding conditions. Consider again the contrast between no-island contexts in (50) and strong island contexts in (51):

(50) a. *[ṭalib-[ha]$_i$ l-kassul]$_j$ ma biddna nxabbir [wala mçalmih]$_i$*
student-her the-bad NEG want.1PL tell.1PL no teacher
?inno hu$_j$ / ha-l-habilih$_j$ ğaʃ bi-li-mtiħan.
that he / this-the-idiot cheated.3SM in-the-exam
'Her bad student, we don't want to tell any teacher that he/the idiot cheated in the exam.'
b. **[?akhu Laila$_i$]$_j$ pro$_i$ galat ?innu hu$_j$ / ha-l-habilih$_j$ safar.*
brother Laila she said.3SF that he / this-the-idiot left.3SM
'The brother of Laila, she said that he/the idiot left.'

(51) a. **[ṭalib-[ha]$_i$ l-kassul]$_j$ ma ħakjan maç [wala mçalmih]$_i$*
student-her the-bad NEG talked.1PL with no teacher
gabl ma hu$_j$ /ha-l-ġabi$_j$ yesal.
before he / the-idiot arrive.3SM
'Her bad student, we didn't talk to any teacher before he / this idiot arrived.'

b. *[?akhu Laila$_i$]$_j$ pro$_i$ ziçlat la?annuh hu$_j$/ha-l-habilih$_j$ safar.*
brother Laila upset.3SF because he/this-the-idiot left.3SM
'The brother of Laila, she got upset because he/the idiot left.'

Whenever movement is licit, as in (50), apparent resumption will be at stake. Creation of a copy adjoined to the strong resumptive then triggers reconstruction, hence satisfaction of BVA in (50a) and a condition C violation in (50b). On the contrary, strong island contexts in (51) ban reconstruction. Strong resumption will be derived as a case of true resumption (without any movement): the absence of any copy then triggers BVA violation in (51a), but satisfaction of condition C in (51b).

7.2 Semantic asymmetries: On copy interpretation

This section shows how our syntactic account of reconstruction based on the existence of copies is clearly linked to a semantic correlate, namely the interpretation of these syntactic copies. We argue that copies can be interpreted either as indefinite (Kratzer 1998) or definite objects (Fox 2000). This semantic assumption will nicely account for the last two asymmetries discussed in Section 6. The first one concerns the asymmetry between a gap and resumption with respect to scope reconstruction, and the second one is linked to a distinction between scope reconstruction with resumption and binding reconstruction within the same strategy.

7.2.1 *Resumptives as definite copies*

Recall the distinction between scope reconstruction with a gap versus scope reconstruction with resumption:

(52) a. *?aya Surah$_j$ kul zalamih mazaç _$_j$?* (√ functional)
which picture every man tear.PAST
'Which picture did each man tear?'

b. ***??**aya Surah$_j$ kul zalamih mazaç-ha$_j$?* (* functional)
which picture every man tear.PAST-CL
'Which picture did each man tear (it)?'

(53) a. *Quelle photo$_j$ chaque homme a-t-il déchirée _$_j$?* (√ functional)
'Which picture did each man tear?'

b. ***?**Quelle photo$_j$ es-tu fâché parce que chaque homme l$_j$'a déchirée?* (* functional)
'Which picture are you furious because every man tore it?'

Surprisingly, when a gap occurs in the argumental position as in (52a) and (53a), the functional reading mapping *every man* to a different *picture* is available as a case of scope reconstruction. However, insertion of a resumptive element in the same position blocks this functional reading. To account for that contrast, we just follow our assumption that copies can in principle be interpreted either as indefinite or definite, but further claim that the presence of weak resumption, along with its elided copy (recall the

NP-deletion analysis of pronouns given by Elbourne 2001), obviously forces a definite interpretation of that copy.

Recall first from section 3 that we assumed that a copy could be interpreted as indefinite, and more precisely as a skolemized choice function. This proposal accounts for cases of scope reconstruction such as the ones in (52a) and (53a) leading to the schema in (54):

(54) Gap:
quelle photo . . . *chaque homme . . .* $[_{DP}\ [_{NP}$ ~~*photo*~~*]]*
?aya Surah . . . *kul zalamih . . .* $[_{DP}\ [_{NP}$ ~~*Surah*~~*]]*
which picture . . . each man . . . $[_{DP}\ [_{NP}$ ~~picture~~]]
LF: λp. ∃f. true(p) ∧ p = each man $_x$ tore f_x(picture)

In (54), interpretation of the copy as a skolemized choice function (indefinite) gives rise to the functional reading mapping *each man* to a different *picture*. However, insertion of resumption, as in (52b) and (53b) will force a definite interpretation of the copy created either via movement or ellipsis (hence blocking interpretation of the copy as a skolemized choice function). The schema is given in (55):

(55) *quelle photo . . .* *chaque homme . . .* $[_{DP}$ *l'* $[_{NP}$ ~~*photo*~~*]]*
?aya Surah . . . *kul zalamih . . .* $[_{DP}$ *-ha* $[_{NP}$ ~~*Surah*~~*]]*
which picture . . . each man . . . $[_{DP}$ it $[_{NP}$ ~~picture~~]]
LF: λp. true(p) ∧ p = (you are furious because) each man$_x$ tore the picture y

The absence of the functional reading in these examples is not surprising anymore, as a definite description under the scope of a quantifier does not give rise to any distributive reading, but only to the individual reading. Notice here that the absence of the functional reading does not follow from the absence of reconstruction *per se* (the bare-NP does indeed reconstruct), but rather from the fact that the resulting copy has to be interpreted as definite.

7.2.2 *Covariant readings of definite copies*

One asymmetry still remains to be accounted for: the fact that, although resumption blocks scope reconstruction (see (52b) and (53b)), it still allows for binding reconstruction, as the following examples from JA and French show:

(56) *?aya Surah$_j$ il-uh $_i$ kul zalamih$_i$ mazaç-ha$_j$?* (√ functional)
which picture of-him every man tear.PAST-CL
'Which picture of him every man tear (it)?'

(57) *Quelle photo$_j$ de lui$_i$ es-tu fâché parce que chaque homme$_i$ l'$_j$a déchirée?* (√ functional)
'Which picture of him are you furious because each man tore it?'

The generalization is then the following: the covariant reading of a resumptive pronoun (leading to the functional reading of its antecedent), although unavailable with scope reconstruction, reappears if a pronoun (*lui* in French, *-uh* in JA) is inserted in the displaced constituent.

Under our approach to reconstruction, this puzzle follows straightforwardly. Indeed, a functional reading may follow from indefinite interpretation of the copy, as the preceding section exemplified (see the cases of scope reconstruction), but can also be due to the presence of a bound pronoun in that copy, be it interpreted either as definite or indefinite. Our analysis will lead to the following schema for (56) and (57):

(58) *Quelle photo de lui*$_i$ . . . *chaque homme*$_i$ . . . $[_{DP}$ *l'*$[_{NP}$ ~~*photo de lui*$_i$~~*]]*
?aya Surah il-uh$_i$ . . . *kul zalamih*$_i$ . . . $[_{DP}$ *-ha* $[_{NP}$ ~~*surah il-uh*$_i$~~*]]*
which picture of him$_i$ . . . each man$_i$ . . . $[_{DP}$ it $[_{NP}$ ~~picture of him$_i$~~]]
LF: λp. true(p) ∧ p = (you are furious because) each man$_x$ tore the picture of x

As shown in the preceding section, presence of resumption (as a definite description) blocks interpretation of the copy as indefinite, but the functional reading can still be obtained through the presence of the bound pronoun within the elided copy, as a case of binding reconstruction. In other words, the bound variable interpretation of the pronoun *lui* in French and *-uh* in JA gives rise to a covariant reading of the resumptive clitic in both cases, hence predicting the functional reading of the antecedent of that resumptive clitic, namely *quelle photo de lui* in French and *?aya Surah il-uh* in JA.

8. Conclusion

In this paper, we show that (Ā) Reconstruction cannot rely exclusively on the presence of (Ā) movement, as reconstruction (linked to binding) can occur within islands (data from French and JA) when weak resumption is used.

We then argue for a more fine-grained analysis of reconstruction, based on the following central claims:

1. Reconstruction effect of an XP signals the presence of a copy of that XP.
2. Reconstruction with weak resumption follows from ellipsis, and more precisely from NP-deletion analysis of pronouns given in Elbourne (2001).
3. Reconstruction with strong resumption follows from Ā-movement (see ACH 2001), leading to apparent resumption when movement is available, and true resumption otherwise.
4. Copies can in principle be interpreted either as indefinite or definite objects.
5. Resumption forces interpretation of the copy as definite.
6. Functional readings follow either from indefinite interpretation of the copy (scope reconstruction), or from the presence of a bound pronoun in that copy (binding reconstruction).

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From polarity to modality

Some (a)symmetries between *bien* and *sí* in Spanish*

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Building on previous research on the so called sentential "left periphery", this paper throughly studies the syntax and the semantics of the Spanish assertive markers *sí* 'yes' and *bien* 'well'. It is first argued that sentences contaning these items have an emphatic reading that is lacking in bare affirmative sentences. Moreover, it is claimed that *bien* differs from *sí* in its adding a presuppositional import to their shared emphatic meaning. It is then shown that the properties of these particles parallel those of *wh*-words, and on the basis of this fact, it is proposed that they move from *Polarity Phrase* to *Focus Phrase* in order to check their emphatic feature. And, to end up, the eventual occurrence of complementizer *que* 'that' following either *sí* or *bien* is related to an echoic value, and it is suggested that this option supports the idea that both assertion markers may also merge in *Force Phrase*.

1. Introduction

This paper deals with the syntactic expression of emphatic affirmation in Spanish, contrasting the behavior of the adverb *sí* 'yes' with that of the manner adverb *bien* (literally, 'well'), when used as assertive markers in constructions like those illustrated in (1a) and (2). The data and the analysis discussed here are intended to account for the syntactic similarities between polarity and focus, and more generally to contribute to

* This study summarizes and develops issues which appear in previous work of mine (Hernanz 2006, Hernanz 2007). An earlier version of the present study was presented at the *XVI Coloquio de Gramática Generativa* held at the Universidad Autónoma de Madrid (April 2006). I thank the audience of the *Coloquio* for their observations and discussion. Earlier versions of this work have benefited from helpful comments by Anna Bartra, Ignacio Bosque, Josep M. Brucart, Guglielmo Cinque, Teresa Espinal, Ángel Gallego, Carme Picallo, Gemma Rigau and Xavier Villalba. I am also indebted to the editors of this volume, Olga Fernández Soriano and Luis Eguren, for their patience and their help. Research for this work was funded by BFF2003-08364-CO2-02 (Ministerio de Ciencia y Tecnología, and FEDER), 2001SGR 00150 (DURSI, Generalitat de Catalunya), and 2002 BEAI 00117 (DURSI, Generalitat de Catalunya).

a better understanding of the left periphery in Spanish, along the lines of the split-CP proposal started by Rizzi (1997) and developed in subsequent work.[1]

A well-known fact about Spanish is the occurrence of the adverb *sí* 'yes' to stress the positive value of a sentence (see Laka 1990). This is illustrated in (1a), which counts as the emphatic counterpart of the unmarked affirmative sentence in (1b):

(1) a. ***Sí*** *ha llovido hoy.*
yes has rained today
'It HAS rained today.'
b. *Hoy ha llovido.*
'Today it has rained.'

In parallel with such sentences with *sí*, Spanish also makes use of *bien* in a variety of constructions in which the meaning of this adverb has shifted from its original value as an adverb of manner (equivalent to English *well*) to an assertive value (see Hernanz 2006):[2]

(2) ***Bien*** *ha llovido hoy.*
well has rained today
'But it has rained today.'

Despite their interpretive differences, the examples in (1a) and (2) share one important property, namely that they qualify as emphatic affirmative sentences. Moreover, the emphatic import encoded by *sí* and *bien* in the above examples also extends to those cases where they are followed by the complementizer *que* 'that':

(3) a. ***Sí que*** *ha llovido hoy.*
yes that has rained today
'It HAS indeed rained today.'
b. ***Bien que*** *ha llovido hoy.*
well that has rained today
'But it has indeed rained today.'

In this paper I will argue for a comprehensive analysis of emphatic affirmative sentences, focusing specially on two issues: on the one hand, the alternation between *sí* and *bien*, and on the other the syntactic status of the complementizer *que* when it emerges following *sí* / *bien*. The main claim I make is that, besides the low functional phrase

1. The parallelism between the syntax of emphatic sentences and that of polarity has been convincingly argued for in Laka (1990). See also Holmberg (2001), among other authors.

2. Assertive *bien* has no exact equivalent in English. For the sake of clarity, I will translate it as *well* in the word-for-word glosses. In the meaning-translation, I will use *but* for the assertive value, and generally *indeed* (or *really*) with other meanings. I thank Michael Kennedy for his help with the English version of the examples discussed in this paper.

(*NegP*, *PolP*) where affirmative and negative features are hosted (see Belletti 1990, and Zanuttini 1997, among other authors), a higher functional projection in the left periphery of the sentence (*FocusP*) is involved. Moreover, the (slight) contrast exhibited by the examples in (1a)–(3a) and (2)–(3b) suggests that the complementizer *que* plays a relevant role in emphatic constructions. In this connection, it will be suggested that the presence of *que* is associated with an echoic value. This behavior parallels that of echoic negation to a significant degree, which provides strong support for the view that certain crucial properties of negative sentences may hold across the whole paradigm of polarity.

This paper is organized as follows. In section 2, I describe some basic properties of the assertive markers *sí* and *bien* in Spanish, and I show that the latter encodes a presuppositional value that is lacking in the former. The status of *sí* and *bien* in the CP domain is addressed in section 3, where I discuss a number of data suggesting that the syntax of emphatic affirmative sentences shares salient properties with that of *wh*-constructions, and I argue as well that *sí* and *bien* target *FocusP* in order to check their emphatic value. In section 4, I concentrate on the status of the complementizer *que* in emphatic constructions, and I propose that the presence of *que* may be taken as evidence for postulating that a further projection, *ForceP*, in the left periphery of the sentence is activated. Finally, section 5 concludes the paper.

2. Emphatic affirmation in Spanish

The syntactic expression of emphatic affirmation may be rendered in a variety of ways in Spanish as well as in other Romance languages. In this section, the structures with *sí* and *bien* that Spanish resorts to in order to stress the positive value of a sentence will be contrastively examined.

2.1 The affirmative marker *sí*

The Spanish adverb *sí* has been traditionally analyzed as a positive marker that alternates with *no* 'not' in neutral (affirmative or negative) answers to *yes / no* questions, as seen in (4):

(4) a. (Speaker A): *¿Fueron al cine ayer?*
went.3PL to.the cinema yesterday
'Did they go to the cinema yesterday?'

b. (Speaker B): ***Sí***.
'Yes'.

c. (Speaker B): ***No***.
'No'.

Besides their occurrence in mono-sentential structures like those illustrated in (4b)–(4c), *sí* and *no* also appear preceding the verb in full sentences, as in (5):

(5) a. ***Sí*** *fueron al cine ayer.*
yes went to.the cinema yesterday
'They did go to the cinema yesterday.'
b. *Ayer* ***no*** *fueron al cine.*
yesterday not went to.the cinema
'They did not go to the cinema yesterday.'

On the basis of the examples in (4b)–(4c) and (5), it could be inferred that there is an overall parallel between affirmative *sí* and negative *no*, since their alternation seems to merely reverse the polarity value of the sentences containing them. A closer examination of data reveals, though, that this claim is not substantiated by the facts. As observed by Laka (1990: 163ff.), a sentence like (5a) clearly diverges from its unmarked affirmative counterpart in (6), in that the former entails an emphatic value that is lacking in the latter. This amounts to saying that the neutral positive equivalent of (5b) is not (5a), but instead (6), where no particular overt mark carrying a positive reading shows up:

(6) *Ayer fueron al cine.*
yesterday went.3PL to.the cinema
'Yesterday they went to the cinema.'

Moreover, bare *sí* answers (cf. (4b)) do pattern not with an emphatic affirmative sentence like (5a), but rather with an unmarked one such as that in (6), with regard to their positive import. In order to illustrate this point, let us consider the following paradigm, where we compare the opposite behavior of the constructions just mentioned when used as affirmative responses to a negative statement like (7a):[3]

(7) a. (Speaker A): *Ayer* ***no*** *fueron al cine.*
'They did not go to the cinema yesterday.'
b. (Speaker B): ***Sí*** *fueron al cine ayer.* = (5a)
c. (Speaker B): *#Ayer fueron al cine.* = (6)
d. (Speaker B): *#Sí.* = (4b)

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3. As Laka (1990: 163ff.) pointed out, (7b) must be distinguished from the example in (i), in which *sí* is separated from the rest of the clause by a pause, and the adverb *ayer* may surface in preverbal position:

i. ***Sí****, ayer fueron al cine.*
yes yesterday went.3PL to.the cinema
'Yes, they went to the cinema yesterday.'

Crucially for our purposes, (i) does not count as an emphatic affirmation: instead, it merely behaves as a neutral affirmation that patterns like mono-sentential *sí* in (4b). This explains why both (i) and (4b) may freely alternate as plausible answers to the question in (4a). See also the examples in (8).

As the above examples show, despite the fact that the examples in (5a), (6) and (4b) – repeated as (7b), (7c) and (7d), respectively – all carry an affirmative value, only the former can be felicitously uttered to contradict a previous negative statement. That is, the presence of *sí* left-adjoined to the verb in (7b) serves to reinforce what is asserted in the sentence by pushing its value to the axis of positive polarity. Put another way, *sí* denies a previous overt negation, yielding a kind of *double* negation, and, as a result, a stressed affirmation is obtained.[4]

The data discussed in (7), together with the paradigm in (4), suggest that *sí* enters two classes of constructions, illustrated in (4b) and (7b), respectively: in the first case, it merely encodes an affirmative meaning, whereas in the second one it reinforces the positive value of the sentence (see Laka 1990: 163ff.).

Further evidence that *sí* falls into two different syntactic patterns in (4b) and (7b) is provided by the examples in (8)–(9), where the behavior of the two classes of *sí* just discussed is compared with that of a number of adverbials (i.e., *naturalmente* 'naturally', *evidentemente* 'obviously', *por supuesto* 'of course', *desde luego* 'of course', etc.), which have been labeled "sentential assertive markers" (see Martín Zorraquino 1994, among other authors):[5]

(8) a. (Speaker A): *¿Fueron al cine ayer?* = (4a)
b. (Speaker B): ***Sí***. = (4b)
c. (Speaker B): ***Sí***, *ayer fueron al cine.*
yes yesterday went.3PL to.the cinema
'Yes, they went to the cinema yesterday.'
d. (Speaker B): ***Naturalmente*** / ***claro*** / ***por supuesto***.
naturally / clear / of course
'Naturally / of course.'
e. (Speaker B): {***Naturalmente*** / ***claro*** / ***por supuesto***}, *ayer*
naturally / clear / of course yesterday
fueron al cine.
went.3PL to.the cinema
'{Naturally / of course}, they went to the cinema yesterday.'

4. The emphatic nature of *sí* has been discussed in Laka (1990: 163ff.). This author also provides a detailed account of the emphatic particle *ba* 'so' in Basque, which exhibits a number of appealing similarities with *sí* in constructions like (7b) (see Laka 1990: 99ff.). The analysis of affirmative sentences with *sí* is also addressed in Carbonero Cano (1980).

5. It should be observed that (8c) and (9b) must be differentiated on the following grounds: (a) in (8c), unlike in (9b), *sí* is separated from the rest of the clause by a (slight) pause; (b) the temporal adverb *ayer* does not occupy the same position in the two examples (see section 3 for further discussion on this issue).

(9) a. (Speaker A): *Ayer* ***no*** *fueron al cine.* = (7a)
b. (Speaker B): ***Sí*** *fueron al cine ayer.* = (7b)
c. (Speaker B): *{***Naturalmente** / ***claro*** / ***por supuesto***} *fueron al cine ayer.*
naturally / clear / of course went.3PL to.the cinema yesterday

From the paradigm in (8)–(9) two conclusions can be drawn. First, as observed by Martín Zorraquino (1994: 559), *sí* may freely alternate with sentential assertive markers in contexts such as (8). That is, this kind of adverbs and *sí* group together in that they may constitute an assertion of their own, as seen in (8b) and (8d). Moreover, sentential assertive markers, on a par with *sí*, may also head a sentence, which is melodically separated from them. Notice, in this respect, the parallelism between (8c) and (8e) when used as replies to (8a). Second, beyond these common properties, *sí* and sentential assertive markers sharply diverge in that only the former serves to deny a previous negative statement, as the contrast between (9b) and (9c) is intended to show. This can be taken as crucial evidence that the presence of a lexical item endowed with a positive meaning, namely *sí* or a sentential assertive marker, does not automatically yield an emphatic affirmative value. Rather, as will be argued later on (see section 3), in order to license an emphatic reading, something more is needed, in particular, a syntactic strategy like that illustrated in (7b).

In sum, three conclusions arise from the data discussed so far. First, as a tentative postulate, to be modified throughout the following sections (see 2.3.), Spanish affirmative sentences split into an unmarked variety (cf. (6)) on the one hand and a marked one with the positive marker *sí* (cf. (5a)) on the other. Secondly, two uses of *sí* must be distinguished (see Laka 1990): the first use, which alternates with *no* in neutral answers to *yes / no* questions (cf. (4b)), may also precede (as a single melodic constituent) a neutral affirmative answer (cf. (8c)); the second use, which appears left-adjoined to the verb, encodes an added emphatic import (cf. (7b)). Thirdly, the behavior of emphatic *sí* does not fully parallel that of so-called "sentential assertive makers" (cf. (9c)), thus suggesting that the emphatic affirmative import of a sentence is not merely obtained by lexical means.

2.2 *Bien* as an assertive marker

As noted at the outset of this work, besides the manner value illustrated in (10a), the Spanish adverb *bien* (like its analog in other Romance languages), may also be used with the assertive value illustrated in (10b):[6]

(10) a. *Pepito ha comido bien.*
'Pepito has eaten well.'

6. The shift from the original value of *bien* to an assertive value is a diachronic episode which is independently attested in the case of a number of adverbs in Romance languages. For further discussion of this issue, see Batllori and Hernanz (2006).

b. ***Bien*** *ha comido Pepito.*
well has eaten Pepito
'But Pepito has eaten.'

As the English glosses show, *bien* takes a manner reading in example (10a). By contrast, *bien* is used in (10b) to emphasize the positive value of the sentence, which is interpreted as a confirmation that 'Pepito has *really* / *indeed* eaten'. Setting aside the manner interpretation of *bien*, what is relevant for the purposes of this study is the contrast between (10b) and its neutral counterpart in (11):[7]

(11) *Pepito ha comido.*
'Pepito has eaten.'

The examples in (11) and (10b) both assert the same thing, namely that 'Pepito ate'. However, they sharply differ on syntactic and semantic grounds. As already noted, while the former qualifies as an unmarked affirmative sentence, the latter is interpreted as an emphatic positive statement. In other words, *bien* is used to indicate that the event denoted in the sentence really took place. Accordingly, unlike (11), (10b) is oriented to positive polarity. Empirical support for this claim comes from the fact that *bien* is systematically precluded in negative sentences:

(12) a. ****Bien*** *no ha comido Pepito.*
well not has eaten Pepito
b. ****Bien*** *nunca habla francés Pepito.*
well never speaks French Pepito
c. ****Bien*** *nadie fue al cine ayer.*
well nobody went to.the cinema yesterday

The ill-formedness of the examples in (12) clearly suggests that *bien*, having a positive import, is incompatible with negative words such as *no*, *nunca*, *nadie*, etc.[8] By the same token, it also cannot co-occur with the affirmative marker *sí* 'yes':

(13) a. ****Bien*** *sí ha comido Pepito.*
well yes has eaten Pepito
b. ****Bien*** *sí habla francés Pepito.*
well yes speaks French Pepito

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7. In this study I disregard the manner interpretation of *bien*, and I mainly concentrate on its assertive value. See Hernanz (2007) for a detailed account of the differences between the former and latter readings.

8. It goes without saying that the ungrammaticality of the examples in (12) (trivially) parallels the pattern illustrated in (i), where the affirmative adverb *sí* fails to co-occur with *no*, *nunca*:

i. a. ****No sí*** *ha comido Pepito.*
b. ****Sí nunca*** *habla francés Pepito.*

Given my claim that *bien* is an emphatic positive marker, the ungrammaticality of (13) comes as no surprise. It is the result of the competition between two mutually exclusive elements for the same position in the sentential structure. Furthermore, the positive semantic import of *bien* is also attested in that it can alternate with *sí* 'yes' "to express a weak or forced agreement".[9] This is illustrated in (14):[10]

(14) a. (Speaker A): *¿Tomamos un café?*
'Shall we have a coffee?'
b. (Speaker B): ***Bien*** / *sí*.
'OK / yes.'

On the basis of the data discussed above, I assume that, due to its positive import, *bien* must be given a syntactic representation which shares important properties with that of the negative marker *no*. I follow Laka's (1990) proposal that both negation and affirmation may be subsumed under a single abstract category which is underspecified for either negative or positive value.[11] That is, the category encoding the polarity of the sentence, *Pol*, may be viewed as comprising two alternative semantic heads, [NEG] and [POS] (see Cormack and Smith 1998). Accordingly, I argue that *bien*, like *sí*, occurs in a functional projection *Pol(arity)P*. More precisely, when *PolP* takes a positive value, the Spec position of *PolP* may be filled by *bien / sí*, as shown in (15):[12]

(15) $[_{CP} \ldots [_{PolP}$ *bien / sí* $[_{Pol'} [Pol^0 [_{IP} \ldots]]]]]$

The representation in (15) is consistent with the assumption that there is a contrast between, on one hand, neutral positive sentences – see (1b), (6) and (11) – in which

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9. See Cuervo (1886). Interestingly enough, it should be noted that, contrary to the canonical positive marker *sí*, *bien* cannot render the reading of an absolute affirmation, as shown in (i):

i. a. (Speaker A): *¿Te gusta el café?*
'Do you like coffee?'
b. (Speaker B): *Sí* / # ***bien***.

10. It should be observed that the alternation illustrated in (14b) does not hold in embedded sentences:

i. a. (Speaker A): *¿Quieres un café?*
'Do you want some coffee?'
b. (Speaker B): *Creo que* ***sí*** /****bien***.
think.1SG that yes / well
'I guess so.'

11. I assume, following much of the existing literature, that this abstract category is higher than IP (see Laka 1990 and Zanuttini 1997, among others).

12. Belletti (1990: 40) proposes a similar analysis to account for the positive adverb *ben* in Italian.

the phonetic effect of [POS] is null, and, on the other, marked positive sentences – see (1a), (5a) and (10b), in which an overt marker appears.

2.3 *Bien* vs. *sí*: The illocutionary force of *bien*

Given my claim that *bien* stresses the positive polarity of a sentence, the question arises as to whether it patterns like *sí* in emphatic affirmative sentences such as (1a) and (5a), discussed above. Consider, in this respect, the examples in (16) and their counterparts with *bien* in (17):

(16) a. ***Sí*** *come pasta Pepito.*
yes eats pasta Pepito
'Pepito does eat pasta.'
b. ***Sí*** *fueron al cine ayer.* = (5a)

(17) a. ***Bien*** *come pasta Pepito.*
well eats pasta Pepito
'But Pepito indeed eats pasta.'
b. ***Bien*** *fueron al cine ayer.*
well went.3PL to.the cinema yesterday
'But they went to the cinema yesterday.'

The sentences in (16) are as emphatic as those in (17). However, their interpretation sharply diverges. In Hernanz (2007), it is argued that the differences stem from their illocutionary force: *bien* encodes a presuppositional value that is lacking in *sí*. Thus, besides its emphatic positive meaning, *bien* adds a subjective implicature which cancels an *implicit negative expectation*. By contrast, as observed above (see section 2.1), *sí* typically denies an explicit negative statement.[13] In order to provide a more precise

13. A general picture of the distribution of *sí* in Spanish is beyond the scope of this work. A close examination of the data suggests, though, that the occurrence of *sí* rather systematically correlates with a previous negative context, regardless of whether it takes a *denial* interpretation as in (18b), or not, as in (i):

i. a. *Chirac no ha dado detalles de su dolencia. El hospital* ***sí*** *ha señalado que Chirac no podrá volver a volar en seis meses.* (recorded oral speech)
'Chirac has not revealed details of his medical problem. However, the hospital *has* indicated that Chirac will be unable to fly again for six months.'
b. [. . .] *Aunque EEUU no participe en Montreal, en la primera conferencia de los países firmantes del protocolo de Kyoto,* ***sí*** *interviene en las negociaciones de la undécima conferencia de cambio climático* [. . .]. (*La Vanguardia*, 5/12/05).
'Though the US is not taking part in Montreal at the first meeting of countries that have signed the Kyoto protocol, it *is* participating in negotiations at the Eleventh Conference on Climate Change.'

characterization of the contribution of *sí* and *bien* to the semantic interpretation of a sentence, let us return to the contrast between (16a) and (17a). The former example, as opposed to the latter, can be felicitously uttered as a response to the negative sentence in (18a):

(18) a. *Pepito no come pasta.*
'Pepito does not eat pasta.'
b. ***Sí** come pasta Pepito.* = (16a)
c. #***Bien** come pasta Pepito.* = (17a)

The example in (18b) is an appropriate response to (18a), since this sentence provides an overt negation to anchor the emphatic value of *sí*. By contrast, (18c) is quite infelicitous when uttered as a response to (18a). As observed above, rather than contradicting an explicit negative statement, *bien* cancels an implicit, and hence not overtly formulated, negative expectation. Therefore, what rules out (18c) is that the state of affairs "to not eat pasta" is *directly* formulated in (18a). On the other hand, unlike (18b), (18c) does qualify as a suitable response to examples such as those in (19a), (19b), which, rather than asserting that "Pepito does not eat pasta", can be taken as an appropriate *pragmatic* background from which to make this inference (that is, if Pepito is very thin, or Pepito hates Italian cooking, it is *expected* that Pepito would *not* eat pasta):[14]

(19) a. *Pepito está muy delgado.*
'Pepito is very thin.'
b. *Pepito detesta la cocina italiana.*
'Pepito hates Italian food.'
c. *¡(Pues) **bien** come pasta (Pepito)!*
'But Pepito eats pasta!'
d. #***Sí*** come pasta Pepito.

In light of these data, it can be concluded that *bien* and *sí* behave alike in that both adverbs stress the positive polarity of a statement. Moreover, both adverbs share the common property of being discourse dependent. Note, in this respect, that (16) and (17) are quite infelicitous when uttered out of the blue, as they lack the context that provides the background in which to anchor their contrastive value. Nevertheless, despite these similarities, *bien* and *sí* diverge widely in their illocutionary force: contrary to the latter, the former has a semantic import that is clearly presuppositional in nature. More precisely, the sentence headed by *bien* is always associated with a subjective value, that is, it is interpreted as denoting a statement from the perspective of the speaker's responsibility. This asymmetry can be accounted for under the familiar assumption, within the minimalist program, that a lexical item may consist of a bundle of features

14. See Hernanz (2007) for a more extensive account of the presuppositional value of *bien*.

(see Chomsky 1995). I thus propose that both *sí* and *bien* are endowed with the syntactic features [+ *Affirmative*] and [+ *Emphatic*], whereas *bien* bears an additional semantic feature [+ *Presuppositional*]. This is schematized in (20):

(20) *Sí*: [+ Affirmative, + Emphatic]
Bien: [+ Affirmative, + Emphatic, + Presuppositional]

The feature system proposed in (20) gives rise to three kinds of affirmative sentences in Spanish, as seen in (21):

(21) a. *Hoy ha llovido.*
'It has rained today.'
b. ***Sí*** *ha llovido hoy.*
yes has rained today
'It HAS rained today.'
c. ***Bien*** *ha llovido hoy.*
well has rained today
'It has indeed rained today.'

The example (21a) is an unmarked affirmative statement. By contrast, (21b), with an overt mark carrying a positive meaning, must be regarded as an emphatic affirmative statement. Accordingly, unlike (21a), it does not merely count as the neutral positive counterpart of the negative sentence *Hoy no ha llovido* 'It has not rained today', as discussed above (see section 2.1.). Finally, (21b) contrasts with (21c), since *bien*, rather than contradicting an assertion, cancels an expectation.

To sum up, the paradigm illustrated in (21) can be taken as evidence that allows us to postulate that the markers of affirmative polarity in Spanish come in three varieties: a null affirmation marker, an emphatic affirmative marker *sí*, and the presuppositional marker *bien*, which, besides its emphatic reading, encodes an added illocutionary value.[15] As a tentative hypothesis to be explored throughout section 3, I would like to suggest that the feature system proposed in (20) is mainly responsible for the movement of both *sí* and *bien* from their basic position in *PolP* (see (15)) to a high functional projection, *FocusP*, in the CP domain.

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15. The asymmetry between *bien* and *sí* with respect to their illocutionary value is amenable to a rather similar parallelism involving the pattern of negative polarity. In this regard, Zanuttini (1997: 99) pointed out that the paradigm of negative markers splits into two classes: *non-presuppositional* negative markers (like Italian *no*) and *presuppositional* negative markers (like Italian *mica*; see also Cinque 1976). While the latter negate a proposition that is assumed in the discourse, the former negate a proposition with no particular discourse status. For a more extensive account of this issue, see Hernanz (2007).

3. Syntactic analysis of assertive markers *bien* and *sí*

As already mentioned, *bien* and *sí* are affirmative markers which have been given the syntactic representation in (15), repeated here:

(15) $[_{CP} \ldots\ldots [_{PolP}$ *bien* / *sí* $[_{Pol'} [Pol^0 [_{IP} \ldots]]]]]$

The analysis in (15) rests upon the assumption that *bien* and *sí*, being affirmative words, should be expected to occupy the dedicated position above IP that hosts both negative and positive polarity elements. However, a closer examination of the data reveals that this parallelism cannot be maintained. On the one hand, *bien* and *sí*, despite their polarity import, sharply diverge from negative markers in many important ways. On the other hand, there is compelling evidence suggesting that emphatic affirmative sentences share a number of salient properties with *wh*-sentences, a pattern that cannot be captured by the analysis given in (15).

In this section, I will study both issues in some detail. Firstly, some asymmetries between *bien/sí* and the negative adverb *no* will be examined. Secondly, I will discuss a variety of striking similarities between emphatic affirmative sentences and *wh*-sentences. Finally, on the basis of such a parallel, I will argue that *bien/sí* target a high position in the Comp-layer, namely the Specifier of *FocusP* (see Rizzi 1997):

(22) $[_{ForceP} [_{TopicP} [_{FocusP}$ *bien*$_i$ / *sí*$_i$ $[_{PolP}$ t$_i$ $[_{IP} \ldots]]]]]$

3.1 Emphatic affirmation and negative polarity: Some puzzling asymmetries

Notwithstanding their common properties, emphatic affirmative sentences and negative sentences exhibit a number of relevant differences.[16] Firstly, note that *bien* and *sí*, unlike negative adverb *no*, are generally restricted to main clauses.[17] That is, both positive markers are banned from complement-tensed clauses like (23), as well as embedded infinitives and gerunds like (24):

(23) a. *Le aconsejaron que* {***sí** / **no**} *fumara.*
'They advised him {yes / not} to smoke.'

16. The similarities between negation and emphatic affirmative sentences have been discussed at length by Laka (1990: 84ff.). This author convincingly argues that Basque and English resort to the same mechanisms in both cases.

17. It should be noted that both *bien* and *sí* are allowed in indicative embedded clauses selected by the class of predicates belonging to the paradigm of declarative and epistemic predicates. This fact can be accounted for in a rather natural way under the assumption that indicative dependent clauses seem to constitute independent assertions (see Torrego and Uriagereka 1992, Etxepare 1997, and Gallego 2004).

b. *Lamento que* {***bien** / **no**} *sean ricos.*
'I regret that they {well are / are not} rich.'

(24) a. *Es necesario* {***sí** / **no**} *decir la verdad.*
'It is necessary {yes / not} to tell the truth.'
b. {***Bien** / **no**} *diciendo la verdad, no le convencerás.*
'By {well / not} telling the truth, you will not convince him.'

And the same holds for adverbial clauses, as in (25):

(25) a. *Como Julia* {***bien** / **nunca**} *fuma, siempre se está quejando.*
'Since Julia {well / never} smokes, she is always complaining.'
b. *Cuando Pepe* {***sí** / **no**}*trabaja, ve la televisión.*
'When Pepe {yes works / does not work}, he watches television.'

Secondly, in contrast with *no*, *bien* and *sí* cannot appear in Root Infinitive constructions like (26), as illustrated in (27):

(26) *¡¿Julia comprar un Volkswagen?! ¡No me lo puedo creer!*
Julia buy.INF a Volkswagen NEG CL.DAT CL.ACC can believe
'Julia buy a Volkswagen?! I can't believe it!'

(27) a. **¡¿Julia* {***bien** / **sí***} *comprar un Volkswagen?!*
Julia {well / yes} buy a Volkswagen
b. *¡¿**No** comprar nadie un Volkswagen?!*
'Nobody buy a Volkswagen?!'
((27b), from Grohmann and Etxepare 2003: 215)

The data in (23)–(27) constitute clear evidence that emphatic affirmative markers and negative adverbs *no* and *nunca* sharply diverge on syntactic grounds. The point at issue here is the structural hierarchy of these elements. To begin with, let me concentrate on the examples in (23)–(24). Suppose that subordinate clauses – along the lines of recent proposals (see Haegeman 2002) – may differ in the internal structure of their CP. As is well known, *Force* is taken to encode the illocutionary value of the sentence (see Rizzi 1997). Consequently, it seems plausible to suggest that, since they are dependent on the matrix force, complement clauses have an impoverished CP-structure, in which the top domain, including *Force* and *Focus*, does not project. If this suggestion is on the right track, the ill-formedness of the examples in (23)–(24) is predicted, as it derives from the fact that there is no functional projection *FocusP* to host *bien* and *sí* in the embedded clauses. By the same token, we would expect the contrast involving adverbial clauses illustrated in (25). Moreover, adverbial clauses provide additional support for the analysis I am proposing. It is common knowledge that these clauses do not constitute a homogeneous group. In this regard, Haegeman (2002, 2003: 21) observes that they fall into two patterns in terms of their internal structure: (a) central adverbial clauses, like those in (25), which lack the *Force* field, and (b) peripheral adverbial clauses, which pattern as root sentences in that they contain a full *Force* domain. Under this

approach, we could expect emphatic affirmative markers to freely appear in the latter clauses, since they have a fully articulated CP-structure. This prediction is borne out, as illustrated by the minimal pair in (28a)–(28b),[18] involving a central and a peripheral causal clause, respectively:[19]

(28) a. **Julia no ha ido a trabajar porque* ***bien*** *estaba enferma.*
Julia not has gone to work because well was ill
b. *Julia no debe (de) estar enferma, porque* ***bien*** *ha ido a trabajar.*
Julia not must be ill because well has gone to work
'Julia must not be ill, because indeed she went to work.'

Further evidence supporting the distributional asymmetry between negative and positive markers is provided by Root Infinitives in (27). These constructions have been argued to exhibit a deficient structure in the Comp-layer (see Grohmann and Etxepare 2003). This hypothesis, combined with my claim that *bien* targets *FocusP*, easily accounts for the fact that *bien*, unlike *no*, is precluded in these constructions.

3.2 The status of emphatic affirmative markers as wh-operators

In this section, I will examine a number of salient syntactic properties of sentences headed by *bien* and *sí*, and I will show that they can be accounted for under the assumption that both particles behave like *wh*-words in significant ways.

Firstly, unlike negative marker *no*,[20] *bien* and *sí* are banned from interrogative and exclamative clauses.[21] This is seen in (29) and (30), respectively:

(29) a. *¿Qué ha {comido / dicho} Julia?*
what has {eaten /said} Julia
'What did Julia {eat /say}?'

---

18. Note that the same holds for assertive *sí*, which clearly contrasts with the negative marker *no* in the constructions under scrutiny:

i. a. *Julia ha ido a trabajar porque {****no*** */****sí****} llueve.*
Julia has gone to work because {not / yes} rains
b. *No debe (de) llover, porque Julia* ***sí*** *ha ido a trabajar.*
not must rain because Julia yes has gone to work
'It must not be raining, because Julia did go to work.'

19. As is widely known, central causal clauses differ from peripheral causal clauses in terms of their logical and syntactic relationships. Thus, while in (28a) the subordinate clause expresses the cause that triggers the event denoted by the main clause, in (28b) the subordinate clause expresses the reason why the event denoted by the main clause is asserted.

20. Compare, in this respect, the following pair of examples:

i. a. *¿Quién* ***no*** *fue al cine ayer?*
'Who did not go to the cinema yesterday?'

b. *¿Qué **bien** ha comido Julia?
what well has eaten Julia
c. *¿Qué **sí** ha dicho Julia?
what yes has said Julia

(30) a. ¡Qué casa se ha comprado Julia!
what house CL.DAT has bought Julia
'What a house Julia has bought!'
b. *¡Qué casa {**bien** / **sí**} se ha comprado Julia!
what house {well / yes} CL.DAT has bought Julia

The contrasts illustrated in (29)–(30) provide support for the view that *bien* and *sí* enter the paradigm of *wh*-elements. More precisely, if emphatic affirmative markers and *wh*-operators behave alike, targeting a unique structural position (i.e., the Spec position of *FocusP*), it comes as no surprise that they are in complementary distribution. Putting it differently, the ill-formedness of the examples in (29b)–(29c) and (30b) is consistent with the assumption that only a single focus projection is available in a sentence (see Rizzi 1997: 290).

Secondly, the same prohibition also extends to sentences with a focalized constituent, as in (31)–(32):

(31) a. UNA CASA se ha comprado Julia (y no un apartamento).
A HOUSE CL.DAT has bought Julia and not an apartment
'It's a house that Julia has bought, not an apartment.'
b. *UNA CASA **bien** se ha comprado Julia.
A HOUSE well CL.DAT has bought Julia

(32) a. PAELLA ha comido Julia (y no pasta).
PAELLA has eaten Julia and not pasta
'It's paella that Julia ate, not pasta.'
b. *PAELLA **sí** ha comido Julia.
PAELLA yes has eaten Julia

b. *¿Quién **sí** fue al cine ayer?
who yes went to.the cinema yesterday

Examples such as (ib) are only (marginally) acceptable when they are uttered to confirm a previous emphatic affirmative sentence, as (ii):

ii. Julia **sí** fue al cine ayer.
Julia yes went to.the cinema yesterday
'Julia did go to the cinema yesterday.'

21. Regarding the relationship between negation and exclamative sentences, see Espinal (1997) and Villalba (2004).

Under current assumptions, the canonical position targeted by focused elements is [Spec, *FocusP*]. Given this analysis, the ungrammaticality of (31b) and (32b) follows in a straightforward way, similarly to the ill-formedness of the examples in (29b)–(29c) and (30b). Namely, it comes from the fact that *bien / sí* and *wh*-elements compete for the same position.

A rather different picture arises when we examine the behavior of topicalized constituents, which are indeed compatible with the presence of *bien / sí*. More specifically, clitic left-dislocated elements may freely occur in front of both *bien* and *sí*, whereas the alternative order in which the former follow the latter is fully excluded. Compare, in this regard, (33a)–(33b) with (33c):

(33) a. *La carta* ***bien*** *la escribimos ayer.*
the letter well CL.ACC wrote.1PL yesterday
'But we did write the letter yesterday.'
b. *La carta, a Pepe* ***sí*** *se la escribimos ayer.*
the letter to Pepe yes CL.DAT CL.ACC wrote.1PL yesterday
'We did write the letter to Pepe yesterday'
c. *{***Bien / sí***} *la carta, a Pepe se la escribimos ayer.*
{well / yes} the letter to Pepe CL.DAT CL.ACC wrote.1PL yesterday

As is well known, the same restriction holds for *wh*-elements:[22]

(34) a. *La carta, a Pepe, ¿**quién** se la escribió?*
the letter to Pepe who CL.DAT CL.ACC wrote
'Who wrote the letter to Pepe?'
b. **¿**Quién**, la carta, a Pepe, se la escribió?*
who the letter to Pepe CL.DAT CL.ACC wrote

Under the above assumption that *bien* and *sí* move to the Spec position of *FocusP* – see (22) – the distributional constraints illustrated in (33)–(34) are expected, as they are reminiscent of a more general pattern involving the distribution of *wh*-operators and Topics (see Rizzi 1997: 291):

(35) TOPIC - WH
*WH – TOPIC

A third piece of evidence suggesting that *bien / sí* pattern like *wh*-elements is provided by their position with respect to the verb. Note, in this regard, that both *bien* and *sí* must surface left-adjoined to the finite verb. Accordingly, examples like those in (36),

22. See Hernanz and Brucart (1987: chapter 3) for a more detailed analysis of this issue in Spanish.

where the subject intervenes between the adverbs just mentioned and V, are systematically ruled out:

(36) a. ****Bien*** *Julia podría comer paella.*
well Julia could eat paella
b. ****Sí*** *Julia se ha molestado cuando se lo han dicho.*
yes Julia CL has got.upset when CL.DAT CL.ACC have.3PL said

The ungrammaticality illustrated in (36) clearly suggests that adjacency between *bien / sí* and V is required. As is well known, the same restriction holds for *wh*-elements in both interrogative and exclamative sentences. Compare, in this respect, (29a) and (30a) with (37a) and (37b), respectively:

(37) a. **¿Qué Julia ha comido?*
what Julia has eaten
b. **¡Qué casa Julia se ha comprado!*
what house Julia CL.DAT has bought

Additional evidence that adjacency between *bien / sí* and V is compulsory comes from the ordering constraints exhibited by *circumstancial* adverbials in emphatic affirmative sentences. As Cinque (1999: 28) observes, this class of adverbs (of place, time, manner, and the like) differs from other kinds of adverbs in not being rigidly ordered with respect to one another. Moreover, they can also indistinctly appear in pre-verbal and post-verbal position, as seen in (38):

(38) (*Ayer*) *se emborracharon* (*ayer*).
(yesterday) CL.DAT got.drunk.3PL (yesterday)

By contrast, when *bien* and *sí* show up, *circumstancial* adverbials are disallowed in preverbal position:

(39) a. {***Bien*** / ***sí***} *se emborracharon ayer.*
{well / yes} CL.DAT got.drunk.3PL yesterday
b. *{***Bien*** / ***sí***} *ayer se emborracharon.*
{well / yes} yesterday CL.DAT got.drunk.3PL

Once again, this pattern parallels that of interrogative and exclamative sentences:

(40) a. *¿Quién se emborrachó ayer?*
who CL.DAT got.drunk.3SG yesterday
b. **¿Quién ayer se emborrachó?*
who yesterday CL.DAT got.drunk.3SG

(41) a. *¡Cómo se emborracharon ayer!*
how CL.DAT got.drunk.3PL yesterday
b. **¡Cómo ayer se emborracharon!*
how yesterday CL.DAT got.drunk.3PL

The data discussed in (36)–(41) may be taken as evidence allowing us to postulate that *bien* and *sí*, like *wh*-elements, trigger *V-to-Comp* movement. I will turn to this issue in the next subsection.

3.3 The position of the subject in emphatic affirmative sentences

A further parallelism between emphatic affirmative markers and *wh*-elements is provided by the position of the subject. Going back to the examples in (16a) and (17a) – reproduced here as (42) for ease of reference –, note that *sí* and *bien*, unlike *no*, trigger the inversion of the subject. Compare (42) with (18a), repeated as (43):

(42) a. ***Sí*** *come pasta* <u>*Pepito*</u>.
yes eats pasta Pepito
b. ***Bien*** *come pasta* <u>*Pepito*</u>.
well eats pasta Pepito

(43) <u>*Pepito*</u> ***no*** *come pasta.*
'Pepito does not eat pasta.'

Given that subjects in Spanish can easily appear in post-verbal position, the word order exhibited by the examples in (42) could be regarded as an instance of free inversion, similar to (44):

(44) *Ha comido pasta* <u>*Pepito*</u>.

However, a closer look at the data shows that this parallelism cannot be maintained. As widely assumed,[23] post-verbal subjects in Spanish are interpreted as the focus of the sentence;[24] hence, the DP *Pepito* counts as new information in (44). This pattern, though, does not extend to sentences headed by *sí* and *bien*. Contrary to what happens with (44), in (42) the underlined subjects are interpreted as old information rather than as focal constituents. The need to make a distinction between the two post-verbal positions in (44) and (42) is shown by the following contrast:[25]

(45) a. *Ha comido pasta* <u>*Pepito*</u>, *y no Julia.*
has eaten pasta Pepito and not Julia
'It was Pepito that ate pasta, not Julia.'

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23. See Contreras (1978) and Zubizarreta (1999), among other authors.

24. Following Zubizarreta (1999: 4233), I assume that word order VOS is obtained from a rule that rearranges the constituents [S] and [VO], as schematically represented in (i):

i. $[[_F$ S] [V O]] [[V O] $[_F$ S]]

25. Additional support for this claim is provided by intonational factors. Thus, in the examples in (42), in contrast to that in (44), post-verbal subjects are set off from the rest of the sentence by a slight pause.

b. ***Bien** *ha comido pasta Pepito, y no Julia.*
well has eaten pasta Pepito and not Julia
c. ***Sí** *ha comido pasta Pepito, y no Julia.*
yes has eaten pasta Pepito and not Julia

Given my claim that the informative status of post-verbal subjects clearly diverges in both unmarked declarative sentences and emphatic affirmative sentences, the contrast between (45a) and (45b)–(45c) is expected. Namely, it derives from the fact that the negative conjunct *y no Julia* 'and not Julia', conveying a contrastive reading, is only compatible with a focal subject, as in the former case.

Setting aside the controversial issue of the position of the subject in Spanish,[26] what is relevant for the purposes of this discussion is the fact that post-verbal subjects in sentences headed by *bien* and *sí* do not qualify as a case of free inversion, as the contrast illustrated in (45) is intended to show.

A potential problem for the claim that emphatic affirmative sentences headed by *bien* and *sí* do not behave like unmarked sentences with respect to subject word order is given in (46). When compared to (42), these examples might indeed suggest that subject inversion is putative rather than compulsory in the constructions under discussion:

(46) a. *Pepito* ***sí*** *come pasta.*
b. *Pepito* ***bien*** *come pasta.*

My contention is that, although they precede the V, the underlined DPs in (46) occupy not a subject position, but rather a topic position, as illustrated in (47). This assumption is substantiated by the fact that *TopicP* is an available position in front of *FocusP* (see Rizzi 1997):[27]

(47) $[_{\text{ForceP}}\ [_{\textbf{TopicP}}\ \text{Pepito}_j\ [_{\textbf{FocusP}}\ \textit{bien}_i / \textit{sí}_i\ [_{\text{PolP}}\ t_i\ [_{\text{IP}}\ e_j \ldots]]]]]$

Strong evidence against the assumption that subject position is available for preverbal DPs in sentences headed by *bien* and *sí* comes from quantified DPs. As is widely known,[28] bare quantifiers (*all*, *nobody*, etc.), like non-specific quantified NPs, are banned from topic position.[29] Accordingly, if the underlined DPs in (46) were in the

26. See, on this question, Ordóñez (1998).

27. Note, in this connection, that *Clitic Left Dislocation* (CLLD) is clearly attested in emphatic affirmative sentences, as shown in the above examples (33a)–(33b).

28. See Rizzi (1986) and Cinque (1990).

29. This is shown in (i):

i. a. **Nessuno, lo conosco in questa città.*
nobody him know.1SG in this city

canonical subject position, one would expect that they could be replaced by a quantified DP. This expectation is not fulfilled, as shown in (48):[30]

(48) a. **Todo el mundo **sí** comió pasta.*
every body yes ate pasta
b. **Poca gente **bien** ha comido pasta.*
few people well ate pasta
c. **Teniendo dinero, cualquiera {**sí** / **bien**} puede viajar.*
having money anybody {yes / well} can travel

Further support for the analysis given in (47) comes from superlatives. Note that superlative-DPs cannot be dislocated, as shown in (49):

(49) a. *Las críticas, Julia las detesta.*
the criticisms Julia CL.ACC hates
'Julia hates criticism.'
b. **La más pequeña crítica, Julia la detesta.*
the most little criticism Julia CL.ACC hates

b. **Tutto, lo dirò alla polizia.*
everything it will.say.1SG to.the police (exs. from Rizzi 1986: 395)

See also Belletti (1990), Rizzi (1997), and Haegeman (2000), among other authors.

30. It should be observed that the presence of certain quantified DPs in subject position does not result in ungrammaticality in the constructions under study, as in (i):

i. *Muchos estudiantes {**sí** / **bien**} saben lo que quieren.*
lot.of students {yes / well} know what want.3PL
'Lot of students {do / really} know what they want.'

A closer look at the intricacies of the phenomenon of clitic left-dislocated quantifiers reveals, though, that the well-formedness of examples such as (i) is not problematic for the analysis I am proposing. Instead, it correlates with the fact that the quantified DP *muchos estudiantes* may be used referentially. Consequently, along the lines of Cinque's (1990: 14ff.) approach, we expect that it can be topicalized. This prediction is fulfilled, as illustrated in (ii), where it is shown that the DP just considered and subject DPs in (48) exhibit an opposite behavior with respect to topicalization:

ii. a. *A muchos estudiantes los he visto preocupados.*
to many students CL.ACC have.1SG seen worried
'Many students have seemed worried to me.'
b. **A todo el mundo lo he visto preocupado.*
everybody CL.ACC have.1SG seen worried

See Cinque (1990) for further discussion on this issue.

Again, emphatic affirmative sentences where a superlative DP emerges in preverbal position are ruled out, as predicted by my analysis:

(50) a. *La más pequeña crítica la pone nerviosa.*
the most little criticism CL.ACC makes upset
'The slightest criticism upsets her.'
b. **La más pequeña crítica* {***bien*** / ***sí***} *la pone nerviosa.*

To sum up, the data discussed so far lead us to conclude that *bien* and *sí*, being emphatic affirmative markers, are quantificational in nature; hence, they share relevant properties with *wh*-elements: (a) they must appear left-adjoined to the verb; (b) they are incompatible with focal operators; (c) they may co-occur with topicalized constituents in the fixed order {TOP-*bien* / *sí*}; and (d) they trigger subject inversion. Furthermore, the approach presented here is consistent with the observed parallelism between the syntax of Negative Inversion and that of *wh*-sentences (see Haegeman 2000).[31] As already noted, negation and affirmation have been argued to belong to a more abstract category (*PolP*) that encodes the polarity of the sentence (see Laka 1990). Consequently, we would expect that some syntactic properties holding for negative sentences may hold across the whole paradigm of negative and positive polarity, as seems to be the case.

3.4 Recapitulation: *bien* and *sí* in the articulated CP domain

I would now like to turn to the syntactic analysis proposed in (22). Recall that *bien* and *sí*, being affirmative markers, merge with *PolP*, and from this category move to a higher syntactic position. In a theory that assumes an articulated CP-structure along the lines of Rizzi (1997), the question arises as to which node in CP triggers movement of positive polarity to the CP-domain. I claim that it is *FocusP*, which has been conceived as a category subsuming both contrastive focus and focused polarity, that does this.[32] That is, *bien* and *sí* target *FocusP* in order to express emphatic affirmation, as schematized in (22). More precisely, I propose that both markers are attracted to [Spec, FocusP] in order to check off an interpretable feature [+ EMPH(atic)] (see (20)), this movement

31. It is worth emphasizing in this regard that emphatic affirmative sentences parallel English Negative Inversion in many significant ways (see Haegeman 2000). That is, both constructions pattern alike in that they trigger subject-auxiliary inversion, they are incompatible with *wh*-inversion, and they allow for the preposing of topicalized constituents:

i. a. On no account will I read e-mail.
b. *On no account where should I go?
c. During my sabbatical, on no account will I read e-mail.
(examples from Haegeman 2000)

32. See Holmberg (2001) for a detailed account of this issue.

being required by the FOCUS-criterion (see Rizzi 1997).[33] The hypothesis that the FOCUS-criterion is at work in the case under study is supported by the fact that sentences headed by *bien* and *sí* have a distinctive emphatic character,[34] which suggests that the focus layer of the left periphery is indeed activated.

Under the assumption that *bien* moves from *PolP* to *FocusP* on the left periphery, the facts illustrated in (29)–(41) follow in a rather natural way. Let us examine this issue in some detail. Consider, first, the prohibition against *bien* and *sí* appearing in constructions submitted to *wh*-movement. The ungrammaticality of the examples in (29b), (29c) and (30b) can be accounted for by claiming, as suggested above, that it is the result of a *collision* between two quantified elements: that is, the [+ EMPH] feature carried by emphatic markers *sí* and *bien* competes with the [+ *Wh*-] feature in Spec of *Focus* – see Rizzi (1997: 325). And the same holds for the contrasts in (31)–(32). As for the distribution of *bien* and *sí* with respect to topicalized constituents, it seems plausible to postulate that the paradigm illustrated in (33)–(34) follows from the ordering constraints holding for Topic and Focus in the left periphery (see Rizzi 1997: 297).

Finally, going back to the examples in (36)–(41), it seems plausible to argue that the parallelism between *bien / sí* and *wh*-elements with respect to both subject inversion (cf. (36)–(37)) and the distribution of circumstancial adverbials (cf. (39)–(41)) can be captured in a uniform way by postulating an *adjacency effect*.[35] More precisely, I suggest that the examples in (36)–(37), similarly to those in (39b), (40b) and (41b), are ruled out due to a violation of the FOCUS-criterion, which has to be satisfied by moving the finite verb to the head of *FocP*, in order to create a Spec-head configuration between the EMPH-feature on T[36] and the focus operator.[37] This movement yields the adjacency effect between *bien / sí* and V observed above.

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33. Following Rizzi (1997: 325), I assume that "All instances of preposing to the left periphery must be triggered by the satisfaction of a Criterion". The FOCUS-criterion is conceived in Rizzi (1997: 299) as comprising both the Wh-criterion and the NEG-criterion (see Haegeman 2000: 23).

34. See Gutiérrez-Rexach (2001), among others, for a similar claim with respect to exclamative sentences.

35. For reasons of space, I do not address the analysis of the post-verbal subject in emphatic affirmative sentences. In line with the proposal presented in Belletti (2004), one possible approach might be that the post-verbal subject fills a Topic position in the low IP area.

36. Transposing the standard analysis for negative sentences (and *wh*-sentences) to the constructions under study, I assume that the quantificational feature conveying the emphatic positive import in sentences headed by *bien* and *sí* is generated under T, which gives rise to V-to-C movement. See Rizzi (1997), and Haegeman (2000), among other authors.

37. Alternatively, one could opt for a reformulation of this analysis within the framework of Chomsky (1995) and subsequent works. I leave the question open, as it is not crucial for the purposes of this study.

The partial structure for emphatic affirmative sentences is given in (51):[38]

(51) $[_{\text{ForceP}}\ [_{\text{FocusP}}\ bien_i$ / $sí_i\ [_{\text{Foc'}}\ [_{\text{Foc°}}$ ha llovido] $[_{\text{PolP}}\ t_i\ [_{\text{Pol'}}\ [_{\text{IP}}\ t_v$ hoy]]]]]]

4. On the status of *que* in emphatic affirmative sentences

In parallel with the constructions discussed in the preceding sections, in which assertive words *sí* and *bien* appear in pre-verbal position, Spanish also displays sentences in which these markers surface to the left of the complementizer *que* 'that'. The paradigm in (52)–(53) illustrate the two strategies Spanish follows to express emphatic affirmation:

(52) a. ***Sí*** *ha llovido hoy.* = (1a)
yes has rained today

b. ***Bien*** *ha llovido hoy.* = (2)
well has rained today

(53) a. ***Sí que*** *ha llovido hoy.* = (3a)
yes that has rained today

b. ***Bien que*** *ha llovido hoy.* = (3b)
well that has rained today

The examples in (53) may be considered, *prima facie*, as nearly equivalent, on interpretive grounds, to those in (52), in which the complementizer *que* is absent. However, as will be shown below, they behave quite differently when their discursive properties are taken into consideration. On the other hand, with regard to the syntactic representation of the examples in (53), the question arises whether the analysis given in (51) can accommodate the presence of *que* in the focus field. In this section, I will address both issues. First, I will argue that *que* may be assigned a unified reading in (53a) and (53b), namely, an echoic value, which is independently attested in a number of constructions where C displays a similar distribution. Second, I will turn to the syntactic representation of the examples in (53), and I will explore two alternative analyses in order to account for the presence of *que*. I will then conclude that *que* merges as the head of *ForceP*.

4.1 From *bien* to *bien que*

As just noted, when considered out of the blue, emphatic affirmative sentences in (53) seem to pattern like their respective counterparts in (52). In view of this, it could be

38. Although *bien* has been characterized as encoding an additional value that is lacking in *sí* (see (20)), I assume that the syntactic analysis given in (51) holds for both markers. This approach is consistent with the fact that the presuppositional import of *bien* is semantic and pragmatic in nature; hence, it is not syntactically relevant. It may be the case, as I suggested in a previous work (see Hernanz 2003), that the presuppositional value of *bien* is checked in *ForceP*, the locus of illocutionary force.

suggested that the presence of the complementizer *que* is semantically innocuous. This suggestion does not stand up to closer scrutiny, however. Recall that sentences headed by both *sí* and *bien* are discourse-dependent (see section 2.3). As I will now show, the same holds for the alternation between the presence and the absence of *que*. In order to obtain a more precise picture of the interpretive value conveyed by *que* in *bien*-sentences, let us examine the following examples, where the contextual environment is taken into account:[39]

(54) a. *He aprendido el valseo y las habaneras. ¡Vaya! ¡Y*
have.1SG learnt the valseo and the habaneras go and
***bien que** me gustan!*
well that CL.DAT please.3PL
'I have learnt the valseo and the habaneras. Imagine! And I do indeed like them!'

b. *Pues sí que tiene argumentos... Y **bien que** los muestra.*
so yes that has arguments and well that CL.ACC shows
'She certainly does have arguments. And you can bet she uses them!'

c. (Speaker A): *¿Por qué te has enfadado tanto?*
'Why did you get so angry?'
(Speaker B): *¿Y tú me lo preguntas? ¡Pues **bien que** lo sabes!*
and you CL.DAT CL.ACC ask so well that CL.ACC know.2SG
'Are you really asking me? You know very well why!'

The examples in (54) all have one property in common, which is that they exhibit an emphatic affirmative meaning that derives from the core value of *bien* proposed in (20). However, it should be noted – as a tentative generalization, to be refined below – that sentences headed by *bien que* qualify as stronger assertions than those containing *bien*. More precisely, the function of *bien* when preposed to C is to focus on the truth of the whole assertion rather than just the event denoted in the proposition. Thus, (54a) reflects the speaker's emphatic claim that (s)he likes the *valseo* and the *habaneras*, despite the fact that the interlocutor could suspect otherwise. Similarly, *bien que* is used in (54c) to express a strong degree of confidence on the part of the speaker about the truth of the proposition (that is, 'You know why I got so angry'), even though from the question raised in the previous discourse precisely the opposite could be inferred, namely, that the hearer does *not* know why the speaker got so angry.[40]

39. The examples in (54a) and (54b) are from the data base http:// www.corpusdelespanol.org.

40. Recall that due to its presuppositional import, *bien (que)* cancels an implicit – hence not overtly formulated – negative expectation (see section 2.3). Accordingly, the examples in (54)

Under the assumption that the alternation between *bien* and *bien que* is constrained by discursive factors, we might expect the counterparts of (54) where the complementizer is absent to be rather marginal. The ill-formed examples in (55) show that this is in fact the case:

(55) a. *He aprendido el valseo y las habaneras. ¡Vaya!. . . *??¡Y **bien** me gustan!*
b. *Pues sí que tiene argumentos. . . *??Y **bien** los muestra.*
c. (Speaker A): *¿Por qué te has enfadado tanto?*
(Speaker B): *¿Y tú me lo preguntas? *¡Pues **bien** lo sabes!*

The contrasts illustrated in (54)–(55) provide evidence that *bien* is precluded in a variety of cases where *bien que* is permitted. By the same token, it should be expected that some contexts compatible with *bien* prohibit the occurrence of the complementizer *que*. The following examples confirm this expectation:[41]

(56) a. (Speaker A): *¿Qué hora es?*
'What time is it?'
b. (Speaker B): *No sé, **bien** podrían ser las seis.*
not know.1SG well could be six o'clock
'I don't know, but it could well be six o'clock.'
c. (Speaker B): *#No sé, **bien que** podrían ser las seis.*

(57) a. (Speaker A): *¿Qué tiempo hace hoy?*
'What is the weather like today?'
b. (Speaker B): *Está muy nublado, **bien** podría llover.*
is very cloudy well could rain
'It is very cloudy, it could well rain.'
c. (Speaker B): *#Está muy nublado, **bien que** podría llover.*

The examples in (56c) and (57c) are rather infelicitous when uttered as responses to (56a) and (57a), respectively. The explanation for this comes from the fact that *bien que* carries a strong assertive value which, contrary to the case in (54), cannot be anchored in the preceding discourse. Consider, in this respect, (56). When saying (56a), speaker A is actually asking what time it is, with no further subjective implicature;

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cannot be felicitously uttered as responses to a previous negative sentence. I illustrate this issue in the case of (54c):

i. a. ***No** sé por qué te has enfadado tanto.*
'I don't know why you got so angry'
b. *#¡Pues bien que lo sabes!*

41. It is worth bearing in mind that speakers may vary on their judgments on the alternation between *bien* and *bien que*. In fact, a diachronic analysis of the data seems to suggest that the *bien que* pattern is more widespread in contemporary Spanish than in earlier stages of this language. See Batllori & Hernanz (2006) for further discussion of this issue.

hence, this utterance qualifies as a neutral question, from which it is not inferable that (s)he suspects that it may not be true that it is six o'clock. As a consequence, the sentence headed by *bien que* in (56c) is interpreted in this case as an inappropriate response, since it vacuously cancels – so to speak – an implicit negative statement which *bona fide* cannot be attributed to the interlocutor. By contrast, (56c) and (57c) improve to full acceptability when the complementizer *que* is absent, as in (56b) and (57b), respectively, since what *bien* focuses on is not the truth value of the sentence but rather the denoted event. That is, in (57b), for instance, if it is cloudy, it could be the case that it will rain or not; thus, the only thing that is cancelled by using *bien* is the negative expectation 'it could not rain'.[42] Additional support for the assumption that *bien que* focuses on the truth of the proposition comes from the fact that the examples in (54) allow (approximate) paraphrases such as those in (58), where *bien* takes scope over epistemic predicates like *verdad* 'truth', *cierto* 'certain', etc.:[43]

(58) a. ***Bien*** *es verdad que me gustan.*
well is truth that CL.DAT please.3PL
'It is indeed true that I like them!'
b. ***Bien*** *es cierto que lo sabes.*
well is certain that CL.ACC know.2SG
'You know very well!'

Interestingly enough, *bien que*, as opposed to *bien*, cannot co-occur with *verdad* and *cierto*, which clearly suggests that the semantic content of the former, since it has to do with the truth value of the proposition, clashes with the modal value encoded by the predicates alluded to, and, as a result, the sentence is ruled out:

(59) a. ****Bien que*** *es verdad que me gustan.*
b. ****Bien que*** *es cierto que lo sabes.*

Having established that discursive factors are at the root of the contrasts discussed in (54)–(57), we are in a position to provide a more precise analysis of the behavior of *bien que*. My claim is that when uttering a sentence with *bien que* the speaker implicitly evokes an assertion which is in some sense its negative counterpart, and reverses its polarity by reinforcing the truth value of the proposition containing it. According to this view, it seems plausible to suggest that the use of *bien que* is associated with a somehow echoic flavor that is mainly responsible for the semantic interpretation of the sentence.

It is worth noting, in this respect, that the case under consideration is reminiscent of an often observed phenomenon, namely the behavior of a number of particles closely related to emphatic polarity such as the enclitic form *-tu* in Quebec French (see Vinet

42. Concerning the analysis of modal verbs and the scope of negation, see Picallo (1990).

43. See Etxepare (1997) for a detailed account of *la verdad* constructions.

2000a,b), and the sentence-initial affirmative word *kyllä* 'yes' in Finnish (see Kaiser 2006). More specifically, let us hypothesize, along the lines of Cormack and Smith's (1998) proposal, that there are two polarity positions in the sentential structure: an internal position corresponding to the functional projection *PolP*, and an external position in the CP domain – a position that these authors labeled *Echo(ic)* – whose scope encompasses the whole sentence. This is illustrated in (60):

(60) $[_{CP}$ *Echo* . . . $[_{PolP}$ *Pol* $[_{IP}$ . . .]]]

Extending the parallelism between positive and negative polarity we discussed above to the case of *Echo*, we therefore assume two possible values [POS] and [NEG] for this node, as argued by Cormack and Smith (1998: 28). Furthermore, similarly to *bien*, which has been claimed to behave as the positive emphatic counterpart of negative markers hosted in *PolP* (see (15)), I will take *bien que* to correspond to the positive version of the *Echo* position in (60). In view of this, let me tentatively propose the structure in (61), where *bien* is merged in a higher *PolP* position in the C domain and *que* fulfills the head of this projection:

(61) $[_{CP}$ $[_{PolP1}$ *bien* [[*que*] . . . $[_{PolP2}$ $[_{IP}$ . . .]]]]]

4.2 *Sí* in pre-Comp position

The existence of a special relation between polarity words and the head of CP is further attested by the case of the Spanish affirmative word *sí* 'yes', which may also occur left-adjacent to the complementizer *que* 'that', as already noted:[44]

(62) a. ***Sí*** *ha* *venido.*
yes has come.3SG
'He did come.'
b. ***Sí*** ***que*** *ha* *venido.*
yes that has come (exs. from Etxepare 1997: 124)

44. The alternation between *sí* and *sí que* in Spanish has received scant attention in the grammatical literature. According to Carbonero Cano (1980: 167), the use of *que* in constructions like (i) is "usually facultative":

i. a. *Luis* ***sí*** *trabaja.*
Luis yes works
'Luis does work.'
b. *Luis* ***sí*** ***que*** *trabaja.*
Luis yes that works
'Luis really does work.' (exs. from Carbonero Cano 1980: 167)

As has been observed by Etxepare (1997), the examples in (62) diverge in their communicative import. According to this author:

> [62b] but not [62a] is felicitously uttered only if there is a previous assertion putting into question or denying that a given person is coming. The communicative import of [62b] is then to counter that assertion by claiming that the relevant person is indeed coming. (Etxepare 1997: 125).

Support for this claim comes from examples such as (63), in which the occurrence of *sí que* is effectively associated with a negative environment:[45]

(63) a. (Speaker A): *Mañana no creo que quede tiempo.*
tomorrow not think.1SG that remains time
'I don't think we'll have time tomorrow.'
(Speaker B): ***¡Sí que*** *habrá tiempo, mamá!*
yes that there.will.be time Mom
'There *will* be time, Mom!'

b. (Speaker A): *No me puedo mover.*
'I can't move.'
(Speaker B): *Mentira.* ***¡Sí que*** *podés!*
lie yes that can.2SG
'That's not true. You *can*!'

A closer look at the data reveals, though, that *sí que* is also compatible with non-negative contexts. This may arguably be due to the fact that *sí que*, on a par with *bien que*, rather than merely stressing that the event denoted in the proposition did take place, serves to emphasize the truth value of the proposition. Some relevant examples are given in (64):[46]

(64) a. *Carrefour le ofrece este fin de semana precios de vértigo. . .*
Carrefour CL.DAT offers this end of week prices of vertigo
¡Esto ***sí que*** *es un aniversario!*
this yes that is an anniversary
'This weekend Carrefour is offering incredibly low prices! Now, that's a *real* anniversary!'

b. *Creo que decisiones como la que se ha tomado esta*
think.1SG that decisions like the that CL has taken this
mañana, éstas ***sí que*** *unen a todos los españoles.*
morning those yes that unite to all the Spaniards
'I think that decisions like the one that was taken this morning really do unite all Spaniards.'

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45. The examples in (63) are from the data base http:// www.corpusdelespanol.org.

46. The examples in (64a)–(64b) are instances of recorded oral speech; (64c) is from the data base http://www.corpusdelespanol.org.

c. *-Claro, nuestra época era mucho peor. Entonces* ***sí*** ***que*** *había*
clear our time was much worse then yes that there.was
crisis.
crisis
'Of course, in our day things were much worse. Back then, there really *was* a crisis.'

The examples in (64) are rather problematic for Etxepare's claim, as they clearly show that no negative background is needed in order to license the *sí que* pattern. In fact, empirical evidence seems to indicate that this is the habitual case. Setting aside an in-depth study of the alternation between *sí* and *sí que* in Spanish,[47] what is relevant for the purposes of this discussion is the fact that the latter, crucially, is also compatible with non-denying contexts. Moreover, under my proposal that *sí que* and *sí* differ regarding their scope, the picture drawn in (64) is what we would expect. That is, since *sí que* focuses on the truth value of the sentence, no negative environment having to do with the denoted event is required in order to license its contrastive value.

Now let us return to the representation in (61), where two polarity positions are categorially distinguished: the higher one is situated in the CP field, while the lower one precedes the IP domain. Given this distribution, we would expect each category to have a distinct morphological realization. The examples in (65) confirm this prediction:

(65) a. *Pepito* ***sí*** ***que*** *no come pasta.*
Pepito yes that not eats pasta
'Of course Pepito doesn't eat pasta, I'm positive.'
b. *Hoy* ***sí*** ***que*** *no hace frío.*
today yes that not is cold
'It is certainly not cold today.'

The above examples are perfectly acceptable sentences in Spanish, despite the presence of two mutually exclusive polarity markers, namely *sí* and *no*, which, being in complementary distribution, do not co-occur in the same sentence, as in (66):

(66) a. **Pepito* ***sí*** *no come pasta.*
Pepito yes not eats pasta
b. **Hoy* ***sí*** *no hace frío.*
today yes not is cold

The sharp contrast between (65) and (66) clearly shows that *sí que*, contrary to *sí*, does not compete with *no* for the same position in the sentence. This leads us to conclude, as proposed in (61), that there are two *Pol* nodes available in Spanish, the higher one hosting *external* polarity markers which focus on the truth value of the proposition.

47. For a comparative analysis of *sí que* and equivalent constructions in other Romance languages, see Martins (2006).

This approach is in agreement with the fact that *sí que*, rather than reversing the negative orientation of the events denoted in (65) (i.e., 'Pepito does not eat pasta', 'It is not cold'), serves to reinforce the positive value of the whole assertion. Additional support for the view that two opposite polarity markers may be compatible when they do not occupy the same structural position is provided by the ability of the positive marker *sí*, if used parenthetically, to co-occur with *no*. Consider, in this respect, the contrast between (66) and (67):

(67) a. *Pepito, eso* ***sí***, *no come pasta.*
Pepito that yes not eats pasta
'Admittedly, Pepito does not eat pasta.'
b. *Hoy no hace frío, eso* ***sí***.
today not is cold that yes
'Admittedly, it's not cold today.'

Finally, the assumption that when followed by *que*, *bien* and *sí* behave as external affirmative markers is further substantiated by the pattern of negation, which has also been claimed, as widely known, to split into an external (or metalinguistic) negation and an internal one.[48] Without embarking on a more detailed analysis of this issue, it is worth noting that Catalan provides compelling evidence to support the representation in (60). Consider, in this respect, the examples in (68), where two positions for negation are attested:[49]

(68) a. ***No que*** *no ha vingut la Lola.*
not that not has come the Lola
'But Lola did *not* come.'
b. ***No que*** *no ballarà la Maria avui.*
not that not will.dance the Maria today
'But Maria is *not* going to dance today.'

As expected, the examples in (68) are by no means equivalent to their counterparts in (69), where a single *Pol* position is filled:

(69) a. *La Lola* ***no*** *ha vingut.*
'Lola did not come.'
b. *La Maria* ***no*** *ballarà avui.*
'Maria is not going to dance today.'

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48. See Cormack and Smith (1998), Vinet (2000a), Kaiser (2006), and the references therein.

49. It should be observed that Spanish sharply diverges from Catalan in precluding the *no que* strategy, as seen in the examples in (i), which are the counterparts of those in (68):

i. a. ****No que*** *no ha venido Lola.*
b. ****No que*** *no bailará María.*

Like *sí que* in Spanish, the *no que* strategy in Catalan is used to focus on the polarity of the whole assertion.[50] More precisely, preposed negation is not used in (68) to negate the denoted event of Lola's coming or Maria's dancing. Instead, it serves to contradict a previous affirmative assertion that is now old information in the particular context.[51]

Summing up: I have shown that emphatic affirmative markers *bien* and *sí* may occupy two distinct *spaces* in Spanish, namely, a preverbal position and a high position left-adjoined to C. I also claim that, due to their different scopal properties, each of these positions is associated with a different semantic interpretation. Finally, using data from the distributional behavior of both *bien* and *sí* with respect to the complementizer *que*, I argue for two polarity positions: echoic and sentential. I thus reformulate (61) as (70):

(70) $[_{CP}\ [_{PolP1}$ *bien / sí* $[[que] \ldots [_{PolP2}\ [_{IP} \ldots]]]]]$

4.3 Characterizing *que* in the CP domain

In the preceding sections, I have shown that Spanish has two options to stress the affirmative value of an assertion, which are illustrated in (52) and (53), respectively. I have also claimed that both options, as they attach an emphatic meaning to the sentence, activate the domain of the left periphery. I will now concentrate on the role played by the complementizer *que* 'that' when it emerges in emphatic sentences, and I will explore two possible ways to address this issue: *que* may be viewed as the head of *Focus*, or, alternatively, as the head of *Force*. I will argue that the presence of the complementizer can only be accounted for under the second approach. Let us consider both possibilities in turn.

4.3.1 *Alternative I:* ***que*** *heads FocusP*

In accordance with the view that *bien* targets *FocusP*, it would be tempting to suggest that the alternation between the presence and absence of *que* falls under the general pattern exhibited by exclamative sentences, which also activate the Focus layer. Consider, in this respect, the examples in (71):[52]

(71) a. *¡Qué guapa está Julia!*
what beautiful is Julia
'How beautiful Julia is!'

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50. On external negation in Catalan, see Espinal (2002).

51. See Kaiser (2006) for further discussion of fronted negation in Finnish, which exhibits striking similarities with the *no que* pattern in Catalan.

52. In Spanish, contrary to exclamative sentences, interrogative sentences do not allow *C* to be phonologically realized. This option, though, is fully attested in other Romance varieties, such as Piedmontese (see Goria 2002).

b. *¡Qué guapa* ***que*** *está Julia!*
what beautiful that is Julia
'How beautiful Julia is!'

Assuming, along the lines of Rizzi's (1997) proposal, that movement of *wh*-phrases such as *qué guapa* to the left periphery is required by the FOCUS-Criterion, I take the sequence *qué guapa que* in (71b) to instantiate a case of *Doubly-filled Comp*. That is, the construction in (71b) includes both a *wh*-phrase and the particle *que*, the former targeting the [Spec, *FocusP*] position, and the latter located in the head of *FocusP*, as in (72):

(72) $[_{\text{FocusP}}$ [qué guapa]$_i$ $[_{\text{Focus'}}$ $[_{\text{Focus°}}$ *que*] . . . $[_{\text{IP}}$ Julia está t_i]]]

Extending the analysis given in (72) to the case under study, it could be suggested that *bien* and *sí*, due to their emphatic nature, parallel (exclamative) *wh*-words in allowing *C* to be either overt or null:

(73) $[_{\text{FocusP}}$ [bien / sí]$_i$ $[_{\text{Focus'}}$ $[_{\text{Focus°}}$ *que*] $[_{\text{PolP}}$ t_i . . . $[_{\text{IP}}$]]]]

Attractive as it may seem, this analysis is not tenable. Recall that the presence of *que* in emphatic affirmative sentences is by no means semantically innocuous, as already discussed in the preceding sections. This pattern sharply contrasts with the paradigm of exclamative sentences, in which the complementizer *que* is semantically inert.[53] That is, (71a) and (71b) are in fact synonymous in Spanish, as the English glosses show. Consequently, the two kinds of constructions cannot be subsumed under the same syntactic representation.

Further evidence against alternative I comes from the fact that *sí* and (marginally) *bien*, when followed by *que*, are compatible with negation, as illustrated in (65) – repeated here as (74) – and (75):[54]

(74) a. *Pepito* ***sí*** ***que*** *no come pasta.*
Pepito yes that not eats pasta
b. *Hoy* ***sí*** ***que*** *no hace frío.*
today yes that not is cold

(75) a. ***Bien que*** *no fuma Pepito.*
well that not smokes Pepito
'Pepito does *not* smoke.'

53. See Brucart (1993) for a more detailed account of the nature of *que* in Spanish exclamatives. For further discussion about the properties of exclamatives in Romance, see also Villalba (2003).

54. The example in (75b) is from the data base http:// www.corpusdelespanol.org.

b. *¿Qué te pasa?* ***Bien que*** *no te molesta cuando dicen*
what CL.DAT happens well that not CL.DAT bothers when say.3PL
que sos mi prometida.
that are.2SG my betrothed
'What's the matter? It certainly doesn't seem to bother you when they say you are my betrothed!'

Given that, as noted above (see (12) and (66)), *bien* and *sí* fail to co-occur with negative markers in the same sentence, the well-formedness of the examples in (74) and (75) clearly indicates that these particles, when followed by *que*, do occupy a structural position higher than *FocusP*. This means that the structure in (73) must be discarded, as it wrongly predicts that the option for *C* to be overt or null in emphatic affirmative sentences headed by {*bien* / *sí*} has neither syntactic nor semantic consequences.

4.3.2 *Alternative II:* ***que*** *heads ForceP*

In this section I would like to argue that emphatic affirmative sentences where *C* is phonologically realized are obtained by merging *bien* / *sí* in the Spec position of *ForceP*, as seen in (76):

(76) $[_{\text{ForceP}}$ [bien / sí] $[_{\text{Force'}}$ $[_{\text{Force}^{o}}$ *que*] . . . $[_{\text{FocusP}}$ . . . $[_{\text{IP}}$]]]]

This approach is consistent with the assumption that *Force* is the syntactic domain which expresses assertion and provides the structure to host modality operators. In this connection, I would like to suggest that the role played by *que* in the emphatic affirmative sentences under study exhibits appealing similarities in the value it encodes when it follows the so-called *of course*-type adverbs (i.e., *desde luego*, *la verdad*, etc.), which have been claimed to behave as truth operators (see Etxepare 1997: 50). Note, in this respect, that *of course*-type adverbs, like evidential adverbs such as *ciertamente* 'certainly', *obviamente* 'obviously', *evidentemente* 'evidently', etc., may also co-occur with *que*:[55]

(77) a. {***Evidentemente*** / ***ciertamente*** / ***desde luego***}, *Julia está muy enfadada.*
'{Obviously / certainly / of course}, Julia is very angry.'
b. {***Evidentemente*** / ***ciertamente*** / ***desde luego***} *que Julia está muy enfadada.*
{Obviously / certainly / of course} that Julia is very angry

Crucially for our purposes, (77a) and (77b) are by no means semantically equivalent. As has been observed by Etxepare (1997: 98), "there is a subtle but nevertheless clear and substantial difference" between the two cases: unlike those in (77b), the examples in (77a) can be uttered out of the blue. In other words, (77a) qualifies as an appropriate

55. Recall that, following Martín Zorraquino (1994), the adverbs alluded to have been labeled "sentential assertive markers" in section 2.1.

construction in the following situation: someone is late and realizes that Julia has gotten very angry. By contrast, (77b) is an emphatic sentence that can only be used to stress an already-mentioned proposition (i.e. *Creo que Julia está muy enfadada* 'I think that Julia is very angry'). That is, in order to utter (77b) felicitously, "you need a linguistic antecedent" (see Etxepare 1997: 99). This clearly suggests that the presence of *que* in (77b) is associated with an *echoic* value. Interestingly enough, this pattern resembles the pattern displayed by the alternation between overt and null *C* in emphatic affirmative sentences discussed above (see the paradigm in (52)–(53)). Moreover, the subset of attitudinal adverbs which precede the complementizer *que* behave like *bien* / *sí* with respect to polarity markers. Compare, in this respect, (78) with (65)–(66):

(78) a. *¿Se ha enfadado Julia?*
'Did Julia get angry?'
b. {*Evidentemente* / *desde luego*} ***que*** *sí* / *no.*
{Obviously / of course} that yes / not
'Obviously, she did/did not.'
c. *{*Evidentemente* / *desde luego*} *sí* / *no.*
{Obviously / of course} yes / not

Returning to (60), what I am proposing is that *ForceP* is the locus of *Echo* (that is, *high* polarity). More precisely, I suggest that, like the aforementioned attitudinal adverbs, *bien* and *sí* may occupy the Spec position of *ForceP* and take scope over the main assertion of the sentence, which gives rise to an interpretation where the truth value of the sentence is stressed. Under this assumption, it is predicted that, when followed by *que*, *bien* and *sí* allow for a low polarity marker such as *no* (located in *PolP*) to appear. Since the two kinds of elements do not compete for the same position, they do not clash. This is illustrated in (79):

(79) $[_{\text{ForceP}}$ [*bien* / *sí*] $[_{\text{Force'}}$ $[_{\text{Force°}}$ **que**] . . . $[_{\text{PolP}}$ no $[_{\text{IP}}$ . . .]]]]

In sum, the alternative II accommodates the data discussed so far rather naturally, by simply assuming that two polarity layers are at work in the sentential structure. Moreover, the analysis given in (79) is reminiscent of Etxepare's (2006) claim that sentences headed by the overt complementizer *que*, rather than assertions, "constitute a report of what has been said". This is seen in the following contrast:

(80) a. *Oye, el Barça ha ganado la Champions.*
listen the Barça has won the Champions League.
b. *Oye, que el Barça ha ganado la Champions.*
listen that the Barça has won the Champions League
(exs. from Etxepare 2006: 1)

In light of these data, it could be hypothesized that the head *que* in *ForceP* spells out illocutionary features associated with an abstract operator of the required type hosted in this projection. A relevant piece of evidence in this regard comes from interrogative

sentences in Catalan, which makes use of a variety of particles to reinforce the positive orientation of the question, as illustrated in (81):

(81) a. *Oi* ***que*** *vindràs?* (Central Catalan, Barcelona)
Op that will.come.2SG
b. *Eh* ***que*** *vindràs?* (Central Catalan, Barcelona)
Op that will.come.2SG
c. *No* ***que*** *vindràs?* (Central Catalan, Tarragona)
not that will.come.2SG

(exs. from Hernanz and Rigau 2006)

The examples in (81) are used as positive-oriented questions, in which the complementizer *que* 'that' follows an operator (i.e., a truth operator or a polarity marker). Crucially, the option for a null complementizer is fully excluded in this case:

(82) a. **Oi vindràs?*
b. **Eh vindràs?*
c. **No vindràs?* (82c) ≠ (81c)

The contrast between (81) and (82) may be taken as further evidence – along the lines of Rizzi's (1997) proposal – that there is a tight connection between the head that hosts subordinating conjunctions in *ForceP* and the illocutionary force of the sentence. However, several questions remain open and more research is needed to substantiate a relevant proposal concerning the role played by the complementizer *que* in emphatic sentences.

5. Conclusion

In this study I have endeavored to analyze the alternation between *sí* and *bien* in emphatic affirmative sentences in Spanish, and have argued that they activate the domains of *Focus* and *Force* in the left periphery. I have mainly concentrated on the study of the interpretive differences between the canonical emphatic affirmative marker *sí* and the particle *bien*, which has been claimed to encapsulate, besides its affirmative value, both an emphatic reading and a presuppositional import. The status of *bien* and *sí* in the left periphery has been examined in the second part of this work, where I have showed that the properties of these particles crucially parallel those of *wh*-words, and I have argued as well that they move from *PolP* to *FocusP* in order to check their emphatic value. I have then turned to the characterization of the complementizer *que* when it follows *sí* and *bien*, and have suggested that this option provides support for the postulate that both markers may also merge in *ForceP*. In this connection, I have claimed that the option for an overt *C* in the constructions under study is associated with an echoic value, a pattern which extends to other constructions where a similar picture arises. This approach leads us to conclude that the bifurcation between internal and external negation also holds for the paradigm of affirmation.

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Beyond the Infinitive vs. Subjunctive Rivalry

Surviving changes in Mood*

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This paper provides synchronic and diachronic evidence against a blocking-type analysis of obviation and supports the Domain extension approach. The historical switch from existence to loss of obviation in the history of Greek reveals that infinitives are not directly involved in the relevant change. Rather, the key feature that explains typological and historical fluctuations regarding obviation is related to whether or not languages maintain the basic Mood opposition in the left periphery of embedded contexts. A reformulation of the definition of Binding Domain that includes Phase Heads that ultimately transfer agreeing features (including [Irrealis]) to T results in Domain extension only when C/Mood lacks such features.

1. Introduction

This paper investigates the nature of obviation, whereby certain embedded contexts require that the matrix and the embedded subject be disjoint in reference. The phenomenon is often listed as one of the typological features that distinguish Romance languages from the languages of the Balkan area. The presence of obviation in the former and its absence in the latter are standardly assumed to be related to the existence or nonexistence of infinitives, respectively. This approach presents serious theoretical and empirical problems. In fact, as an anti-coreference effect on pronouns, the phenomenology should naturally follow from Binding Theory. This paper shows that the typological variation regarding this phenomenon arises due to the distinct nature of

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the embedded Phase Head (C/Mood) that the matrix predicate selects in each language and suggests a Minimalist reformulation of the definition of Binding Domain that involves the notion of Phase Head.

The paper is organized as follows. Section 2 describes the phenomenon of obviation and it argues that it is a syntactic phenomenon that is attested beyond the Romance vs. Balkan distinction. Section 3 focuses on Greek from a diachronic perspective. The aim of this section is to uncover the precise factor that is responsible for the change from presence to absence of obviation in the history of Greek. Section 4 includes some notes on why certain contexts such as those involving negated epistemic predicates do not behave as expected with regards to this phenomenon. Section 5 presents the details of the analysis and section 6 reaches some conclusions.

2. The phenomenon

The Spanish sentence in (1) illustrates the phenomenon of obviation in volitional contexts: the subject in the subordinate subjunctive clause cannot be coreferential with the matrix subject, i.e., it must be disjoint in reference. Obviation is problematic for Binding Theory: the embedded finite clause should suffice as the Binding Domain for its subject and hence the subject should be free to refer outside. However, unexpectedly, we obtain obviation. A related issue that needs addressing is that, in contrast to Spanish (1), no such restriction exists in parallel contexts in other languages such as Romanian, as is shown in (2).

(1) *Juan*$_i$ *quiere que él*$_{*i/j}$ *coma.*
Juan want.3SG COMP he eat.SUBJ.3SG
'Juan wants him to eat.'

(2) *Ana*$_i$ *vrea ca ea*$_{i/j}$ *să vină cu noi.*[1]
Ana wants COMP she SUBJ come with us
'Ana wants (her) to come with us.' (Kempchinsky 1990)

The asymmetry in (1–2) has mostly been related to the presence or absence of infinitives in the Romance and Balkan languages, respectively. According to this view, Romance languages display obviation effects in subjunctive clauses because the coreference reading is expressed by infinitival clauses (3). In contrast, the gradual loss of infinitives in Balkan languages has been pointed to as the reason for the lack of obviation in these languages. Let us call this the Infinitive vs. Subjunctive Rivalry Hypothesis (henceforth ISRH). In more syntactic terms, the Avoid Pronoun Principle proposed

1. There is a preference for the disjoint in reference reading when the embedded subject is lexically realized. Whereas this is an issue about preferences, in (1) there is no room for preferred readings: disjointness is the only option.

by Chomsky (1981) claims that where PRO may appear the overt pronoun is taken as distinct in reference from the matrix subject, and conversely, where PRO is ruled out the overt pronoun is free. In short, where Infinitives (PRO) are available Subjunctives display obviation.[2]

(3) *Juan$_i$ quiere Ø$_i$ comer.*
Juan want.3SG eat.INF
'Juan wants to eat.'

There are reasons to investigate the phenomenon from a different perspective. To start with, the ISRH is theoretically inadequate. It is a mere correlation between the complementation system of languages and the binding restrictions that exist in them, but lacks explanatory force: it does not explain the anti-coreference pronoun effect itself. Similarly, if Chomsky meant that the Avoid Pronoun Principle is a Principle of Universal Grammar, it would be a rather isolated bizarre Principle with no relation to the Binding Theory proposed at the time. Besides, it poses further complications for Minimalism, where idiosyncratic rules are to be replaced by natural economy conditions on representations and derivations. Ideally, the Avoid Pronoun Principle should be subsumed under the existing Binding Module.

A second reason is that the phenomenon displays the syntactic feature of locality that can hardly be addressed in ISRH terms. Specifically, the subject must be disjoint in reference only with respect to the subject of the immediate higher clause but is free to refer to higher subjects. This is illustrated by (4) and (5) in Spanish and French, respectively.

(4) *Juan$_i$ espera que pro$_j$ quiera que pro$_{*j/i}$ venga.*
John hopes that want.SUBJ that come.SUBJ.3SG
(lit.)'Juan$_i$ hopes that he/she$_j$ wants that he/she$_{*j/i}$ comes.'

(5) *Jean$_i$ veut qu'il$_{*i}$ desire qu'il$_i$ aime Marie.*
Jean wants that-he wishes that-he loves.SUBJ Marie
(French, Progovac 1993a)

Third, although this phenomenon has been studied as a Romance vs. Balkan distinction, obviation is not a phenomenon that can be attributed to some exclusive Romance property, nor is the lack of obviation a consequence of some property solely attested in the languages of the Balkan group, which might have developed this common feature through centuries of contact.[3] Rather, as is expected from a Principles and Parameters approach, it is a natural option that is available for languages outside the Romance

2. The idea underlying the ISRH has been proposed in various shapes (Farkas 1992 and Hornstein & San Martin 2005, among others). The basic idea in all of them is that the existence of infinitives triggers obviation.

3. This is the Balkan Sprachbund, and it refers to the fact that languages of the Balkan Peninsula share sets of typological properties, even though they belong to different families.

family or the Balkan area. For example, Arabic, an Afro-Asiatic language, displays free reference in such contexts (6). In contrast, obviation is found in Hungarian (7), a language of the Finno-Ugric group, hence not Indo-European.

(6) *?arada Zayd-un ?an pro yarhala.*
want.3SG Zayd.NOM COMP leave.SUBJ
'Zayd wants to leave/somebody else to leave.' (Arabic, Soltan, p.c.)

(7) *Péter$_i$ aztakarja, hogye$_{*i/j}$ moziba menjen.*
Peter.NOM it.ACC. want.3SG that movies.ILLAT go.SUBJ.3SG
'Peter wants him to go to the movies.' (Hungarian, Jakab 1999)

Fourth, if obviation is a choice available for natural languages we do not only expect it to be attested crosslinguistically, but also that languages fluctuate in time with respect to displaying or not displaying this effect. Language change confirms this and we find evidence in both directions: Greek exemplifies an instance of a language that used to display obviation and ceased to display it (8–9). Conversely, obviation effects were absent in Old French (10–11) and appear in later stages in the language (12–13).

(8) *Voulomai toinun umas meta parri:sias exetasai ta paronta*
want.I then you.ACC with courage to.review the current
pragmata ti:i polei.
things the town.DAT
'Therefore I want you to review the issues of our town with courage.'
(Classical Greek, Demosthenes *De Chersoneso*, 2.1)

(9) *Yanis$_i$ elpizi pro$_{i/j}$ na figi.*
the.John hope.3SG pro PRT win.3SG
'John hopes to win/that he will win.'
(Modern Greek, Varlokosta 1993, ex.21)

(10) *Autresi nueil, se je uous ai mate, que je m'en*
similarly not.want.1SG if I you have.1SG conquered that I myself
puisse rale a sauete.
can.1SG return to safety
'Similarly, if I have conquered you, I do not want to be able to return to safety.'
(Old French, Arteaga 1990)

(11) *et li Franceis n'ont talent que s'en algent.*
and the French not-have.3PL desire than pro themselves go.3PL.SUBJ
'And the French have no desire other than to leave.'
(Old French, Arteaga 1990)

(12) *Et bien vueil qu'il sache qu'il nous tendra*
and well want.1SG that-he know.3SG.SUBJ that-he us will.hold.3SG
nostre convenance.
our agreement
'And I really want him to know that he will hold our agreement.'

(13) **Je veux que je sorte.*
I want.1SG that I go.out.1SG.SUBJ
'I want to go out.'

Fifth, the central empirical prediction that the ISRH makes regarding obviation does not hold. Specifically, it predicts that languages that employ infinitives necessarily display obviation in subjunctive contexts. Haspelmath (2005) in his study of the complement types that languages employ for expressing coreference with predicate *want* identifies five types of languages. Amongst them, he attests that some languages employ both infinitives and subjunctives to express coreference with predicate *want*. One such language is Obolo, a language spoken in Southern Nigeria. Albeit this is not the commonest strategy, the existence of this type of languages is empirical evidence against the ISRH.

(14) a. *M´-wèèk ígêgè íkpá.*
1SG-want INF.write letter
'I want to write a letter.'
b. *M´-wèèk n-gê íkpá.*
1SG-want 1SG-write letter
'I want to write a letter.'

(Obolo, Faraclas 1984: 104, 112)

To conclude, two problems need to be accounted for. One is the existence of obviation: the local anti-coreference pronoun effect. The other problem is the parametric distinction regarding this phenomenon, both across languages or at different stages in languages.

I have defended the view that the standardly accepted ISRH is not adequate on both theoretical and empirical grounds. In contrast, a Principles and Parameters approach may provide fruitful results in the sense that the properties of the phenomenon described above can be naturally related. Thus, if obviation is syntactic and language variation and change are processes of (re)setting Parameter values associated with functional categories, we may be able to determine the specific property that is involved in triggering obviation by looking at language variation and/or language change. Along these lines, the next section investigates the case of Greek, which changed from displaying obviation to showing free reference in subordination contexts with volitional predicates.

3. From Classical Greek to Modern Greek: Tracing back some changes in Greek

As was mentioned earlier, Classical Greek displayed obviation but this phenomenon is absent in Modern Greek. In this section, I focus on some changes that took place from Classical to Modern Greek with the aim of uncovering the conditions that license obviation. The diachronic research starts by identifying the specific period where the

relevant change from obviation to free reference occurred in complements of the subjunctive type. Next, I will argue that, contra the predictions made by the ISRH, the loss of infinitives cannot be responsible for the loss of obviation in Greek. Finally, I will identify another change that is contemporaneous to the emergence of free reference and that will turn out to be the key for explaining the phenomenon: the change in the syntactic realization of subjunctive mood.

3.1 Delimiting the object of study

There is clear evidence showing that obviation ceased to exist in Greek in 2AD (Joseph 1983). This is the Hellenistic period (3BC–4AD), a period between Classical Greek and Modern Greek (15) in which several drastic changes occurred in many aspects of the language. If we hypothesize that some specific change that affected subjunctive clauses around 2AD may be responsible for the shift from obviation to free reference we must make sure that it is subjunctive clauses that we are investigating and not other complement types. This section provides a brief description of the properties of the data involved in complements of volitional predicates both in Classical Greek and the following periods.

(15) |_____|_____|_____|_____|_____

5BC 3BC 1BC ***2AD*** 4AD

←Cl.Gr→←---------Hellenistic Greek---------→

Unlike paratactic contexts, subordination displays many different complement-types across languages (infinitives, subjunctives, inflected infinitives, nominalizations, Accusative cum Infinitive constructions, serial verb constructions, etc.). Correlating with this fact, it is well known that subordinate subjects are especially sensitive to binding effects. Thus, we find that dependent contexts often display restrictions on subjects such as coreference or obviation. Volitional contexts are no exception to these general features of hypotaxis and the history of Greek illustrates them well. Classical Greek employed bare infinitives where obligatory coreference holds, namely with exhaustive control predicates such as *begin* or *dare* as well as with the alike-subject reading of predicate *thelo* 'want' (16). The unlike-subject reading or obviation was expressed by *accusative with infinitive* constructions (17).

(16) *mē kai humeis thelete autou mathētai genesthai.*
QN even you.NOM.PL want.2PL his disciples.NOM become.INF
'Do you (perhaps) want to become his disciples?'

(17) *Voulomai toinun umas meta parri:sias exetasai ta paronta*
want.I then you.ACC with courage to.review the current
pragmata ti:i polei.
things the town.DAT
'Therefore I want you to review the issues of our town with courage.'
(Demosthenes *De Chersoneso*, 2.1)

The fact that obviation arises in the Accusative cum Infinitive construction is expected if these are ECM constructions, as argued by Mensching (2000). However, note that the goal of this paper is to investigate obviation in Subjunctive complements, not in ECM. In other words, although disjointness between pronouns in ECM and Subjunctives should ultimately be caused by identical basic conditions rather than by construction-specific idiosyncrasies, the present investigation focuses on whether some change occurred in subjunctives that may shed light on the change from obviation to free reference. Interestingly, we do find that obviation existed in Subjunctive Complements of volitional predicates for some time, as desbribed in the next paragraphs.

The situation attested in (16–17) changed quite drastically after Greek underwent some shifts in the complementation system. One change is the gradual loss of infinitives and its replacement by finite clauses (Joseph 1983, 1990), a property of the languages of the Balkan area. The loss of the infinitive was gradual. It started in the Hellenistic period, it continued in the Medieval period and was completed in Modern Greek (Joseph 1978/1990, 1983). In fact, certain predicates such as Exhaustive Control predicates resisted the change and continued taking infinitival complements until the medieval period (6AD–10AD). As for the predicate *want,* Roberts & Roussou (2003: 47) mention that in Early Hellenistic Greek: "The verb *thelo* showed a double pattern: when the matrix and embedded subject were coreferential (control) the infinitive was selected; when the two subjects were disjoint in reference, the *(h)ina*-complement was selected." They note that this situation reminds us of many modern Romance languages: Control is compatible with infinitives, while a subjunctive complement requires disjoint reference.

There was a period of confusion in the process of infinitive replacement. Thus, the older Accusative cum Infinitive construction and the innovative *(h)ina* plus subjunctive subordination are sometimes used coordinated in the same sentence.

(18) *thelō dè pántas hūmās laleîglőssais mallon de*
want.1SG but all.ACC you.ACC speak.INF tongues.DAT more.but
hina prophēteuēte.
CONJ prophesy.2PL
'I want you all to speak in tongues or rather to prophesy.'
(Lit. 'I want you all to speak in tongues but even more that you prophesy.')
(1 Cor.14:5, as cited in Joseph 2002)

The Romance-type pattern broke down in late Hellenistic Greek (2AD) when the *(h)ina* complement allowed for coreference as well. In other words, the subject of the subjunctive complement changed from displaying obviation to being free to refer to the matrix subject, as in (19). In terms of Binding Theory the new situation is exactly the one that we find in Modern Greek, i.e., free reference (20).

(19) *thelousin hoi Ioudaioi hina phoneusousin auton.*
want.3PL the Jews.NOM that kill.3PL him
'The Jews want to kill him.' (Acta Pilati II.2.5, as cited in Joseph 2002)

(20) *O Yanis$_i$ elpizi pro$_{i/j}$ na figi.*
the John hope.3SG pro PRT win.3SG
'John$_i$ hopes that he$_{i/j}$ wins.' (Greek, Varlokosta and Hornstein 1993, ex.21)

To summarize, the relevant data for the purposes of this paper have been identified. Early Hellenistic Greek displayed obviation in subjunctive complements of volitional predicates. The change came around 2AD in Late Hellenistic Greek where free reference became the rule. The next section will argue that, contrary to what the ISRH predicts, the loss of infinitives cannot be responsible for the change from obviation to free reference.

3.2 Greek and the loss of infinitives

It is a fact that subjunctives came to be selected by volitional predicates due to the general change that Greek underwent in its complementation system affecting infinitives. However, it does not follow from this observation that this general change is also responsible for the loss of obviation. In fact, contrary to the predictions made by the ISRH, infinitives cannot be directly involved in the loss of obviation.

The ISRH maintains that obviation arises in languages or contexts where infinitives (PRO) are allowed. In other words, the condition for obviation to arise is that infinitives (PRO) be possible. The prediction made by the ISRH for the Greek case is that infinitives must have disappeared by the time free reference emerged in around 2AD. However, this is not so. The loss of infinitives was gradual, and some predicates such as aspectual and modal predicates resisted the change until the Byzantine/Medieval period, from the 11th century onwards, and up to the 17th century in some cases according to Roberts & Roussou (2003).

Although things are a bit more complex in the case of predicate *want*, the prediction made by the ISRH does not hold for this predicate either: at the time free reference emerged (2AD) the infinitive was still available for the predicate *thelo*. Recall that in early Hellenistic Greek *want* could select two types of complements: the infinitive (coreference) and the subjunctive (obviation). Roberts and Roussou argue that the availability of two distinct complements for *thelo* (infinitive and finite clauses) in the Koine period created the conditions for a lexical split to occur: the *thelo+infinitive* would eventually become the analytic Particle expressing the Future Tense, namely *tha* (21).[4] On the other hand, *thelo+finite clause* eventually became the only complement type for expressing volition.

4. The development of future particles out of volitional predicates follows a universal path of grammaticalization according to Haspelmath (1989). See Bybee & Pagliuca (1987) for examples of this development in various unrelated languages of the world.

(21) *kathos to theleis mathei.*
as it want.2SG learn.INF
'As you will learn it.' (Morea 1197, as cited in Roberts & Roussou 2003)

What matters for our purposes is that, according to Roberts and Roussou, "in later stages (from tenth century onward), *thelo*+infinitive is mainly restricted to future, while *thelo+na* expresses volition, exactly as in MG" (Roberts & Roussou 2003: 47). This implies that, crucially, *thelo+infinitive* was still available in the volitional sense around the 10th century. In other words, infinitives were available for *thelo* in the volitional sense for eight more centuries after the loss of obviation. The conclusion is that infinitives had not disappeared when free reference emerged.

To conclude so far, Greek contains the two necessary ingredients to investigate whether the ISRH can be empirically sustained: the loss of infinitives and the change from obviation to free reference. The claim that the existence of obviation is determined by the (un)availability of infinitives has proven to be flawed. Infinitives persisted long after obviation was lost. The following section concentrates on another change that took place in the history of Greek: the syntactic realization of Subjunctive Mood.

3.3 What lies beneath: surviving changes in Mood

In this section I look into the details concerning another change that is contemporaneous to the emergence of free reference in Greek, but has never been related to it: the loss of morphological subjunctive mood and the consequent birth of a Subjunctive Complementizer. In section 5 I will argue that this change in the way in which subjunctive mood is encoded in the syntax is involved in the shift from obviation to free reference in the history of Greek.

Recall that we want to identify the factor responsible for the change in obviation in subjunctive clauses in Greek. We know that the crucial change took place in 2AD between Early and Late Hellenistic Greek (see section 3.1) and we have dispensed with the loss of infinitives as a possible cause (section 3.2). At first sight there is no apparent difference between the Early and Late Hellenistic subjunctive complements that may reveal the solution to the puzzle: they both contain the conjunction *(h)ina* (which was originally exclusively employed in purpose clauses in Classical Greek) and the embedded verb that is presumably in Subjunctive Mood. The schematic representations are provided in (22a–b).

(22) a. Early Hell. Greek: [DP_i want [C $DP_{*i/j}$ v-Subj]] OBV.
b. Roman Koine: [DP_i want [C $DP_{i/j}$ v-Subj]] FREE.

I suggest that what lies beneath the apparent parallelism in (22) is a change regarding the way in which subjunctive mood was represented in each period. Specifically, I will gather data that suggest two points. One point is that, contrary to the representations in (22), the Hellenistic period lost the morphological reflex of Subjunctive mood in embedded INFL. The second claim is that only later in the Roman Koine did the

conjunction *hina* become the Subjunctive Complementizer. One consequence of all this is that, unlike in the later period, Early Hellenistic Greek contained no indication of subjunctivity in the embedded clause. This asymmetry will be crucial in explaining the phenomenon of obviation as well as its absence in other subordination contexts in which we would expect it to arise (see section 4).

3.3.1 *Loss of subjunctive in* INFL

The loss of infinitives brought about the appearance of two types of finite clauses in Greek, which eventually converged into a regularized system opposing indicative to subjunctive mood. Specifically, complements introduced by *oti* took over the cases of epistemic modality, whereas *hina* clauses took over instances of deontic modality. Apart from the different choice of the Complementizer for each modality, the embedded predicate displayed some mood morphology. At first sight these facts seem to indicate that Hellenistic subjunctive clauses were fully spelled out as Subjunctive clauses, both in COMP and in INFL.

A closer look reveals that matters are quite different. INFL did display mood morphology in both Hellenistic Periods, but unlike the representations in (22), this morphology did not discriminate between indicative and subjunctive moods. Consider the relevant evolution: in Classical Greek subjunctive mood was morphologically represented in INFL. However, due to some important changes in the phonological system that started in the Postclassical Period and continued in the early Hellenistic period (3BC–1BC) the Subjunctive was no longer different from the Indicative in morphological terms. This is shown in example (23) from Philippaki-Warburton and Spyropoulos (2004), which represents the second person singular of the verb *grapho* 'I write' in Classical Greek and in Hellenistic Roman Koine (1BC–4AD):

(23)	Classical Greek	Hell. Roman Koine
Future Indicative	grapseis	γrapsis
Aorist Subjunctive	grapse:is	γrapsis

In particular, according to Philippaki-Warburton and Spyropoulos, "by the first century AD the distinction between indicative and subjunctive lacks a specific grammatical exponent, since verb forms are neutral as far as this distinction is concerned" (Philippaki-Warburton & Spyropoulos 2004: 799). Thus, although the schematic representations in (22) indicate that the embedded verb was in the subjunctive mood it must have been the case that there was no evidence as to whether the verb contained indicative or subjunctive morphology.

Yet, it is important for languages to reflect the indicative vs. subjunctive distinction. Bybee (1985) and Bybee et al. (1994), as cited in Philippaki-Warburton and Spyropoulos (2000), argue that "the grammatical distinction between indicative and subjunctive is fundamental" and that "a language that loses the morphological expression of this distinction is expected to try to recover it". This seems to be the motivation behind the gradual reanalysis of the conjunction *hina* as a subjunctive Complementizer that I describe next.

3.3.2 *The gradual birth of the Subjunctive C*

According to Roberts and Roussou (2003) and Philippaki-Warburton and Spyropoulos (2004), it is the loss of subjunctive morphology in INFL that led to the reanalysis of *(h)ina* from being a conjunction that appeared in purpose clauses to becoming the analytic subjunctive particle as we know it in Modern Greek.

The crucial point on the adoption of (*h)ina* as representative of subjunctive mood is that the process is gradual and *(h)ina* was not associated with Subjunctive Mood until the Roman Koine. In Roberts and Roussou's terms:

> What changes upon the loss of the morphological distinction was the position where 'mood´ features were spelled out. Mood in CG is associated with verbal inflection (. . .) from the period of the *Koine* onwards the realization of Mood is almost exclusively associated with some head in the C system.
>
> (Roberts & Roussou 2003: 85)

There are reasons to believe that *(h)ina* was not associated with Subjunctive Mood until the Roman Koine. In Classical Greek *ina* introduced adjunct purpose clauses. It was a conjunction that was followed by the verb in the subjunctive form. During the Hellenistic Period *ina* is further used in all purpose clauses, and it eventually replaced the alternative purposive conjunction *opos*. Between 1BC and 2AD *ina* also introduces complement clauses that replaced the infinitive (clauses after verbs of wishing, among others). After 2AD *ina* is not accepted in purpose clauses, and it is further extended to matrix clauses. Note that Greek matrix clauses never needed to be introduced by a Complementizer. This latter fact indicates that at this time *ina* has been fully associated with subjunctive mood, i.e., it has been grammaticalized to a subjunctive particle.[5] An example where *ina* is used in matrix clauses in the Koine is provided by Roberts and Roussou (2003):

(24) *e: de gune: ina fove:tai ton andra.*
the PRT woman PRT be.afraid.3SG the man
'The woman should be afraid of the man.'
(Eph. 5:33, New Testament, as cited in Roberts & Roussou 2003)

These details about the gradual nature of the grammaticalization process reveal a difference between *ina* in Early and Late Hellenistic Greek: only in the later period was *ina* fully grammaticalized as the subjunctive particle.

3.4 Summary

I have made two observations regarding subjunctive mood in the two Hellenistic periods. One is that Hellenistic Greek loses the distinction between indicative and

5. Philippaki-Warburton & Spyropoulos (2000, 2004) claim that the development of *na* as a Subjunctive Particle leads to the emergence of the functional category Mood, and that *hina* lowered from C to this new position. In contrast, Roberts & Roussou (2003) argue that what changed was the association of (mood) features from verbal inflection to Mood.

subjunctive mood in INFL (section 3.3.1.). The other is that this loss provokes the gradual association of subjunctive mood with the left periphery (*hina*), which is considered to be completed only from the Koine period onwards (section 3.3.2). These facts reveal that Early and Late Hellenistic Greek subjunctive complements differed in an important respect: whereas in the Early period the left periphery of the embedded clause was neutral to Mood distinctions, in Late Hellenistic Greek it is sensitive to fundamental Mood oppositions.

From a Binding Theoretic perspective, the hypothesis that Mood is involved in triggering obviation is far from straightforward. In contrast, surprisingly, empirical data seem to support it. Languages that contain a dual Complementizer system display free reference.[6] The exceptional phenomenon of obviation arises in languages that invariably employ the Indicative Complementizer as they lack a Subjunctive Complementizer.[7] This new picture is captured in (25). Section 4 discusses why binding should be sensitive to Mood in certain contexts.

(25) a. Early Hell. Gr: [DP_i want [C DP_{*i} v]] (Obviation)
b. Roman Koine: [DP_i want [C_{Subj} $DP_{i/j}$ v]] (Free Ref.)

4. Complementation: Parataxis, true embedding and hybrid instances

It is not obvious why and how Mood should affect any Binding Theoretic aspect, especially in view of the fact that not all complements in the subjunctive show obviation in those languages that display it in the familiar contexts. For example, Spanish (26) and (27) involve complements in the subjunctive form, but only (26) displays obviation.

(26) *Juan quiere [que esté preparado para las siete].*
Juan wants COMP be.3SG.SUBJ ready for the.PL seven
'$Juan_i$ wants $him^*_{i/j}$ to be ready by seven.'

(27) *Juan no cree [que esté preparado para las siete].*
Juan NEG believe COMP be.3SG.SUBJ ready for the.PL seven
'$Juan_i$ does not believe that $he_{i/j}$ will be ready by seven.'

6. For expository purposes, I have simplified the facts. Note that some languages do not contain a Subjunctive Complementizer per se, but employ a Subjunctive particle in Mood that presumably raises to CForce. This is the case of Modern Greek (Roberts and Roussou 2003). Thus, the correct generalization is that free reference is displayed by languages that encode Subjunctive Mood in the Left periphery of embedded clauses.

7. To my knowledge, it is Kempchinsky (1990) who first analyzed obviation as related to the nature of embedded C across languages. She provided examples from Romanian and Salentino as representative of the languages that lack obviation and employ a double C system.

Traditionally, subjunctive and indicative are related to true subordination (hypotaxis) and lack of subordination (parataxis), respectively. This is illustrated by (26–28): the predicate *querer* 'want' contrasts with *creer* 'believe' in that the former takes the subjunctive form and the latter the indicative. The unexpected case is (27), which shows that Subjunctive mood does surface in certain paratactic contexts. This suggests that, contra the traditional view, subordination-types and mood do not always go hand in hand.

(28) *Juan cree [que estará preparado para las siete].*
Juan believes COMP be.3SG.IND.FUT ready for the.PL seven
'Juan$_i$ believes that he$_{i/j}$ will be ready by seven.'

However, there is one generalization that is worth pointing out: whereas both indicative and subjunctive moods may surface with parataxis (27–28), true subordination never admits indicative mood, as illustrated by (29).[8] This suggests that, unlike parataxis, true subordination and subjunctive mood relate naturally. This is supported by the observation that some languages contain a Subjunctive Complementizer specifically for such contexts (which is distinct from the Indicative Complementizer, for example in Romanian). The relevance of this fact is that the source of Subjunctive Mood in the initial pair (26–27) may well not be the same.[9] If true, the structures involved in each case are not comparable and, as a consequence, the question of why obviation does not arise in (27) does not need to be addressed.

(29) **Juan quiere [que estará preparado para las siete].*
Juan wants COMP be.3SG.IND.FUT ready for the.PL seven
Lit. 'Juan wants that he will be ready by seven.'

Uriagereka (2005) argues that, indeed, (26) and (27) are different. The former involves true embedding or hypotaxis, but (27) includes properties of both parataxis and hypotaxis, hence the name *hybrid parataxis*. Let us elaborate on this.

Rather than correlating with mood, a more accurate picture of what hypotaxis and parataxis are is the following: Hypotaxis is the syntactic tool to express events and Parataxis represents more complex entities, namely propositions about events that are judged true (30). Thus, it is when the proposition is judged false that subjunctive mood arises (31).

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8. As one reviewer notes, this is a simplification. Borgonovo (2003), in a study relating negation and Mood, attests various instances where Mood choice is suspended in Spanish and Indicative is forced.

9. As a reviewer points out, the difference in the source of the subjunctive in (26) vs. (27) has often been noted. Stowell (1993) has termed them Intensional subjunctives (e.g., with *querer*) vs. Polarity subjunctives (e.g., with *no creer*).

(30) *Yo creo cierto que voy a morir.*
I believe certain that go.I to die
'I believe it certain that I am going to die.'

(31) *Yo creo falso que la tierra sea plana.*
I believe false that the earth be.SUBJ flat
'I believe it false that the earth is flat.'

Spanish *believe*-type verbs select a judgment small clause (32). Similarly, when clauses are involved as in (33), the proper analysis includes clausal extraposition in surface syntax (34).[10] Note that proposing a small clause implies the existence of two domains and the impossibility of Neg Raising since it would imply a violation of Huang's CED, as illustrated in (36).

(32) *Yo creo [eso [cierto]].*
I believe that true

(33) *Yo creo [[que el universo tenga un fin] posible].*
I believe that the universe have.SUBJ an end possible
'I believe that the universe should have an end possible.'

(34) *Yo creo [pro$_i$ posible] [que el universo tenga un fin]$_i$*

(35) *Yo creo [[que el universo no tenga un fin] posible].*
I believe that the universe not have.SUBJ an end possible
'I believe that the universe should not have an end possible.'

(36) **Yo no creo [pro$_i$ posible] [que el universo tenga un fin]$_i$*
I not believe possible that the universe have.SUBJ an end

Uriagereka claims that the situation is different in Hybrid Parataxis: the selection of the judgment small clause is delayed to the covert component.[11] In other words, in overt syntax, the relevant structures are hypotactic and involve a single clause, whereas in the covert component the addition of the small clause provokes two separate domains (38). This hybrid nature accounts for several facts: first, negative raising is possible in these contexts because negation does not move out of a subject island in the source sentence (i.e., no violation of the CED occurs). Second, the surfacing mood is subjunctive, the typical mood of embedding. Finally, the difference with respect to true embedding is that we find no obviation effects, which is due to the fact that the relevant structure involves two separate domains.

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10. According to Uriagereka the analysis in (34) involves a null pronoun or a neuter clitic, which are analogous to English *it* attested in parallel contexts.

11. The Author defends the possibility that null predicate TRUE is inserted covertly, since it respects the conditions for such a process stated in Chomsky (1995): it involves no phonetic features and it is appropriately cyclic.

(37) *Yo no creo [que venga Maria].*
I NEG believe COMP come.SUBJ Maria
'I don't believe that Maria will come.'
(from Yo creo [que no venga nadie])

(38) *Yo no creo [[que venga Maria] TRUE]*

To conclude, although Hybrid Parataxis surfaces in subjunctive mood, it is not comparable to true embedding since the relevant structures are different. As a consequence, we need not worry about the fact that obviation does not surface in hybrid parataxis in Spanish-type languages. In making the distinction between hypotaxis and hybrid parataxis, this section has revealed an interesting aspect of true subordination: it relates naturally to subjunctive mood. I elaborate on this below.

5. The analysis

The hypothesis that Mood is involved in triggering obviation was not straightforward at the end of section 3, and that was so mainly because not all complements in the subjunctive mood display obviation. The ideas in section 4 have helped us change this perspective: on the one hand, it has been shown that some of the complements in the subjunctive mood do not involve true embedding and should be left aside for the purposes of this study. On the other hand, it has been pointed out that subjunctive mood is naturally related to true embedding.

Note that matrix predicates determine whether true embedding is involved or not. This can be captured by postulating that, in true embedding contexts, such predicates select for a Complementizer of the hypotactic sort. Of course, this is trivial for those languages that contain a subjunctive Complementizer (or some subjunctive particle in the left periphery), but not for those that do not have one. The latter must resort to the default Indicative Complementizer and the question is whether this selectional *failure* has any consequences in the derivation. I will argue that it does, and that one of these consequences is the obviation effect.

Selecting a Complementizer of the hypotactic sort implies that the semantics involved is of the event type, not of the propositional type (Rochette 1988, Ormazabal 1995). More specifically, the event denoted by the embedded clause is an unrealized event (Haspelmath 1989). It is reasonable to assume that hypotaxis includes an [irrealis] (henceforth [IRR]) feature in some functional head in the left periphery, and this head is likely to be Mood, which corresponds to Fin in Rizzi's (1997) articulated C structure (Rivero 1994).

(39) C_{Force} . . . (Topic) . . . (Focus) . . . Fin/Mood . . .

One reason for proposing that Mood hosts [irrealis] is that this functional head never hosts Indicative morphology. Within the realm of languages that encode Subjunctive

mood in the left periphery, some languages such as Romanian or Albanian employ a subjunctive C as well as a Subjunctive modal particle. The former is hosted in C-Force and the latter in Mood. Others, such as Greek, lack a Subjunctive C but employ the Subjunctive particle in Mood (*na*), which arguably raises to C-Force (Terzi 1991, Roussou 2000). Thus, for some reason, C-Force relates to Mood. This relation can be stated in terms of Agree, whereby Mood values an unvalued [IRR] feature in C-Force, as in (40).

(40) . . .[*v*. . . .[CForce. . . . . .Mood. . . . . .T. . . . . *v*]] AGREE
~~u~~[~~IRR~~] [IRR]

A logical extension of certain ideas in Chomsky (2005) and Lasnik & Uriagereka (2005) suffices to understand why Obviation arises in languages whose left periphery is neutral to mood distinctions.

Chomsky (2005) claims that T's phi and Tense features are derivative from C. My proposal is that we extend this idea to [IRR]. In fact, the reason for suggesting that T does not contain phi or tense features equally applies to [IRR]: T lacks these features in the lexicon and it only manifests them when it is selected by C. As a preliminary to the analysis, note that the transfer of [IRR] from C to T is trivial in languages that employ Mood categories, but less straightforward for those that do not. This will have consequences, as will become clear below.

Next, consider the definition of Binding Domain in Lasnik and Uriagereka (2005), which replaces the concept of lexical Governor by that of Probe:

(41) X is the binding domain D for Y iff X is the minimal maximal projection which includes Y and Z, where Z is Y's probe.

Chomsky's new Probe-Goal system heavily relies on the properties of C in the sense that C must contain the necessary features to transfer to T. In fact, T does not have any of the agreeing features and the Agree relation with the subject is ultimately established through the Phase Head C. Considering the relevance of Phase Heads in this system, I suggest that it is reasonable to assume that the definition of Domain should include Phase Head(s), as in (42).

(42) X is the binding domain D for Y iff X is the minimal maximal projection which includes Y, Z and PH, where Z is Y's Probe and PH the Phase Head(s) that transfer(s) Agreeing features to Z.

Let us account for the absence of obviation that we find in languages like Late Hellenistic Greek. These languages contain a functional category that is associated with [IRR] in the Lexicon, which will merge in Mood in syntax. The relevant part of the derivation proceeds as follows: [IRR] in the Mood head values the unvalued [IRR] feature in C-Force through Agree (43). C-Force contains all the agreeing features (mood, phi, tense) and transfers them to T. Assuming the definition of Domain in (42), the Domain for the embedded subject is the embedded clause itself: it includes the embedded

subject, its Probe (embedded T) and the Phase Head (C), which endows T with the relevant features. As expected, the embedded subject is free in reference.

(43) [*v*. . . . . .[C_F . . . . . .Mood . . . T . . . DP . . . *v*]]
[~~uIRR~~] [IRR]

(44) [*v*. . . . [C_F. . .Mood. . . . . .T. . . . . .DP. . . . . .*v*]]
[uϕ] [Case]
[IRR] [ϕ]

Languages whose left periphery is neutral to mood distinctions behave differently. No functional category is associated with [IRR] in the Lexicon. As a consequence, Mood cannot establish an Agree relation with C-Force. I suggest that, in such instances, the next higher Phase Head (*v*) gets involved. In particular, I suggest that *v* contains [IRR] and values the unvalued [IRR] in C-Force (see more on this below). This implies that embedded T inherits [IRR] only when the next matrix Phase Head *v* is merged with its argument structure. Assuming the definition of Domain in (42), we expect obviation to surface in such contexts: the Domain that includes the embedded subject, the local Probe, and the Phase Heads is matrix *v*P, as represented in (45). The system correctly predicts that obviation is a local phenomenon, since the Domain extension takes place only to the next higher Phase Head.

(45) [DP_i. . . . .*v*. . . . . .[C_F . . . Mood. . . . .T. . . . . .$DP_{*i/j}$. . . . . .*v*]]
[IRR] [~~uIRR~~] [uϕ] [Case]
[IRR] [ϕ]

There are reasons to believe that predicates that select hypotactic complements are associated with [IRR] in the Lexicon. Haspelmath (2005) notes that, rather than employing a lexical predicate meaning *want,* some languages make use of affixes corresponding to more general non-realized tense-mood forms which have been tagged as *irrealis* or as *future* by the grammarians of those languages. One example is provided in (46) in Tugun, a Central Malayo-Polynesian language spoken in Indonesia.

(46) *Marr-ala* *la* *hira.*
3PL.Irrealis-take for them
'They wanted to take them for themselves.'

Another reason for connecting predicate *want* to [IRR] comes from historical records. It is well-known that many future forms have historically evolved from verbs of volition.[12] Some examples include the English particle *will* and Modern Greek *tha.* The former has its origin in Old English *will* meaning 'want', and the latter in the construction

12. As cited in Haspelmath (1989), Bybee & Pagliuca (1987) show that this development is not restricted to European languages. Rather, it is attested widely in the languages of the world.

thelo 'want'+*INFINITIVE* (cf. section 3.2). If functional and lexical items differ in that only the latter have descriptive content, we may state that hypotactic predicates are somewhat special in this respect.[13]

6. Conclusions

This paper has studied the syntactic phenomenon of obviation from both a synchronic and a diachronic perspective. I have suggested that the standardly assumed Infinitive vs. Subjunctive Rivalry Hypothesis as a possible explanation of the phenomenon cannot be sustained on empirical and theoretical grounds.

A close investigation of the changes that occurred in the history of Greek when obviation disappeared has suggested that the fact involved in triggering the loss of obviation may be the birth of a Mood Particle for Subjunctive clauses. In fact, showing or not the basic mood opposition in the left periphery has consequences for Binding Theory, as typological data seem to support: only those languages that do not distinguish between indicative and subjunctive morphology in the left periphery of the embedded clause display obviation.[14]

I have proposed a reformulation of the definition of Binding Domain which, apart from the familiar elements, includes the Phase Heads that ultimately transfer agreeing features to T. This is a logical move if we adopt the new system in Chomsky (2005), whereby the ultimate elements that function as Probes are Phase Heads. Additionally, I have suggested that Mood be included within the features that C must transfer to T along with phi and Tense features.

Syntactically, obviation is a direct consequence of the type of embedding in which it arises, namely true embedding. This type of embedding naturally relates to Subjunctive mood, and more specifically to unrealized events. Thus, matrix predicates in true

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13. One interesting example that relates future tense and volition comes from Basque. Apart from the regular volitional predicate *nahi* 'want', it is interesting that Basque explicitly shows the Future marker in another type of construction expressing volition, which is equivalent to the English 'I would like to'.

i. *Nik gustora jango nuke beste sagar bat.*
I.ERG willingly eat.FUT would another apple one
'I would like to eat another apple.'

14. Encoding or not encoding Mood in the left periphery has consequences beyond obviation. Particularly, Progovac (1993b) claims that Domain extension for Negative Polarity licensing, clitic climbing and Topic preposing takes place only when INFL and COMP can delete at LF. Deletion occurs unless INFL and COMP contain other unrecoverable material. Interestingly, she considers Subjunctive Complementizers as meaningful, and hence, undeletable.

embedding invariably select for a C of the hypotactic sort, i.e., C with an unvalued [IRR] feature. This feature is valued by a [IRR] feature that is associated to a subjunctive Mood particle in the lexicon. This happens in languages that contain a Subjunctive Mood particle. In those languages that do not have one, the matrix predicate values the unvalued [IRR] feature in C. Assuming the new definition of Domain stated above, the matrix Phase Head (*v*) must be included in the Domain, which amounts to saying that the embedded and the matrix subject are in the same Domain, causing local obviation.

The proposal put forward in this paper accounts for the existence of language variation and language change with respect to obviation in a simple way. Specifically, in the Principles and Parameters framework, variation and change refer to the way in which properties of functional lexical items are realized in the Lexicon. Thus, variability is expected if languages vary with respect to the association of some functional item with [IRR]. Similarly, if language change is the result of language acquisition, as Lightfoot (1979, 1991, 1998) suggests, the change from obviation to free reference must have involved a new association of [IRR] with some lexical item in the Lexicon. In the Greek case studied in section 3, *hina* ends up associated with [IRR] when it becomes the only exponent of Subjunctivity in Late Hellenistic Greek.

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Romance infinitives with subjects, subjunctive obviation and Control Theory*

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The present article investigates Romance infinitives with nominative subjects – the so-called inflected and personal infinitives – in relation to the problems that they pose for a theory of Control, on the one hand, and subjunctive obviation accounts, on the other hand. It is argued that: (a) obviation accounts cannot be used to explain the non-obligatory control properties of inflected infinitives because the latter seem to display few of the properties standardly attributed to subjunctives; (b) Case-driven accounts (Bošković 1997), Movement-driven accounts (Hornstein 1999) and Attract-based accounts (Manzini and Roussou 2000) cannot capture the data in question either; (c) an analysis can be provided by exploiting the notion of *Agree* (Landau 2000).

1. Introduction

The goal of this article is twofold: (a) to investigate the problems that inflected and personal infinitives pose for Control Theory, and more pertinently whether such a theory makes the right predictions about inflected and personal infinitives; (b) to examine whether the disjoint reference effects that inflected and personal infinitives exhibit can be better captured by analyses concerned with subjunctive obviation.

Infinitives are trivially considered to license PRO, a covert null-Case pronoun, which represents the understood subject of an infinitive complement and whose interpretation is controlled by the *upstairs* subject/object. However, two Romance infinitive constructions (cf. (1) and (2)) deviate from this canonical pattern of obligatory control (OC) and have their subject position filled by a phonetically realised lexical noun (or pronoun), which has nominative Case, and is in disjoint reference with the upstairs subject (cf. Mensching 2000, Sitaridou 2002 for a pan-Romance overview of these constructions).

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(1) *Penso terem eles comprado o livro.*
think.1SG have.INF.3PL they bought the book
'I think that they have bought the book.' (Portuguese, Ambar 1994: 25)

(2) *Antes de actuar Caballé, el público estaba expectante.*
before of perform.INF Caballé the audience was expectant
'Before Caballé performed, the audience was expectant.'
(Spanish, Rigau 1995: 280)

In other words, (1) and (2) license *pro*, which normally represents the understood subject of a finite clause. On an empirical level, the generalisation put forward by Sitaridou (2002) is the one in (3):

(3) Romance infinitives allow for nominative subjects in subject and adjunct position, but crucially, they cannot surface as complements unless : (a) they bear agreement or (b) are introduced by a complementizer.

Hence, the grammaticality of (1), (2) and (5), and the ungrammaticality of (4), respectively.

(4) **Lamento (ellos) perder (ellos) los documentos.*
regret. 1SG (they.NOM) lose.INF (they.NOM) the documents
'I regret that they lost the documents.' (Spanish, Sitaridou 2002: 189)

(5) *Non keljo *(a) vénnere tue.*
not want.1SG to come.INF you.NOM
'I don't want you to come.' (Sardinian, Jones 1993: 281)

It should be noted that examples such as (6) are not counter-evidence to the empirical generalisation in (3).

(6) *Mario afferma non essere lui in grado di affrontare*
Mario maintains not be.INF he.NOM in position to face.INF
la situazione.
the situation
'Mario maintains he is not able to face the situation.' (Italian, Rizzi 1982: 79)

(6) is a learned residue of the Latin *Accusativus cum Infinitivo* (AcI) construction because: (a) the availability of lexical subjects with infinitives is restricted stylistically since it is limited mainly to the literary/formal language; (b) it only occurs with the infinitives of *essere* 'be', *avere* 'have', *dovere* 'must', *potere* 'can', *trattarsi* 'be concerned', *esistere* 'exist'; (c) it can only be introduced by verbs such as *affermare* 'affirm', *confermare* 'confirm', *ritenere* 'claim', *pensare* 'think'. Additionally, further evidence that (1), (2) and (6) are not the same construction comes from diachrony (cf. Sitaridou 2002) since (6) is not the source of either (1) (cf. also Martins 2001) or (2) (cf. Sitaridou 2002, 2007).

Besides the obvious problem of what the mechanics of the nominative Case licensing mechanism are, these two constructions are also problematic for a theory of Control. I concentrate on this issue in this paper, which is a companion paper to

Sitaridou (2002, 2006, 2007), where the synchrony and diachrony of Romance infinitives is discussed. I investigate whether the behavior of inflected and personal infinitives can be captured within an account that is inclusive of the non-control effects and properties they display rather than exclusive. To put it differently, Control Theory is conceived in such a way that inflected and personal infinitives cannot receive a straightforward explanation since control theories are preoccupied with the properties of simple infinitives, hence with control and not the lack thereof. For this reason, the problem will also be stated within obviation accounts, whose primary goal is to explain obviation effects in Romance subjunctives. Recall that inflected and personal infinitives exhibit obviation effects, which are canonically found only in Romance subjunctive constructions.[1] Given that obviation theories account for disjoint reference effects, they seem more promising for an account of the properties of inflected and personal infinitives.

The conclusions of the present paper will be the following: (a) obviation accounts cannot be used to explain the non-obligatory control (NOC) properties of inflected

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1. One of the reviewers raises the issue of whether inflected infinitives and personal infinitives obligatorily display disjoint reference effects or not. Although for the personal infinitives this is incontestable, for inflected infinitives – always according to the reviewer – this is questionable. For the reviewer it is possible to construct examples with coreference such as the ones below:

i. *Eles foram embora para não se encontrarem com o reitor.*
they went away for not they.REF meet.INF.3PL with the dean
'They left so that they wound't meet the dean.'

ii. *?Os deputados lamentam terem perdido os documentos.*
the deputies regret have.ING.3PL lost the documents
'The deputies regret that they have lost the documents.' (Portuguese)

Crucially, the inflected infinitive in (i) is an adjunct; hence we have an overt complementizer which constitutes a different *phase*. Likewise, in (ii) we also have *terem* which indicates again T-to-C movement and hence it is again a different *phase*. The reviewer does agree that example (ii) is not fully grammatical (although it is attributed to a different reason than obviation, namely the eventive nature of the embedded predicate). Contrast (ii) with (iii):

iii. *Os deputados lamentam estarem sempre a perder os documentos.*
the deputies regret be.INF.3PL always to lose.INF the documents
'The deputies regret always losing their documents.'

The reviewer finds (iii) grammatical although it is acknowledged that it sounds "somewhat redundant". For our purposes, it is noted that: (a) there is a considerable amount of variation among native speakers with regard to the inflected infinitives (from speakers for whom inflected infinitives are wholesale ungrammatical to speakers who accept no inflected infinitives with coreference to speakers who accept (i) to speakers who accept all); (b) even if inflected infinitives allow co-reference, still this does not change the argumentation presented in this paper; (c) disjoint reference is obligatory with personal infinitives. For the remainder of the paper we consider the grammar(s) for which (34) is ungrammatical/infelicitous(see p.202).

infinitives because the latter seem to display few of the properties standardly attributed to subjunctives; (b) Case-driven accounts (Bošković 1997), Movement-driven accounts (Hornstein 1999) and Attract-based accounts (Manzini and Roussou 2000) cannot capture the data in question either; (c) the way out of these unaccommodating results is to formulate an analysis which makes use of the notion of *Agree* (Landau 2000). The non-obligatory control properties of inflected and personal infinitives are derived from Agree not applying at C^0 (in the sense of Landau 2000), due to either agreement features on the lower clause or an overt complementizer. This way, the matching of features between the matrix DP with the T+Agr features of the infinitive subject is blocked, hence the non-controlled interpretation.

2. Control and inflected infinitives: Case-driven accounts

In the next sections three different theories of Control are assessed with regard to their ability to account for the two non-canonical configurations, namely the inflected and the personal infinitives.

Bošković's (1997) analysis offers an account of infinitival complementation which is based on a Case-theoretic approach to the distribution of PRO as well as the s-selectional properties of the relevant predicates. To put it simply, PRO is reduced to s-selection. He develops his analysis building, firstly, on Chomsky and Lasnik's (1993) account of PRO. They observe that PRO behaves like other arguments in moving to Case-checking positions, as in (7):

(7) He never expected PRO to be found.

On the basis of such data Chomsky and Lasnik propose that: (a) PRO is always Case-marked; (b) must undergo NP-movement from non-Case positions to Case-positions; (c) it is not allowed to undergo NP-movement from Case positions even if it is to escape government; (d) PRO is marked for null Case. The latter can only be sanctioned on PRO and checked under a Spec-head configuration with a non-finite T.

Secondly, Bošković employs Stowell's (1982) analysis of control infinitives as tensed complements, and ECM and raising complements as tenseless. He discusses three environments where PRO can show up: ECM, raising and control. He demonstrates that the temporal properties of the infinitives regulate the distribution of PRO in the above contexts. More concretely, he claims that [+tense] T licenses null Case, whereas [–tense] T does not. He identifies control environments as the ones that are [+tense] T and therefore license null Case, and ECM/raising as the ones that are [–tense] T, and therefore do not.

To illustrate, according to Bošković, control verbs, such as *try*, select a tensed complement, which can consequently license null Case on PRO under a Spec-head agreement. Crucially, ECM verbs, such as *believe*, because they do not select for a

tensed complement, fail to mark PRO with null Case. This explains why (8a) is grammatical, whereas (8b) is not:

(8) a. I tried to leave.
b. *I believed to be intelligent.

Furthermore, Bošković demonstrates that factives, such as *hate*, and implicatives, such as *manage*, can be grouped together with control verbs since both classes of verbs entail some sort of presuppositions whose content is not subject to truth/falsity values.

Let us now consider whether such an analysis can accommodate the inflected and personal infinitives in a principled way. The first point to make is that in Portuguese, control verbs, such as *querer* 'want', and factives, such as *lamentar* 'regret', do not behave in a similar manner with regard to the subcategorisation of inflected infinitives. The former do not select an inflected infinitive whereas the latter do so. Compare (9) with (10):

(9) **O João quer as crianças comerem o bolo.*
the John wants the children eat.INF.3PL the cake
'John wants the children to eat the cake.'

(10) *Lamento os deputados perderem os documentos.*
regret.1SG the deputies lose.INF.3PL the documents
'I regret that the deputies lost the documents.' (Portuguese)

What the above examples show is that the two verbs, *querer* and *lamentar*, although they fall under the same umbrella according to Bošković's analysis, when it comes to selecting an inflected infinitive, they behave differently.

Secondly, consider another pair, which poses the same problem:

(11) *Penso terem eles perdido os documentos.*
think.1SG have.INF.3PL they.NOM lost the documents
'I think that they have lost the documents.'

(12) *Prometemos a Ana comprar(mos)-lhe um livro.*
promise.1PL to Ana buy.INF.(1PL)-her a book
'We promised Ana to buy her a book.' (Portuguese)

As previously, two verbs such as *pensar* 'think' and *prometer* 'promise', which according to Bošković should belong to different classes –the former being an ECM and the latter a control verb–, behave similarly when it comes to selecting for an inflected infinitive. This observation is essentially the same as Kayne's (1981) initial observation that French does not follow this pattern either. Consider (13) and (14):

(13) *Paul croît PRO être parti tôt.*
Paul believes be.INF left early
*Paul believes PRO to have left early.'

(14) **Paul croît Anne être intelligente.*
Paul believes Anne be.INF intelligent
'Paul believes Anne to be intelligent.' (French)

Bošković's answer to the above problem is that French prepositional infinitive complements are [+Tense] since they can receive a non-habitual interpretation. However, if we adopt this explanation, then we have to modify the claim about raising verbs which, on Bošković's terms, are [–Tense], but in Portuguese, when selecting for an inflected infinitive, do not trigger raising. Compare (15) with (16):

(15) **As crianças parecem falarem português.*
the children seem speak.INF.3PL Portuguese
'The children seem to speak Portuguese.' (Portuguese)

(16) The children seem to speak Portuguese.

A third problem with Bošković's analysis is that, if control boils down to s-selection, it is difficult to explain how in Portuguese the subcategorisation frame of a single entry does not remain stable. To illustrate, consider examples (17) and (18):

(17) *O João lamenta perder os documentos.*
the John regrets lose.INF the documents
'John regrets that he lost the documents.'

(18) *O João lamenta os deputados perderem os documentos.*
the John regrets the deputies lose.INF.3PL the documents
'John regrets that the deputies lost the documents.' (Portuguese)

In both examples the semantics of the verb *lamentar* remains stable since both sentences presuppose the truth of their complements. However, on Bošković's account, it is predicted that only PRO is possible. This prediction is not borne out by (18).

The implication drawn from these three sets of examples is that Bošković's generalisation is, firstly, language specific, since there are cross-linguistic differences in the subcategorisation frames of verbs with similar semantics and their respective selective requirements. Secondly, the semantics of a single verb is not stable, a rather unexpected conclusion.

3. Control and inflected infinitives: Movement accounts

Hornstein (1999) analysed OC as a result of A-movement that displays the characteristics of DP-trace. He distinguishes between OC PRO and NOC PRO, the former having: (a) a local c-commanding antecedent; (b) a sloppy reading under ellipsis; (c) no split antecedents, whereas the latter has the opposite reading. To illustrate, consider the impossibility of split antecedents. If PRO is the result of DP movement from the embedded clause to an appropriate position in the matrix clause, split antecedents are not possible, because a DP cannot move to two different positions at the same time.

Moreover, Hornstein's model treats theta roles as dischargeable features similar to morphological features. It also allows multiple theta features on the same DP, thus effectively abandoning the theta-criterion, which was always one of the reasons why

PRO was required. OC is reduced to a subtype of raising that targets a theta position –or more than one–, whereas raising targets an athematic position.

On Hornstein's analysis, OC PRO is a locally bound anaphor and NOC PRO is a locally bound pronoun. This assumption goes against a binding approach which views PRO as both a pronoun and an anaphor. It follows that the empty category (*ec*) in OC constructions is PRO while the *ec* in NOC constructions is *pro*.

In the spirit of Hornstein, Pires (2002) argues in favor of an A-movement analysis of inflected infinitives in Portuguese. He demonstrates that the three aforementioned properties which hold for simple infinitive constructions in Portuguese (cf. (19), (21) and (23)), crucially do not hold for inflected infinitive complements (cf. (20), (22) and (24)). Firstly, Pires considers the need for a local c-commanding antecedent in examples (19) and (20). PRO in the embedded infinitive clauses in (19) in Portuguese must have a local antecedent in the matrix clause. That antecedent must also c-command PRO. So, in (19) the entire DP in the matrix clause is the only possible antecedent for PRO in the embedded clause.

(19) *[Os pais do Paulo$_j$]$_k$ lamentam PRO$_{*j/k}$ chegar tarde.*
[the parents of.the Paulo$_j$]$_k$ regret PRO$_{*j/k}$ arrive.INF late
'[Paulo$_j$'s parents]$_k$ regret PRO$_{*j/k}$ arriving late.'

(20) *[Os nossos$_j$ pais] lamentam pro$_j$ chegarmos tarde.*
[the our$_j$ parents] regret pro$_j$ arrive.INF.1PL late.
'Our parents regret our arriving late.' (Portuguese, Pires 2002: 150)

Interestingly, a local c-commanding antecedent is not needed for the subject of the embedded infinitives in (20). With inflected infinitives, the subject is *pro* and can therefore be disjoint in reference from any DP in the matrix clause.

Moving to the second test, Pires applies the sloppy reading under ellipsis test and shows that the ellipsis material in (21) (which is indicated in parenthesis) only allows a sloppy reading. For instance, when the ellipsis material *regrets to have lost* is interpreted in (21), it can only mean that 'Silvia herself regrets her own losing.' This contrasts directly with example (22), where the second conjunct must be interpreted as 'Silvia regrets *our losing*', corresponding to a strict interpretation of the ellipsis material.

(21) *O Paulo$_j$ lamenta PRO$_{j/*k}$ ter perdido e a Silvia também.*
the Paulo$_j$ regrets PRO$_{j/*k}$ have.INF lost and the Silvia too.
'Paulo regrets having lost and Silvia does too.' (= Silvia regrets to have lost.)

(22) O *Paulo$_j$ lamenta pro$_k$ termos perdido e a Silvia também.*
the Paulo$_j$ regrets *pro*$_k$ have.INF.1PL lost and the Silvia too
'Paulo regrets our losing and Silvia does too.' (= Silvia regrets our losing.)
(Portuguese, Pires 2002: 151)

Finally, Pires applies the third test, namely the impossibility for split antecedents that distinguishes the OC properties of simple infinitives from the NOC properties of inflected infinitives. In (23), PRO in the simple infinitive rejects an interpretation in

which both *I* and *Maria* form a set that behaves as the antecedent for PRO. In other words, there is no possibility of split antecedents for PRO. On the contrary, in (24) *pro* is co-referential with a set of elements that can include both *I* and *Maria*, hence the possibility for split antecedents.

(23) *Eu*$_j$ *convenci a Maria*$_k$ *PRO*$_{k/*j+k}$ *a viajar com o Paulo.*
I$_j$ convinced the Maria$_k$ PRO$_{k/*j+k}$ to travel.INF with the Paulo.
'I$_j$ convinced Maria$_k$ PRO$_{k/*j+k}$ to travel with Paulo.'

(24) *Eu*$_j$ *convenci a Maria*$_k$ *PRO*$_{j+k}$ *a viajarmos com o Paulo.*
I$_j$ convinced the Maria$_k$ PRO$_{j+k}$ to travel.INF.1PL with the Paulo.
'I$_j$ convinced Maria$_k$ that we$_{j+k}$ (should) travel with Paulo.'
(Portuguese, Pires 2002: 151)

Crucially, what licenses NOC subjects, under such an analysis, is inflectional morphology. There are however structures, such as the personal infinitive, that license a NOC subject despite the lack of any agreement morphology on the infinitive. Consider (2) (repeated here for convenience as (25)):

(25) *Antes de actuar Caballé, el público estaba expectante.*
before of perform.INF Caballé the audience was expectant
'Before Caballé performed, the audience was expectant.' (Spanish)

Under Hornstein's analysis, (25) is predicted to be ungrammatical. By virtue of no agreement on the infinitive, the example in (25) would be considered as an instance of OC, whereby the empty category in the embedded Spec-TP is filled by PRO. This would have the unwanted result of relating the embedded Spec-TP with the matrix one. However, the infinitive subject – in this case *Caballé* – forces a NOC interpretation. It is therefore not clear how personal infinitives can be treated under such an account.

4. Control and inflected infinitives: *Attract*-driven accounts

Manzini and Roussou (2000) provide an alternative analysis to control and raising that dispenses with the postulation of empty categories, such as PRO and A-traces.[2] According to them, control reduces to the association of one DP argument with two thematic positions, whereas raising is the result of one DP associated with one thematic position. The association between DPs and thematic positions is accomplished by means of either Move F or binding.

2. Manzini and Savoia (2000) extend this analysis to *pro*, arguing for its elimination. For them, *pro* corresponds to an unrealised subject position and, under this definition, *pro*-drop corresponds to lack of an overt realisation of the nominal features of the subject.

More concretely, they base their analysis on the assumption that thematic roles can be reduced to features (cf. Hornstein 1999 for a similar view). A result of considering thematic roles as features is that they can be manipulated by syntactic operations once they join the computation. This approach does not fall into the trap of having rigid subcategorisation frames (cf. Bošković's 1997) because thematic properties are determined by the aspectual properties of the predicate; hence it avoids making the wrong predictions across languages. These aspectual properties of the predicates determine which appropriate configuration should be projected in order to license the thematic features. A consequence of such an approach that treats thematic properties as features is that it allows arguments to be associated with more than one theta role (cf. Hornstein 1999 for a similar view).

Additionally, there is a distinction between thematic positions and argument positions. The former are those thematically determined, i.e., by the predicate, whereas argument positions correspond to the D-feature, which furnishes the DP with *phi*-features (as well as ± definite features). Manzini and Roussou (2000) argue that DPs are merged directly in the position where they surface in order to check the strong features of the inflectional head in question (contra Hornstein 1999). It is from their argumental position that they attract the relevant theta roles (hence why dubbed *Attract*-based). The attraction of thematic features can be viewed either as an instance of Move F, whereby the theta-role moves to I, or as binding, according to which a binding dependency is formed between the DP and the theta property. An important corollary of the fact that DPs are merged to their argumental position is the elimination of DP-traces (contra Hornstein 1999) and the consequent lack of reconstruction effects at LF.

Turning to the technical implementation of the proposal by Manzini and Roussou (2000), they assume that the infinitival I has no D feature. It is then predicted under their analysis that the DP is merged directly in the position associated with a D feature, namely the matrix Spec-of-IP. From that position it attracts both the thematic role of the matrix predicate and the one of the embedded predicate, hence giving rise to obligatory control. Manzini and Roussou's (2000) analysis of the infinitival I as having no D-feature goes against Chomsky's (1995) analysis whereby the presence of a D-feature is necessitated by the EPP. This difference in Manzini and Roussou's account stems from the different assumptions about the content of the AgrSP node of an articulated IP. In Chomsky (1995), AgrSP has no semantic content whereas, for Manzini and Roussou (2000), AgrSP has semantic content, on the basis that this is the position that realises the nominal features of the subject (cf. Roberts and Roussou 2002). Crucially, in Manzini and Roussou's (2000) framework, Case and D positions are not distinguished since there are no Case positions which are independent of argumental positions.

There are two problems when such an analysis is applied to inflected and personal infinitives. Firstly, the fact that the infinitival I has no D-feature cannot be maintained in view of the inflected and personal infinitive data since both have filled subject positions. And even if the problem posed by inflected infinitives can be circumvented by the fact that it has agreement, and therefore an additional thematic feature, that of the

subject, the problem still remains for Manzini and Roussou's (2000) analysis, namely how to reconcile the fact that the inflected infinitive has a morphological make-up that remains infinitival (and therefore under their analysis no D-feature is possible).

Secondly, the claim that there are no Case positions independent of argumental positions is disproved because in the personal infinitives there are Case positions that are independent of argumental positions. In other words, the infinitive has no agreement, therefore no argument position but it does have a nominative subject and therefore a Case position. Note that, under Manzini and Roussou's (2000) analysis, there is no room for advocating abstract agreement in order to license Case, since the former would make the undesirable prediction that thematic roles can also spring up, which apart from the personal infinitives and maybe some other cases is not borne out. The converse is also true: there are argument positions which are independent of Case positions. Consider the case of MG aspectual subjunctives (cf. Sitaridou 2002, 2006) as in (26):

(26) a. *O Yanis arxise na klei.*
the John.NOM started to cry.3SG
'John started to cry.'
b. **Arxise o Yanis na klei.*
started the John.NOM to cry.3SG
'John started to cry.' (Modern Greek)

In (26b) there is agreement in the embedded verb, hence an argument position but crucially no Case position, as the unavailability of raising the subject indicates.

5. Subjunctive obviation: Some background notions

Given the unaccommodating results obtained by the study of Control vis-à-vis inflected and personal infinitives, in the next sections subjunctive obviation is pursued as a means of explaining the non-controlled interpretation of the inflected infinitive subject. Inflected infinitives will be tested in order to verify whether they exhibit any of the properties demonstrated by subjunctive complements.

Traditionally, the disjoint reference requirement, or the obviation phenomenon in subjunctive clauses, obtains when the pronominal subject of a subjunctive clause cannot be co-referent with the matrix subject. To put it differently, obviation is a requirement on a position to be disjoint in reference to a matrix element:

(27) $[DP_i \ldots \text{I-VP} \ldots [\ DP_{j/*i} \ldots IP_{Mood}]]$

Languages display obviation effects in diverse syntactic environments. In English we find such effects in verbal gerunds (28):

(28) He_i would much prefer his_k going to work.

In most Romance languages these syntactic environments are the subjunctive complements of predicates that require their subjects to be disjoint in reference to the matrix subjects (hence the term subject obviation), as shown in (29):[3]

(29) *Él$_i$ quiere que él/pro$_{*i/k}$ vaya a la universidad.*
He$_i$ wants that he/*pro*$_{*i/k}$ go.SUBJ.3SG to the university
'He$_i$ wants him$_{*i/k}$ to go to university.' (Spanish)

As a matter of fact, disjoint reference is obligatory, and not optional, in the above example, as well as in all similar environments in Romance languages. However, note that in Romanian (Farkas 1984, Kempchinsky 1986), Greek (Roussou 1994) and Salentino (Calabrese 1992), subjunctives are standardly claimed to show no obviation effects, as in (30):

(30) *O Yanis$_i$ theli na fiji$_{i/j}$.*
the John wants to leave.3SG
'John wants (him) to leave.' (Modern Greek)

Nevertheless, it is not accurate to say that they show no obviation at all. Actually, they show obviation when the pronominal subject is lexically realised.[4] Consider (31):

(31) *O Yanis$_i$ theli na fiji aftos$_{j/*i}$.*
the John wants to leave.3SG he.NOM
'John wants him to leave.' (Modern Greek)

In (31), in the presence of the subject *aftos* 'he', co-reference is no longer possible. Therefore, it can be claimed that in those languages it is not the presence of agreement that contributes to the triggering of disjoint reference but rather the overtly realised subject.

Within the generative literature there are different accounts of subjunctive obviation that set out to explain the distribution of subjunctive subjects. However, most of them in one shape or another are based on the idea that Principle B is violated. More explicitly,

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3. There is another type of obviation, namely object obviation whereby the matrix subject cannot be co-referential with the object of the subjunctive clause. The latter is not applicable to Romance and other languages, as shown in (i) and (ii):

i. *Jean$_i$ veut que Marie l$_{i/j}$' embrasse.*
Jean wants that Marie him kisses
'Jean wants Marie to kiss him.' (French)

ii. *Volodja$_i$ xočet čtoby Nadja pocelovala ego$_{i/j}$.*
Volodja wants that.SUBJ Nadya kissed him
'Volodja wants Nadya to kiss him.'
(Russian, Avrutin and Babyonyshev 1997: 232)

4. Additionally, it should be noted that, in Greek, pronominal subjects seem to behave like lexical subjects.

it is claimed that in subjunctive clauses there is anaphoric Tense that depends on the matrix. This dependence leads to an extension of the binding domain of the subject pronoun thus resulting in a violation of Principle B (Chomsky 1981). Principle B states:

(32) If α is a pronominal, it is disjoint from every c-commanding phrase.

To illustrate consider the following example from French:

(33) **Je veux que je parte*.
I want that I leave.SUBJ.1SG
'I want to leave.' (French)

Example (33) is ungrammatical because the embedded subject *je* 'I' cannot be disjoint in reference, as predicted by Principle B. The reason why it cannot be disjoint has to do with the extension of the binding domain which is due to the anaphoric nature of the subjunctive Tense.

Avrutin & Babyonyshev (1997) reject the domain extension approach on the basis of Russian data. They propose that, in subjunctives, Comp is an operator which moves at LF to bind the events of the matrix and the subjunctive. The result is a violation of Principle B. According to them, the complementizer moves higher than the matrix verb at LF in order to c-command it and order it temporally. Principle B applies again but to AgrS this time. AgrS is pronominal (since it can license null subjects) and therefore subject to Principle B. Importantly, in indicatives, C is not an operator position. An obvious problem with such an analysis is that, in languages such as French where AgrS is not pronominal, obviation is still operative. Tsoulas (1995) proposes that subjunctive can be recaptured as temporal indefiniteness. The [+indefinite] feature is checked by C^0-to-V^0 movement. Then obviation follows from Principle B. For us, it is important to explore whether the same reasoning can be applied to explain the ungrammaticality of (34) (see also note 1):

(34) **Os deputados lamentam perderem os documentos*.
the deputies regret lose.INF.3PL the documents
'The deputies regret that they lost the documents.' (Portuguese)

It is worth testing whether the ungrammaticality of (34) can be attributed to the same reason as the ungrammaticality of (33); in other words, whether (34) is ungrammatical because of the extension of the binding domain due to the anaphoric nature of infinitival tense. However, before taking this line of thought further, inflected infinitives should firstly be tested for the properties which define *subjunctivehood*.

6. Subjunctive properties and inflected infinitives

In this section several of the properties that subjunctives exhibit are examined and are subsequently used to test inflected infinitives for subjunctive mood.[5] What follows is

5. I thank Ana Castro and Maria Lobo for these data.

by no means an exhaustive list of subjunctive properties. Those properties are sometimes contrasted to the properties of indicatives.

The most striking property of subjunctives is the disjoint reference of the subject of the subjunctive clause from the matrix subject, as already illustrated in (33) and exemplified here by the French example in (35), which is equivalent to the Spanish one in (29):

(35) *Jean$_i$ veut que (Paul)/il$_j$ parte (Paul).*
John$_i$ wants that (Paul)/he$_j$ leave.SUBJ.3SG (Paul)
'John wants Paul to leave.' (French)

Subjunctives in Portuguese behave as in French and Spanish with regard to the disjoint reference requirement:

(36) *O João$_i$ quer que o Paulo/ele$_j$ parta.*
the John wants that the Paul/he.NOM leave.SUBJ.3SG
'John$_i$ wants Paul/him$_{j/*i}$ to leave.' (Portuguese)

Turning to inflected infinitives, it is known that they cannot be subcategorised by volitional predicates, as shown in (37). However, when selected, they show obviation properties similar to subjunctives (cf. (38)).

(37) **O João$_i$ quer (o Paulo)/ele$_{*i}$ partir.*
the John wants (the Paul/he.NOM) leave.INF
'John wants Paul/him to leave.'

(38) **Os deputados lamentam perderem os documentos.*
the deputies regret lose.INF.3PL the documents
'The deputies regret that they lost the documents.' (Portuguese)

This is the first piece of evidence that inflected infinitives show split characteristics of both infinitives and subjunctives. On the one hand, they behave like subjunctives in that they show obviation effects; on the other hand, they cannot be selected by volitionals as subjunctives trivially are, hence the split character of inflected infinitives.

The second property of Romance subjunctives is the requirement for the complementizer *que* when the latter is overtly realised, as shown in (39):[6]

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6. This property of Romance subjunctives is not shared by Balkan subjunctives, since they do not allow for a complementizer (cf. Roussou 2001 for an analysis of *să, na*, etc.). Compare (i) with (ii):

i. *Jon vrea să manince.*
John want.3SG *să* eat.3SG
'John wants to eat.'

ii. **Jon vrea ca să manince.*
John want.3SG that *să* eat.3SG
'John wants to eat.' (Romanian)

(39) a. *Je veux que tu partes.* / **Je veux tu partes.* (French)
b. *Voglio che tu parta.* / **Voglio tu parta.* (Italian)
c. *Quero que tu vás.* / **Quero tu vás.* (Portuguese)
d. *Quiero que tú vayas.* / **Quiero tú vayas.* (Spanish)
want.1SG that you leave.SUBJ.2SG / want.1SG you leave.SUBJ.2SG
'I want you to leave.'

In the above examples the presence of complementizer *que* is actually necessary; however, it should be pointed out that complementizer deletion (CD) is also very frequent in Italian and Portuguese.[7] CD is probably facilitated by the fact that subjunctive mood is also morphologically marked on the verb. Interestingly, CD in Portuguese usually suggests formal style, as in (40) and (41):[8]

(40) *Os livros que espero (que) tenham já chegado.*
the books that hope.1SG (that) have.SUBJ.3PL already come
'The books that I hope that have already arrived.'

(41) *Acredito (que) tenham sido uns tempos difíceis.*
think.1SG (that) have.SUBJ.3PL been some times difficult
'I believe there have been some difficult times.' (Portuguese)

The important point to retain despite the availability of CD is that, when subjunctives are introduced by a complementizer, it has to be *que*. On the other hand, the inflected infinitive is never introduced by the higher complementizer *que*, as shown in (42); it can, however, be introduced by the lower complementizer *de*, as in (43):

(42) **Eu lamento que os deputados perderem os documentos.*
I regret that the deputies lose.INF.3PL the documents
'I regret that the deputies lost the documents.'

(43) *Regressamos antes de comerem.*
returned.1PL before of eat.INF.3PL
'We returned before they ate.' (Portuguese)

The third property of subjunctives relates to the type of semantic interpretation they induce. In Italian, declaratives and epistemics can take either indicative or subjunctive mood, but with a difference in interpretation. Compare (44) with (45):

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7. For Italian, Poletto (2000) claims that CD is also possible, as shown in (i):

i. *Credo abbia già parlato con te.*
think.1SG have.SUBJ.3SG already spoken with you
'I think that he has already spoken with you.' (Italian, Poletto 2000: 119)

8. Poletto (2000) makes a similar claim for the Italian data displaying CD, namely that CD constructions are stylistically marked.

(44) *Gino crede che Pina è incinta.*
Gino thinks that Pina is pregnant
'Gino thinks that Pina is pregnant.'

(45) *Gino crede che Pina sia incinta.*
Gino thinks that Pina be.SUBJ.3SG pregnant
'Gino thinks that Pina might be pregnant.'
(Italian, Brugger and D'Angelo 1994: 16)

In (44), by using the indicative mood not only did the speaker depict a state of affairs, namely that *Pina is pregnant*, but also that the content of his assertion is true. Crucially, in (45), the speaker uses subjunctive mood in order to cancel the assertive attitude toward the content of his utterance. In other words, subjunctive mood marks the content as potentially true but not necessarily true.

The Portuguese data pattern with the Italian data in the sense that epistemics can select either the indicative (cf. (46)) or the subjunctive (cf. (47)).

(46) *O Paulo pensa que eles estão já divorciados.*
the Paul thinks that they were already divorced
'Paul thinks that they have already divorced.'

(47) *O Paulo pensa que eles estejam já divorciados.*
the Paul thinks that they be.SUBJ.3PL already divorced
'Paul thinks that they might already be divorced.' (Portuguese)

Interestingly, this property is not shared by all Romance languages. To Italian and Portuguese that we examined, Old French (48) and Old Spanish can be added:

(48) *Je croi qu' ainsi soit l' afere.*
I believe that thus be.SUBJ.3SG the matter
'I think that the matter is thus.' (Old French, Wharram 1999: 22)

Epistemics and declaratives can also select for an inflected infinitive (cf. (49)), in which case the latter patterns with subjunctives, since the interpretation yielded is similar to the one induced by a subjunctive.

(49) *O Paulo pensa estarem já divorciados.*
the Paul thinks be.INF.3PL already divorced
'Paul thinks that they might already be divorced.' (Portuguese)

The fourth property of subjunctives is the interaction of subjunctive mood with quantification:

(50) *Gina desidera che ogni studente incontri una ragazza che è alta.*
Gina desires that every student meet.SUBJ.3SG a girl that is tall
'Gina desires that every student meets a girl that is tall.'

(51) *Gina desidera che ogni studente incontri una ragazza che*
Gina desires that every student meet.SUBJ.3SG a girl that
sia alta.
be.SUBJ.3SG tall
'Gina desires that every student meets a girl that would be tall.'
(Italian, Brugger and D'Angelo 1994: 14)

In (50) the indefinite can have a wide scope interpretation with respect to the universally quantified subject *ogni studente* 'every student'. This wide scope interpretation is triggered by the indicative *è* 'is'. On the other hand, in (51) the indefinite can have a distributive interpretation with respect to the universally quantified subject and can be paraphrased as 'Gina wants that for every student x there is a tall girl y such that x meets y'. Crucially, this narrow scope interpretation is triggered by the subjunctive *sia* 'be' (cf. the *de re/de dicto* distinction).

In Portuguese, the above readings are obligatory for each sentence, therefore Portuguese is on a par with Italian.

(52) *A Ana espera que todos os alunos encontrem uma rapariga que*
the Ana hopes that all the pupils meet.SUBJ.3PL a girl that
é alta.
is tall
'Ana hopes that all the students meet a girl that is tall.'

(53) *A Ana espera que todos os alunos encontrem uma rapariga que*
the Ana hopes that all the pupils meet.SUBJ.3PL a girl that
seja alta.
be.SUBJ.3SG tall
'Ana hopes that all the students meet a girl that would be tall.' (Portuguese)

Crucially, inflected infinitives cannot be found in relative clauses wholesale. It is therefore impossible to test for these effects:

(54) **A Ana espera que todos os alunos encontrem uma rapariga*
the Ana hopes that all the pupils meet.SUBJ.3PL a girl
ser alta.
be.INF tall
'Ana hopes that all the students meet a girl that would be tall.'

A fifth property of subjunctives is the way they interact with negation. It has been noted that subjunctive mood can be triggered by negation in the matrix clause (cf. Kempchinsky 1986), as shown in (57):

(55) **Je pense que Jean soit intelligent*.
I think that John be.SUBJ.3SG intelligent
'I think that John might be intelligent.'

(56) **Je ne pense pas que Jean est intelligent*.
I not think not that John is intelligent
'I don't think John is intelligent.'

(57) *Je ne pense pas que Jean soit intelligent.*
I not think not that John be.SUBJ.3SG intelligent
'I don't think John is intelligent.' (French)

In French, epistemic verbs take subjunctive complements only when negated or interrogated. Portuguese exemplifies the same contrast, as shown in (58) to (61):[9]

(58) *Creio que estamos todos de acordo.*
think.1SG that are all in accord
'I think that we all agree.'

(59) **Não creio que estamos todos de acordo.*
not think.1SG that are all in accord
'I don't think that we all agree.'

(60) *Não creio que estejamos todos de acordo.*
not think.1SG that be.SUBJ.1PL all in accord
'I don't think that we all agree.'

(61) **Creio que estejamos todos de acordo.*
think.1SG that be.SUBJ.1PL all in accord
'I think that we all agree.' (Portuguese)

Portuguese epistemic and declarative predicates behave similarly to French. Interestingly, inflected infinitives when selected by negated declarative and epistemic predicates are only marginally possible, thus suggesting that they are not on a par with subjunctives:

(62) *Creio estarmos todos de acordo.*
think.1SG be.INF.1PL all in accord
'I think that we all agree.'

(63) ?*Não creio estarmos todos de acordo.*
not think.1SG be.INF.1PL all in accord
'I don't think that we all agree.' (Portuguese)

Notice that, despite the fact that subjunctive mood is licensed in non-veridical contexts, such as the ones licensed by a negated matrix predicate in (57) and (60), subjunctive is also licensed in a veridical context, such as the one imposed by a matrix factive verb, as shown in (64):[10]

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9. One of the reviewers points out that (59), although less natural, is possible.

10. Again, this property is not shared by factives in Romanian (cf. Kempchinsky 1986) or Greek (cf. Roussou 1992) since factive predicates select for an indicative:

i. *Ma surprinde ca Petru se însoara.*
me surprise.3SG that Peter he.REF marry.3SG
'It surprises me that Peter gets married.'

(64) *Je regrette que Jean soit parti tôt.*
I regret that John be.SUBJ.3SG left early
'I regret that John left early.' (French, Tsoulas 1995: 294)

Tsoulas (1995) observed the paradox that (57) and (64) pose for a theory of subjunctive mood according to which subjunctive is specified as [+irrealis]. More concretely, he argued that it is not possible that both negation and factive verbs condition subjunctive mood since they pose contradictory requirements. The negation in (57) conditions the subjunctive complement as potentially true, whereas the factive predicate in example (64) presupposes the truth-value of its complement. He concludes, on the basis of these facts and rationale, that subjunctive is not quintessentially a [+irrealis] feature.

In Portuguese the same pattern holds: both negated (cf. (60)) and factive predicates (cf. (65)) license subjunctive:

(65) *Lamento que o Joao diga estas mentiras.*
regret.1SG that the John say.SUBJ.3SG these lies
'I regret that John said these lies.' (Portuguese)

However, although negated predicates do not favor an inflected infinitive (or less strongly so), factive verbs clearly do so:[11]

(66) *Lamento o João dizer tantas mentiras.*
regret.1SG the John say.INF so.many lies
'I regret that John said so many lies.' (Portuguese)

A sixth property is the triggering of subjunctive mood by a non-referential (*una chica* 'a girl') that selects a restrictive clause (*que sepa francés* 'that knows French'), as in (67):

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ii. **Ma surprinde ca Petru să se însoara.*
me surprise.3SG that Peter *să* he.REF marry.3SG (Romanian)

iii. *Me ekplisi pu o Petros pandrevete.*
me surprise.3SG that the Peter marry.PASS.3SG
'It surprises me that Peter gets married.'

iv. **Me ekplisi pu o Petros na pandrevete.*
me surprise.3SG that the Peter to marry.PASS.3SG (Modern Greek)

11. It should however be noted that, despite the fact that factives select both subjunctives and inflected infinitives in Portuguese, they pose different restrictions with regard to extraction. Compare (i) with (ii):

i. **Que deputados lamentas percam os documentos?*
Which deputies regret.2SG lose.SUBJ.3PL the documents

ii. *Que deputados lamentas perderem os documentos?*
Which deputies regret.2SG lose.INF.3PL the documents
'Which deputies do you feel sorry for having lost the documents?' (Portuguese)

(67) *Busco una chica que sepa francés.*
search.1SG a girl that know.SUBJ.3SG French
'I look for a girl that knows French.' (Spanish)

Portuguese exemplifies the same pattern as the one observed for Spanish:

(68) *Procuro uma rapariga que saiba francês.*
search.1SG a girl that know.SUBJ.3SG French
'I look for a girl that knows French.' (Portuguese)

Once again the inflected infinitive is not found in this context (cf. (69)) for independent reasons, namely the unavailability of inflected infinitives in relative clauses. Therefore, we cannot relate the unavailability of inflectional infinitives with the intentional context which gives rise to a subjunctive.

(69) **Procuro uma rapariga saber francês.*
search.1SG one girl know.INF French
'I look for a girl that knows French.'

Moving to another property, subjunctives behave differently from infinitives with regard to topicalisation. Rizzi (1997) argued that in Italian *che* always precedes and *di* always follows a left-dislocated phrase because there is no unique C position. Otherwise, according to him, the above distribution cannot be explained.[12] Instead, within a split-CP analysis, *che* manifests the Force position, as in (70), and *di* the Finiteness (Fin) position, as in (71):

(70) a. *Credo che loro apprezzerebbero molto il tuo libro.*
believe.1SG that they appreciate.COND.3PL much the your book
'I think that they would appreciate your book very much.'
b. *Credo che il tuo libro, loro lo apprezzerebbero molto.*
believe.1SG that the your book they it appreciate.COND.3PL much
c. **Credo, il tuo libro, che loro lo apprezzerebbero molto.*
believe.1SG the your book that they it appreciate.COND.3PL much
'I think that they would appreciate YOUR BOOK very much.'

12. For Modern Greek it has been argued that foci and topics move to the left of *na*-clauses but to the right of *oti*-clauses, thus suggesting that *oti* and *na* do not share the same complementizer status. However, Agouraki (1991) argues against the above observation and therefore against Rizzi's, on the basis of the following data:

i. *Mu ipe to GIORGO oti theli na di.*
me.GEN said.3SG the George that wants na see.3SG
ii. *?Mu ipe oti TO GIORGO theli na di.*
'He told me that s/he wants to see GEORGE.' (Modern Greek, Agouraki 1991:11)

(71) a. *Credo di apprezzare molto il tuo libro.*
believe.1SG of appreciate.INF much the your book
'I think that they appreciated your book a lot.'
b. **Credo di il tuo libro, apprezzarlo molto.*
believe.1SG of the your book appreciate.INF.it much
c. *Credo, il tuo libro, di apprezzarlo molto.*
believe.1SG the your book of appreciate.INF.it much
'I think that they appreciated YOUR BOOK a lot.' (Italian, Rizzi 1997: 289)

In Portuguese, the topic-comment articulation is not always expressed by Clitic Left Dislocation (CLLD) involving a resumptive clitic co-referential to the topic like in Italian; hence in (72) the resumptive clitic features in parenthesis:

(72) a. *Pensava que já tinhas lido este livro.*
think.IMP.1SG that already have.IMP.2SG read this book
'I thought that you had already read this book.'
b. *Pensava que, este livro, já (o) tinhas lido.*
think.IMP.1SG that this book already (it) have.IMP.2SG read
'I thought that you had already read THIS BOOK.'
c. **Pensava, este livro, que já (o) tinhas lido.*
think.IMP.1SG this book that already (it) have.IMP.2SG read
(Portuguese)

(72) shows that Portuguese behaves in the same way as Italian. Let us now see if inflected infinitives tolerate topicalisation:

(73) a. *Pensava teres já lido este livro.*
think.IMP.1SG have.INF.2SG already read this book
b. **Pensava, este livro, teres já lido.*
think.IMP.1SG this book have.INF.2SG already read
'I thought that you had already read this book.' (Portuguese)

Example (73b) shows that topicalisation on the left of the inflected infinitive is not permitted.[13] Note that the inflected infinitive in the above example, by virtue of the fact that it is a complement to a declarative verb, contains the auxiliary *ter* 'have' and

13. The following data show some tolerance of topicalisation when to the left of the inflected infinitive. They are slightly better, although still only marginally so:

i. *Pensava terem eles chegado já a essa conclusão.*
Think.IMP.1SG have.INF.3PL they reached already to that conclusion
'I thought that they have already reached that conclusion.'

ii. *??Pensava, a essa conclusão, terem eles chegado já.*
think.IMP.1SG to that conclusion have.INF.3PL they reached already
'I thought that they have already reached that conclusion.' (Portuguese)

most probably has risen to Force^0, therefore no topic is possible on its left. If the auxiliary had risen to Fin^0, as suggested by Poletto (2000) for the subjunctives in deleted complementizer constructions, then there should, in principle, be room for both a fronted Aux and a topic since the Top field is higher than Fin. However, this is not borne out by the data in (73b).

One last property to be examined is the extraction of *wh*-elements out of subjunctive, infinitival and indicative complements. The former two permit extraction whereas the latter does not. As mentioned in Tsoulas (1995), the property that enables extraction out of subjunctive and infinitival complements but not out of indicatives is not the finite vs. non-finite, but rather indicative vs. infinitives/subjunctives.

In (74) extraction of *wh*-subjects, *wh*-objects or *wh*-indirect objects out of indicative complements is banned because *wh*-indicatives are islands.

(74) a. **que te demandes-tu à qui Sophie a donné?*
what you.REF ask-you to whom Sophie has given
b. **que te demandes-tu qui a dit que Theo a vu?*
what you.REF ask-you who has said that Theo has seen
c. **à qui te demandes-tu ce que Sophie a donné?*
to whom you.REF ask-you this that Sophie has given
*'What do you wonder to whom Sofia gave?'

(French indicatives, Tsoulas 1995: 298)

Compare now extraction of *wh*-elements out of infinitival complements. Extraction is possible:

(75) a. ?*Que te demandes-tu à qui donner?*
what you.REF ask-you to whom give.INF
'What do you wonder to give to whom?'
b. *A qui te demandes-tu quoi donner?*
to whom you-REF ask-you what give.INF
'To whom do you wonder what to give?'
c. *Que te demandes-tu qui a decidé de voir?*[14]
what you.REF ask-you who has decided to see.INF
'What do you wonder who decided to see?'

(French infinitives, Tsoulas 1995: 298–299)

Interestingly, the same grammatical results are obtained when extraction of *wh*-elements takes place out of subjunctive complements:

(76) a. *Que te demandes-tu qui a voulu que Sophie voie?*
what you.REF ask-you who has wanted that Sophie see.SUBJ.3SG
'What do you wonder who wanted that Sofia sees?'

14. Here judgments may vary (Eric Mathieu, p.c.) since there is *de*, which presumably introduces some kind of barrier.

b. *Que te demandes-tu qui a exigé que Sophie écrive?*
what you.REF ask-you who has required that Sophie write.SUBJ.3SG
'What do you wonder who required that Sofia writes?'
(French subjunctives, Tsoulas 1995: 299)

Turning now to Portuguese, in some of the following examples, which are equivalent to the French data above, the bare *wh*-elements are replaced with a *wh*-element with a noun because sentences improve considerably. Firstly, consider extraction out of indicative complements:

(77) a. ?**Que livro não sabes a quem a Sofia deu?*
what book not know.2SG to whom the Sofia gave
'Which book you don't know to whom Sofia gave?'
b. ?**A quem não sabes que livro a Sofia deu?*
to whom not know.2SG what book the Sofia gave
'To whom you don't know which book Sofia gave?'
c. ?**Que filme não sabes quem disse que o Zé viu?*
what film not know.2SG whom said.SUBJ.3SG that the Zé saw
'Which film you don't know who said that Zé saw?'
(Portuguese indicatives)

The Portuguese data in (77) show that extraction out of indicative complements is not felicitous. Grammaticality improves considerably in Portuguese when extraction is out of infinitives:

(78) a. *Que livro não sabes a quem dar?*
what book not know.2SG to whom give.INF
'Which book you don't know to whom to give?'
b. *A quem não sabes que livro dar?*
to whom not know.2SG what book give.INF
'To whom you don't know which book to give?'
c. ?*Que filme não sabes quem decidiu ver?*
what film not know.2SG whom decided.3SG see.INF
Which film don't you know whom decided to see?'
d. *Que filme não sabes quem pediu para a Sofia ver?*
what film not know.2SG whom asked.3SG from the Sofia see.INF
(Portuguese infinitives)

So far, Portuguese infinitives are shown to behave similarly to French ones. It is rather surprising that subjunctives (cf. (79)) do not behave on a par with infinitives – contra the French data:

(79) a. *?Que filme não sabes quem quis que a Sofia visse?*
what film not know.2SG whom wanted.3SG that the Sofia saw.SUBJ.3SG
'Which film you don't know who wanted that Sofia sees?'

b. ??*Que história não sabes a quem contes?*
what story not know.2SG to whom tell.SUBJ.2SG
'Which story you don't know to whom you should tell?'
c. ??*A quem não sabes que história contes?*
to whom not know.2SG what story tell.SUBJ.2SG
'To whom you don't know which story you should tell?'
d. ??*Que filme não sabes quem pediu que a Sofia visse?*
what film not know.2SG whom asked.3SG that the Sofia saw.SUBJ
'Which film you don't know who asked that Sofia sees?'
(Portuguese subjunctives)

With regards to inflected infinitives, it should be noted that judgments are difficult to obtain. Both examples in (80), which show extraction out of inflected infinitive complements, are ungrammatical:

(80) a. **Que filme não sabes quem pensa ter a Sofia visto?*
what film not know.2SG whom think.3SG have.INF the Sofia seen
'Which film you don't know who thinks that Sofia sees?'
b. **Que decisão não sabes quem disse terem eles tomado ontem?*
what decision not know.2SG whom said.SUBJ.3SG have.INF.3PL they taken yesterday
'Which decision you don't know who said that they have taken yesterday?'
(Portuguese: inflected infinitive)

Let us evaluate the results obtained so far. To facilitate our comparison consider Table 1, which summarises the properties of subjunctives vis-à-vis indicatives, infinitives and inflected infinitives. The relevant part of the table, which shows in which properties subjunctives and inflected infinitives diverge, is shaded in grey.

Table 1. The properties of subjunctives and inflected infinitives

Properties	Indicatives	Infinitives	Subjunctives		Inflected infinitives
			French	EP	
Disjoint reference	√	×	√	√	√
Overt complementizer	√	×	√	√	(×)
Expresses the potential	√	√	×	√	√
An indefinite receives a narrow scope interpretation with respect to the universally quantified subject	×	n/a	√	√	n/a
Matrix negation	n/a	n/a	√	√	×

(*Continued*)

Table 1. Continued

Properties	Indicatives	Infinitives	Subjunctives		Inflected infinitives
			French	EP	
Factives	×	×	√	√	√
Non-referential that selects a non-restrictive clause	×	×	√	√	×
Topicalisation	√	×	√	√	×
Wh-extraction	×	√	√	×	×

It is clear from Table 1 that inflected infinitives differ considerably from subjunctives, since they only exhibit a restricted number of properties out of the total number of subjunctive properties. Roussou (2001) makes the reverse claim, namely that subjunctive complements in control/raising contexts cannot be treated simply as inflected infinitives, since they do not occur in the typical contexts of the Balkan subjunctive.

In the next section, the details of an analysis that captures the NOC properties of inflected infinitives are spelled out.

7. Inflected infinitives and a *sympathetic* theory of control

So far in this paper, two avenues for the investigation of the NOC properties of inflected and personal infinitives were pursued, the former being Control Theory and the latter subjunctive obviation. However, both routes provided us with infelicitous results. In this last section I return to control and present one last account, which makes the necessary theoretical provisions for an analysis of inflected and personal infinitives. In particular, an analysis of the NOC properties of inflected and personal infinitives is developed based on the notion of *Agree* (Landau 2000). The starting point is to see if Landau's system makes any theoretical provision for inflected and personal infinitives. Consider Landau's typological system, which is reproduced in Table 2 (albeit in a simplified version):

Table 2. OC vs. NOC (based on Landau 2000)

Obligatory control **Distribution: VP-internal infinitives**		**Non-obligatory control** **Distribution: VP-external infinitives**	
Exhaustive control Tenseless infinitives	Partial control Tensed infinitives	LD-control	Arb-control
Agree (F, PRO)	Agree (F, T-Agr)	PRO is a logophor	PRO is bound by a generic operator

Prima facie, Landau's system cannot accommodate the inflected and personal infinitive empirically. The typological distinction fails to extend to inflected infinitives because, although they can be complements and therefore VP-internal, they do not manifest either exhaustive control (EC) or partial control (PC). On the contrary, what they exhibit is NOC, which however is only reserved for VP-external infinitives. Can this oxymoron be resolved and would it be advantageous in any way to attempt to resolve it within this theory? Additionally, personal infinitives are not accommodated either because, despite the fact they exhibit NOC, they do not license PRO as predicted by Landau's system.

Before proceeding with an analysis of inflected and personal infinitives based on the notion of *Agree*, let us reiterate one of the main claims of this paper, which stems from an empirical generalisation: inflected infinitives can appear in both complement and adjunct positions, whereas personal infinitives can only surface in adjunct (and subject) positions, unless they are headed by a complementizer, in which case they can also surface as complements. To capture this distributional peculiarity of the personal infinitives, the generalisation in (3) (repeated here for convenience as (81)) is established (which is discussed in some depth in Sitaridou 2002):

(81) a. For an infinitive to surface with a subject in an adjunct/subject clause there must be:
   i. Tense
   b. For an infinitive to surface with a subject in complement position there must be:
   ii. Tense and
   iii. Agr or
   iv. a C position filled with overt material

Let us now see how, based on Landau's proposal of *Agree* as the mechanism that establishes control, and the assumptions we make, (81) can be explained. More concretely, it will be argued that the lack of *Agree* can explain: (a) why personal infinitives cannot be complements when there is no complementizer (e.g., in Spanish); (b) why personal infinitives can surface as complements when there is an overt complementizer (e.g., in Sardinian); (c) why inflected infinitives can be complements.

Firstly, consider the case of Spanish personal infinitives, which cannot surface in complement position:

(82) **Lamento (ellos) perder (ellos) los documentos.*
regret.1SG they.NOM lose.INF (they) the documents
'I regret that they lost the documents.' (Spanish)

In (82), the complement *(ellos) perder (ellos) los documentos* 'they lost the documents', on both Landau's theory and independent grounds, is a tensed complement since the matrix verb is a factive one. *Agree1* takes place and matches the *phi*-features of T-Agr and *ellos*, and also checks the nominative Case. As a second step, *Agree2* applies, and

the matrix head F inherits the semantic number of DP *yo*. However, by virtue of the fact that T is infinitival, it can only be *phi*-incomplete. It follows that *ellos* cannot raise to Spec-TP because of the lack of EPP. Since Spec-TP is empty, or rather not occupied by the *legitimate* subject *ellos* in terms of computation, the empty position counts as anaphoric *pro*. As a result, in the derivation *pro* enters into an *Agree3* relation with matrix F. However, it is exactly this third *Agree* operation that will drive the derivation into crash. In other words, the derivation cannot converge because the Spec-TP position is related to mismatched *phi*-features, these of *yo* instead of those of *ellos* 'they'.

Secondly, consider the case of Sardinian personal infinitives, which can appear as complements:

(83) *Non keljo a vénnere tue.*
not want.1SG *a* come.INF you
'I don't want you to come.' (Sardinian)

In (83), *Agree1* takes place and matches the *phi*-features of T-Agr with those of *tue* 'you'. The nominative Case is also checked, hence the subject cannot be raised further. Then, *Agree2* applies, and the matrix head F inherits the semantic number of DP 'I'. As previously, Spec-TP is occupied by an anaphoric *pro*. However, it does not drive the derivation to crash because *Agree3* cannot take place since in C^0 there is a complementizer, and hence no T-Agr to C^0 can take place.

Thirdly, consider the case of Portuguese inflected infinitives, which can surface as a complement, as shown in (84):

(84) *Eu lamento os deputados perderem os documentos.*
I regret.1SG the deputies lose.INF.3PL the documents
'I regret that the deputies lost the documents.' (Portuguese)

In (84), the complement is tensed. The crucial point here is that infinitival Agr is not the same as in the case of plain infinitives, simply because the infinitive is morphologically marked for agreement. It follows that the nature of the plain infinitival Agr and that of the inflected infinitival Agr is very different, only the former being anaphoric. The inflected infinitive has a strong EPP feature which attracts the subject to Spec-TP, where then *Agree1* takes place and matches the *phi*-features of T-Agr and the lexical subject *os deputados*. At this point in the derivation, the nominative Case is successfully erased and the EPP feature is checked. There is no need for further T-to-C movement, as Landau prescribes in the case of PC complements. The inflected infinitival structure as the one in (84), albeit a CP, does not trigger overt T-to-C movement.

To draw the larger picture, what all derivations in (82), (83) and (84) have in common is the fact that *Agree3* cannot apply and therefore no controlled interpretation is possible. However, only the latter two converge because either of the two conditions is obeyed: (a) presence of agreement in the case of the Portuguese inflected infinitive that allows the inflected infinitive to surface as a complement; or (b) presence of a complementizer in the case of the Sardinian personal infinitive. To sum up, in order for both

inflected and personal infinitives to converge, *Agree3* must not apply and, in order for it not to apply, one of the following two conditions should be met: (a) an overt C; or (b) agreement. Crucially, both render control impossible. In the light of this analysis, I suggest that Landau's system is modified, as shown in Table 3, in order to accommodate the NOC properties of inflected and personal infinitives.

Table 3. NOC revisited

Non-obligatory control			
LD-Control	**Arb-Control**	**NOC**	**NOC**
PRO is a logophor	PRO is bound by a generic operator	*pro* is pronominal	*pro* is anaphoric
**Agree*	**Agree*	**Agree*	**Agree*

8. Summary and concluding remarks

The goal of the present paper was to account for the NOC properties that inflected and personal infinitives display. I proceeded, firstly, by showing that neither a Case-theoretic (cf. Bošković 1997) account nor Movement-accounts (cf. Hornstein 1999, Manzini and Roussou 2000) can adequately explain the NOC properties of both inflected and personal infinitives. Secondly, it was shown that obviation accounts are also doomed to failure since the data introduced: (a) show that inflected infinitives do not have any subjunctive properties besides the disjoint reference requirement, and (b) constitute further support against an analysis of inflected infinitives as entailing mood (cf. Wharram 1997).

The way I accounted for the NOC properties of both inflected and personal infinitives did not rely on Case-theory, Movement or the domain extension approach but on the notion of *Agree*. It was argued that an *Agree*-based account (Landau 2000) should be used to explain the NOC properties of inflected and personal infinitives. The main advantage of such an analysis is that it explains the empirical observation that, in the absence of agreement or a complementizer, the personal infinitive cannot surface as complement. It was shown that *Agree* does not apply when there is agreement, as in the case of Portuguese inflected infinitives, or a complementizer, as in the case of the Sardinian personal infinitive; hence the derivations are rescued.

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On the syntactic features of epistemic and root modals*

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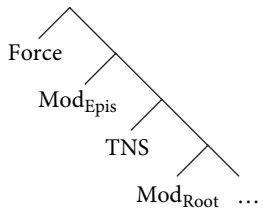
It has been shown in recent work that epistemically construed modals behave as though they are outside the scope of clausal tense, while root modals are within the scope of tense. It is argued that while this generalization is in keeping with Cinque's (1999) hierarchy of functional heads, the hierarchy cannot independently explain the scope restrictions. A phase-based account of the root/epistemic partition is proposed. The main claim is that root modals are merged within the *v*P phase, and epistemically construed modals are merged above Tense in the CP phase. The presence or absence of a person feature on the modals determines the phase in which the modal is merged.

1. Introduction

It has been shown in recent work (Stowell 2004; von Fintel & Iatridou 2003; Boogart 2004) that epistemically construed modals and root modals do not pattern alike in how they are interpreted relative to tense.[1] Roughly speaking, the generalization is that tense can take scope over root modals but not over epistemic modals. This accords with the findings of Cinque (1999) that epistemic adverbials (*possibly*, *probably*) are higher than tense, which is higher than root adverbials. Abstracting away from finer-grained distinctions, the relative hierarchy is (1):

(1)



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1. Borgonovo & Cummins (this volume) also provide a detailed analysis of interactions between Romance modal verbs and viewpoint aspect.

The issue that is taken up here is how to exclude derivations in which modals do not conform to this hierarchy, as in (2):

(2) Force - $\text{Modal}_{\text{Root}}$ - Tense - Modal_{Ep} (non-occurring orders)

We will consider first what is perhaps the null hypothesis: that the hierarchy itself accounts for how modals interact with tense. The discussion will show that, by itself, the hierarchy does not predict the impossibility of scope interactions between epistemics and tense.

The conclusion of this discussion – and the starting point for what follows, is that the hierarchy reflects the normal position in which these classes of modals are merged – not where they are interpreted. It is noticeable that in English and in other languages, the lexical items that give rise to epistemic and root meanings are often the same. This suggests that modals can be merged in one position or the other depending on what grammatical features (inflections) are added to them as they are added to an array for use in a given derivation. This in turn suggests that the grammatical differences between root and epistemic modals follow from differences in syntactic environment – not from the modals themselves. This is the supposition that will be explored in the present article. On this approach, it is necessary to consider: (1) what feature is added to the modal that affects the position in which it is merged; and (2) in what way this feature interacts with the syntactic context so as to derive epistemic and root properties.

The proposal that will be elaborated here is that the crucial feature that is optionally added to modals is [person]. When this feature is present, it must be valued by a person feature of a DP. In this instance, the modal is an *argument-related* or root modal. It is interpreted as a state of the DP. In the absence of [person], it will be argued that the modal is *force-related*, interpreted relative to features of C^0. In this case, the modal is grammatically licensed in relation to the assertive predicate, whose implicit argument is the current speaker. The two contexts for modals are illustrated in (3) and (4). On the root reading of *Mary may sing now*, the modal is adjoined to *v*P, as shown in (3):

(3) [*may* [Mary *v* [sing]]]
[finite]
[u person]

The DP *Mary* values the person feature of the modal. The resulting interpretation is of a possibility-state of Mary. Since the modal is the predicate that is outermost in *v*P, it is accessible to the next phase, as is *Mary*. The verb *sing* is not on the edge of the phase, and is not accessible to the temporal location predicate of the higher phase. Consequently, what is asserted is a state-of-possibility for Mary, not an event of singing.

A modal that lacks a person feature could not be merged in the same position; it could only be merged above TP. If it were merged in the position of a root modal, the derivation would always crash at the point when the features of Tense are valued, since the only accessible V – the modal – lacks [person], which leaves an uninterpretable

phi-feature on Tense. However, if the modal is merged above TP, the requirements of Tense can be satisfied separately by the modal and DP:

(4) [*may* [Mary Tense [Mary *v* [sing]]]]
[finite] [+finite]
[u person]

A modal could not be merged above TP with a person feature. Assuming that once DP and Tense have valued features they become inactive, the person feature of the modal could not be valued, and the derivation would crash due to the *extra* uninterpretable person feature.

The question arises as to how the epistemic modal is interpreted as a state if it lacks any argument. I will suggest that the Force head has features that supply the context for evaluation of the epistemic. That there is a close relationship between epistemics and the Force head is supported by syntactic cohesion between them, and is supported by the *speaker-attitude* interpretation of the modal and the modal sentence.

The discussion is organized as follows. In §2 the interaction of modals and tense is discussed, and the role of the hierarchical arrangement of functional categories is evaluated as an account of them. In §3 the discussion turns to the account of epistemics outlined above, on which the absence of a person feature, not the modal itself, is responsible for epistemic interpretation and for their scope relative to Tense. It is proposed that, lacking a person feature, epistemic modals are interpreted relative to the assertive predicate of C^0. Two forms of support for this claim are discussed. One concerns differences between epistemics in connected discourse and other contexts; the second concerns the relative scope of epistemics and quantifiers. It is argued also that this approach makes available a natural account of such disparate phenomena as the form of so-called relative tenses and evidential systems of modality. Finally, §4 presents a sketch of how this account accommodates the *scope of assertion* of modal sentences.

2. Relative scope of Tense and Modals

2.1 Epistemic modals scope over tense

I assume that tense is interpreted as relation between times. In *Mary left*, the event time (ET) of Mary's leaving is ordered in relation to an evaluation time – the time of speaking, or utterance time (UT). Times are introduced into the derivation as arguments of TENSE (Zagona 1990, 1995; Stowell 1993; Demirdache & Uribe-Etxebarria 2000); these are often represented as abstract temporal argument positions in the specifier of VP and TP. In what follows, I will assume that the *v*P phase of a clause represents the time of a situation (ET), and CP represents its external evaluation time.[2] Tense is a

2. The *v*P phase is not necessarily the time of the event itself, but the event as seen through the lens of viewpoint aspect (Smith 1997, Demirdache & Uribe-Etxebarria 2000).

relational head that specifies how the *v*P situation relates to the situation in which it is evaluated (the current speech event).

Stowell (2004) shows that epistemic modals are construed in relation to the evaluation time of their clause. In main clauses, where the evaluation time is the deictic utterance time, epistemics hold at UT, as in (5), while root modals can either hold at a time in the past, as in (6):

(5) a. Jack's wife can't be very rich.
'It is not possible that Jack's wife is very rich.' (UT impossibility)
b. Jack's wife *couldn't* be very rich.
'It *is not possible* that Jack's wife is very rich.' (UT impossibility)
'It *was not possible* that Jack's wife was very rich.' (past impossibility)

(6) a. Carl can't move his arm. (UT ability)
b. Carl couldn't move his arm. (past ability)

In (5), the forms *can't* and *couldn't* are both interpreted as impossibilities at speechtime; on the root reading of 'ability' in (6), both speechtime and past ability readings are possible. In embedded clauses, epistemic can hold in the past:

(7) a. Caesar knew that his wife might be in Rome. (epistemic) (past possibility)
b. Susan told me that she ought to stay home. (root) (past obligation)
c. Max said that he should leave. (root) (past obligation)
d. Fred thought that there could be at least a hundred people at the reception. (epistemic) (past possibility)

Stowell argues that the past reading of the embedded epistemic is due to the past tense of the main clause. In other words, this is an instance of *sequence-of-tense*, where the embedded clause agrees morphologically with the main clause (sequence-of-tense), but does not have its own independent semantic feature for 'past'. If it did, the situation in that clause would be understood as preceding the situation in the main clause. Similarly, the embedded clause does not contain a semantic feature for 'present'. If it did, the embedded clause should show the characteristic *double access* reading of present-under-past contexts (Enç 1987):

(8) John heard that Mary is pregnant.

In (8), the time of Mary's pregnancy holds at two evaluation times: utterance time and the time of John's hearing. Embedded epistemics in sequence-of-tense contexts do not have double-access readings. In (7d) for example, the time of possibility holds only at the time of Fred's thinking, not at UT. The conclusion is that the epistemic modal holds at the time of the embedded evaluation, which corresponds to the time of the main clause situation:

(9) [Fred TENSE thought [$_{CP}$ that there could TENSE be . . .]]
[past] ---

Stowell concludes that epistemics can have both past and present *forms*, but are associated with the evaluation time of the clause, not the eventuality time.

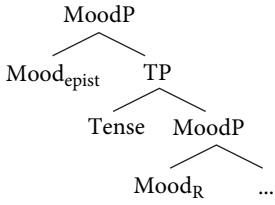
2.2 The universal hierarchy of functional categories

The association of epistemic modals with the evaluation time of the clause is arguably related to their status as expressions of speaker opinion or attitude toward the proposition of the clause. Cinque (1999) shows that adverbials of this type, illustrated in (10), cluster together above adverbials that modify past and future.

(10) $\text{Mood}_{\text{Speech act}}$ (*frankly*, *sincerely*)
$\text{Mood}_{\text{evaluative}}$ (*fortunately*)
$\text{Mood}_{\text{evidential}}$ (*allegedly*)
$\text{Mood}_{\text{epistemic}}$ (*probably*)

Cinque also notes that suffixes of speaker attitude occur farther from the head than all other suffixes except subordination markers. If one assumes with Cinque that these generalizations imply the presence of a series of functional categories, then it might be supposed that the functional category *template* is itself responsible both for the distribution of the two types of modals and for restrictions on their scope relative to other positions in the hierarchy. On this view, the relevant portions of the hierarchy for tense and modals would be as in (11):

(11)



This hierarchy would predict correctly that epistemic modals are outside the scope of the tense of their clause, but within the scope of the evaluation time specified in CP: utterance time in main clauses, and the embedding situation time in complement clauses.

In general, however, scope relations are not restricted by position in the hierarchy. For example, quantifiers that originate in *v*P can take scope over tense and over root modals, as shown by von Fintel & Iatridou (2003):

(12) a. Most of our students will be professors in a few years.
(most students > will)
b. Most of our students will be foreigners in a few years.
(will > most students)

(13) Most of our students must get outside funding–
a. for the department budget to work out. (must > most students)
b. the others have already been given university fellowships.
(most students > must)

Presumably relative scope in these cases is determined by the LF position of the quantifier, not by the position in which it is merged. The assumption that some elements

can (or must) move, and that their scope is a property of the chain, implies that the hierarchy itself does not characterize LF positions but positions in which constituents are merged. This is supported by Cinque's discussion, which shows that a Mood adverbial related to the speech act can appear either to the left or to the right of constituents in the CP field, topic and focus:

(14) a. *Di questo, A NESSUNO francamente potrei parlare.* (Cinque 1999:84)
about this, to nobody (focus) frankly I could talk.
b. *Francamente, di questo, A NESSUNO potrei parlare.*

Assuming Rizzi's (1997) structure of the left periphery in (15), the base position for the mood adverbs is therefore below CP, with movement allowed to the specifier of Force, as in (16):

(15) Force - Topic - Focus - (Topic) (Rizzi 1997)

(16) $[_{\text{ForceP}}$ francamente$_i$ F^0 $[_{\text{TopP}}$ di questo T^0 $[_{\text{FocP}}$ A NESSUNO F^0 $[_{\text{MoodP}}$ t_i [T^0. . .]]]]]

The relative scope of elements is therefore a function not just of relative position in the hierarchy, but also of the freedom with which at least certain types of phrases undergo A'-movement.

Given the generalizations summarized to this point, it is unexpected that quantifiers do not have scope interactions with epistemic modals:

(17) Most of our students must be home by now. (von Fintel & Iatridou 2003)
a. must > most of our students
b. *most of our students > must

Since quantifiers can apparently adjoin to a projection headed by Tense, deriving (12a), and can adjoin to a projection headed by a root modal, deriving the reading (13b), it is surprising that adjunction to the projection dominating an epistemic modal is impossible. It seems clear that there is another restriction involved, beyond the effects of the hierarchy taken together with the effects of A' movement. In §3, I will propose that this effect is due to a cohesive semantic relationship between epistemic modals and the CP field, which is in turn due to the absence of a person feature on the epistemic modal.

3. Epistemic modals and Force

The discussion of §2 showed that epistemic modals (and kindred adverbials) are merged above TP but below CP. It is argued here that they are grammatically and semantically related to CP as modifiers of Force. The Force head in turn provides a feature that is necessary for the construal of the modal as a verb. The feature in question is proposed to be *center of deixis*, which corresponds to the extra-linguistic basis for setting the current speechtime, and for setting the current speaker. This feature is distinct from the grammatical feature [1st person], which is a D-feature; the deixis

feature is a C-feature, part of the interpretation of Force, not of arguments. The deixis feature acts as a surrogate for [person] on the epistemic modal, and is responsible for the interpretation of the modal as expressing states of the speaker. The intrinsic semantic features of Force that will be assumed here are: (1) a feature that corresponds to the [assertion], which constitutes the understood *speech event* in declaratives; (2) a feature corresponding to the center of deixis:

(18) Force
[Assert]
[Ctr Deixis]

In §3.1 it is argued that epistemics are not simply evaluated at the *time* of speech, but are evaluated relative to event itself and its understood speaker participant. In §3.2, the nature of the speaking event as an event of *assertion* is further elaborated. In §3.3, I will show that the assumptions introduced here are independently motivated, as they provide a natural account of distinct forms of *relative tenses* that are possible cross-linguistically and also, an account of evidential systems of expressing modality.

3.1 Epistemics and connected speech

It was shown above that root modals can be construed as holding in the past or present, while epistemic modals hold only at the evaluation time for the clause in which they appear. In main clauses, the evaluation time is the deictic time of the speaker's event of speaking; in complement clauses the evaluation time can be the main clause event time. Boogaart (2004) shows that a main clause epistemic can have a past evaluation time in contexts of connected discourse. He cites the following example from Dutch:

(19) Zij bad mij te gaan om hem op te zoeken; want zij had hem lief; *hij kon ziek zijn*, haar hulp behoeven. (J.F. Oltmans, De Schaapherder.)
'She begged me to go and visit him, since she loved him, he could be sick and be in need of her help.'
= it *was* possible that he was ill.
it *is* possible that he is ill (Boogaart 2004)

What these cases have in common with epistemics in subordinate clauses is that in both environments, the temporal *location* of the epistemic is a predicate of indirect speech or reported thought. In (19), the speaker is reporting the discourse of the main clause subject. In embedded clauses such as those discussed in §2, (7a, 7d), the main clause verb is one that reports knowledge or thought (*Caesar knew. . .*, *Fred thought. . .*). Boogaart suggests that these contexts contribute to the evaluation of the modal: an epistemic evaluation time is not just a time of any situation, but a time at which "*there has to be someone evaluating the probability of the state of affairs holding or not*. In the absence of an explicit intensional predicate, . . . one cannot but infer some event of thinking/believing to provide the reference time for the epistemic modal. . ." (Boogaart 2004: 15). This implies that all the components of the event of the speaker's

assertion are relevant: the reporting nature of the event, and the deictic center: the *I* and the *Now* that identify the event uniquely. The syntactic realization of this event is claimed to be the Force head. That is, *declarative* is essentially an abstract statement of knowledge about a proposition. In main clauses, the participant is pragmatically set: it corresponds to the speaker or, in connected discourse, to a linguistic antecedent in a previous sentence. In embedded clauses the center of deixis is determined linguistically by the matrix clause verb of knowledge or thought:

(20) Caesar knew [$_{CP}$ Force . . .]
[ctr deixis] = Caesar

On this approach, modals are essentially *adverbial*, in that they modify a situation: root modals adjoin to a *v*P and produce a derived situation type in which the modal expresses a state of the subject: a state of ability, obligation, etc. Epistemic modals adjoin to TP, and produce a derived assertion type – assertion of possibility or necessity of a situation, rather than assertion of its occurrence.

As a way of executing this idea, I propose that Force has an unvalued feature that is satisfied by the *v*P itself in non-modal clauses and by the verbal features of the modal in epistemic sentences. In non-modal clauses, there is *absolute* assertion of a situation: assertion of a polarity value of the proposition. In modal sentences, the modal supplies a non-absolute value for the polarity of the sentence, based on the intrinsic features of the modals that express possibility or necessity. I suggest that these are essentially forms of quantification, and that [Q] is the unvalued feature of the Force head:

(21) Force
[Assert]
[Ctr Deixis]
[u Q]

This idea is taken up below in §3.2. It is proposed that the quantifier locates the proposition in relation to a single world: the speaker's world of knowledge at the time of speech.

3.2 Epistemic Modals and Quantifiers

3.2.1 *Interpretation of declarative Force*

The discussion to this point has focused on how the Force head licenses the modal by providing a participant and a time of evaluation. Let us turn now to how the modal affects what is asserted in the sentence. The idea is that Force is interpretable in declarative sentences by virtue of locating a situation in relation to a specific background context: that of the knowledge and beliefs of the speaker – the propositions, entities, relations and situations that comprise the speaker's *world* (state of knowledge) at a particular moment of speaking. The declarative Force of the sentence attributes a value to the sentence relative to the speaker's world: the sentence does (in the case of positive sentences) or does not (in the case of negated sentences) correspond to

the knowledge base of the speaker's world at that moment. Consider first non-modal declaratives. Force assigns a declarative value to a situation, such as: *Mary left*. The sentence makes an attribution that the situation is included in his/her knowledge base or *world* at that time and in that conversational context. The sentence *Mary didn't leave* makes an attribution that the situation is not within his/her world of known facts, entities, relations and situations. Polarity, then, is an essential mechanism for locating (or not locating) a situation relative to the given world at that moment. There is only one relevant world that the sentence brings to the task: the speaker's own world, as fixed by the language-external value of the feature [ctr deixis]. Turning to modal sentences, epistemic modals do not make absolute statements of inclusion or exclusion of the *object situation*; rather, they express that inclusion is *possible* or *necessary* relative to the contents of the speaker's world of knowledge or beliefs. This accounts for the generalization pointed out by Boogaart: the epistemic modal requires the presence of an individual making an evaluation as to the likelihood or necessity that the proposition holds; the evaluation examines (searches through) the speaker's immediate context of known propositions.

To implement this idea, suppose the Force head bears an unvalued polarity feature, and that the phrase with which it agrees determines the inclusion relation. In non-modal sentences, the polarity of *v*P is the basis for determining inclusion/exclusion in the speaker's world. In sentences with epistemic modals, such as (22), the intrinsic features of the modal value the [Polarity] feature of Force:

(22) a. Mary may leave.
b. Force [may . . .]
[u Polarity] [possible]

In (22b), the quantificational properties of the modal allow it to value the polarity feature of Force. This analysis provides an explanation for the impossibility of quantifiers scoping over the epistemic, as was shown in (17), repeated below:

(17) Most of our students must be home by now. (von Fintel & Iatridou 2003)
a. must > most of our students
b. *most of our students > must

A derivation in which the modal is construed as epistemic will always crash, since the quantifier *most* intervenes between Force and the Modal:

(23) *[Force[*most* of our students [must . . .]]]
[Assert] [necessary]
[Ctr Deixis]
[u Polarity]

The relationship between Force and the modal is interrupted by the quantifier, so that the modal does not value the [Polarity] feature of Force, and by the same token, the modal does not inherit the [deixis] feature of Force, and is therefore not interpretable

as speaker-oriented. This derivation could only be rescued if the modal had been inserted with a person feature, valued after QR by the subject, and therefore construed non-epistemically.

Before leaving this topic, let us consider how it compares with an approach to epistemics as quantifying over worlds, as in Kratzer (1981), summarized in (24):

(24) Modal operators (*can*, *must*)
  a. A *modal relation* (necessity, possibility), represented in terms of different quantifications (universal, existential) over possible worlds.
  b. A *modal base* (or conversational background) specifies the set of possible worlds quantified over by the modal operator (i.e., the set of presuppositions that constitutes the necessary background for the interpretation of the modal).
  c. An *ordering source* gives an order among possible worlds; this relation restricts the evaluation of modal sentences to worlds that are maximally normal (most similar to the real world).

The sentence (25),

(25) Mary must be at home.

is true in the actual world if and only if in the worlds of the modal base, in every world that is most normal according to the ordering source, Mary is at home in that world. On the approach introduced here, the claim is that at the level of the CP phase, situations are related to just one world: the speaker's world of beliefs and knowledge. In non-modal sentences, the polarity of the clause specifies an inclusion (or exclusion) relation: the situation is (or is not) consistent with the contents of the speaker's world. In modal sentences, the inclusion relation is satisfied in a relative sense, that there is a state of possibility or necessity with respect to the *v*P's consistency with, or inclusion within, the speaker's world of knowledge and beliefs.

3.2.2 *Syntactic contexts for epistemics and other speech event modifiers*

The approach outlined here predicts that epistemic modals should appear only in finite clauses that make statements relative to the speaker's world of known propositions at the moment of speaking. Epistemic modals are confined to finite clauses, a fact which could be attributed in English to idiosyncrasies of the modal lexical items – since they are not licit in infinitives even on root readings, but are replaced by other expressions (e.g., *able to*). Speech act-related adverbials give a better view of restrictions on the distribution of epistemics, as shown by (26):

(26) a. *[Allegedly to leave early] would be a bad idea.
  b. *Kim prefers [frankly to leave early].

Hornstein (1990) argues that infinitives have no Speech-time, a generalization that in the present analysis follows from the absence of a feature for [deixis]. In the absence of this feature, speaker-oriented adverbials are expected to be excluded.

Epistemics are also excluded from clauses in which the speaker's knowledge is not the context for evaluation of the sentence. Imperatives, for example, are not reports of knowledge; the center of deixis may be the hearer. Sentences in (27) show that speech act adverbials are impossible, while a root modal of the appropriate morphological form is fine.

(27) a. (*Frankly) finish your homework!
b. (*Possibly) sing the first verse.
c. Be able to say the whole speech by noon.

Desiderative complements also lack a report of knowledge background. They do not allow epistemics whether the complement is finite or not:

(28) a. ??John wishes that he may leave soon.
b. ??Mary wants to possibly win.
c. ?*Mary wants Fred to necessarily write the letter.

To conclude, epistemic modals are restricted to contexts in which the Force head is a speech event of reporting knowledge or belief, and in which Force has a feature that sets the deictic center.

3.3 Variation in the features of Force

The analysis of Force discussed above relies on the idea that declaratives bear a feature for the reporting event, [assert], and a feature that specifies the time *Now* and the *I* of the world from which the proposition is evaluated. This assumption leads to viable ways of accounting for the cross-linguistic variation in the surface forms of some *relative* tense and force clauses.

3.3.1 *Evidential systems*

According to Palmer (2001), two types of modal systems are found: essentially *binary* systems, in which a distinction is made between contexts in which a categorical assertion is made, and contexts in which a categorical assertion is not made (either a judgment is reported or there is no report). These binary distinctions are reflected in the grammar either by mood choices, such as the subjunctive/indicative distinction, or by the presence or absence of an element such as an epistemic modal or adverbial. A second type of modal system is non-binary. In this type of system sentences express the source of the speaker's evidence for the factual status of the statement. Two languages that illustrate this type of system are Ngiyambaa, where linguistic evidence is distinguished from sensory evidence, as in (29), and Tuyuca, where different forms of sensory evidence are differentiated, shown in (30):

(29) a. *ngindu-gara girambiyi.* (Ngiyambaa, Palmer: 35)[3]
you.NON-SENS.EVID sick.PAST
'One can see that you are sick.'

3. Palmer cites Donaldson (1980) for analysis of Ngiyambaa.

b. *ngindu-dhan* *girambiyi.*
you.NOM-LING.EVID sick.PAST
'You are said to have been sick.'

(30) a. *díiga* *apé-wi.* (Tuyuca, Palmer: 36)[4]
soccer play.3SG.PAST-VIS
'He played soccer.'
(I saw him play)

b. *díiga* *apé-ti.*
soccer play.3SG.PAST-NONVIS
'He played soccer.'
(I heard the game and him, but I didn't see it or him)

c. *díiga* *apé-yi.*
soccer play.3SG.PAST-APP (=Apparent)
(I have seen evidence that he played: his distinctive shoeprint on the playing fields. But I did not see him play.)

These systems have a natural account on the approach described above. The Force head has combined with lexical roots of perception and manner-of-perception. In English, these ends are accomplished via subordination under main verbs such as *I see that. . .*, *I hear that. . .* In these evidential systems, however, there is no separate verb. Instead the semantic features for perception appear to be added Force, which augments its [Assertion] feature, distinguishing between 'I assert on the basis of seeing' from 'I assert on the basis of hearing', and so on.

3.3.2 *Relative tenses*

Traditional descriptions of tenses distinguish between subordinate tenses that are *absolute* tenses, in which an event time is located in relation to the speech time, and subordinate tenses that are *relative* tenses, where an event is located relative to a time in a higher clause. For example, the English morphological past tense can be a relative tense, because when embedded under a main clause past, it can be used to show co-location with a past time in the main clause:

(31) John believed$_i$ that Fred was$_i$ in the next row.

The English morphological present tense is considered an absolute tense however, because when embedded under a main clause past tense, it still derives a simultaneous relation to speechtime; it is not used to show co-location with a past time in a main clause:

(32) Absolute tense: English Present under Past has present value
John said [that Mary has the flu (*yesterday)].
(Mary's having the flu is evaluated at Speechtime)

---

4. Palmer cites Barnes (1984: 257) for data from Tuyuca, a language of Brazil and Colombia. Tuyuca also has evidential distinctions corresponding to reported sources and reasonable inferences.

At the same time there are languages whose present tense is a relative tense. This is the case for Japanese, shown in (33), and for Russian, shown in (34):

(33) Relative tense: Present under Past has past (simultaneous) value
Bernhard-wa Junko-ga byookida to it-ta.
B.-TOP J.-NOM sick-Ø comp say-PAST
'Bernhard said that Junko was sick.' (Ogihara 1996)

(34) *Misha skazal chto Ivan boleet.*
Michael said that [John sick.PRES]
'Michael said that John was (then) sick.' (A. Dormer, p. c.)

The existence of both past and present relative clauses (with a past time antecedent) appears at first to be idiosyncratic. However, given the nature of the declarative Force head, and its feature corresponding to the center of deixis, the two types of relative tenses follow naturally. The reason is that inflectional features can be added freely to the Force head as it enters the syntax. The features can be either nominal or verbal, as shown in (35), (36):

(35) Force (Russian, Japanese)
[Assert]
[Ctr Deixis]
[u D]

(36) Force (English)
[Assert]
[Ctr Deixis]
[u V]

On the choice of nominal features, a nominal in the main clause provides the *anchor* for deixis of the Force of the embedded clause; an argument of the matrix verb is understood as establishing the world with respect to which the embedded clause is evaluated. The embedded clause will agree with the nominal antecedent in D-features – either overtly (Russian) or abstractly (Japanese). On the other hand, if verbal inflectional features are added to Force as it enters the derivation, a verbal *anchor* is established, and the Force head will agree with V-features of the anchor, namely [+past]. It is not obvious what dictates the choice of features – why, for example English cannot choose nominal features (apart from their impoverished state), or why Japanese chooses nominal features despite the absence of phi-features on D or on V. It may be that the rich morphology of case and topic markers provides strong support for nominal features, although it might be expected that past features should be equally accessible. Still, the hypothesis that Force has features that specify the participant's world provides a potential account of the form of relative tenses.

4. Modality and Mood

This section will briefly address the following difference between (main) clauses with epistemic verbs and clauses with non-indicative mood: clauses with modals make

an assertion of a particular type (a judgment) while clauses with non-indicative mood do not necessarily do so. Subjunctive clauses have been analyzed as contexts of non-assertion (Bosque 1990; Ridruejo 1999), as with the factive in (37b) and the desiderative in (37c):

(37) a. *Juan dice que Susana ha comprado el diario.*
J. says that S. has.PRES.IND bought the newspaper
b. *Juan lamenta que Susana haya comprado el diario.*
J. regrets that S. has.PRES.SUBJ bought the newspaper
c. *Juan quiere que Susana compre el diario.*
J. wants that S. buy.PRES.SUBJ the newspaper.

In the subjunctive clauses, no part of the situation is asserted. In (38) on the other hand, there is an assertion of a possibility, but no assertion of the situation itself:

(38) Mary may be at home.

In this case, as noted previously, the speaker asserts a particular degree of certainty concerning the situation of Mary's being at home.

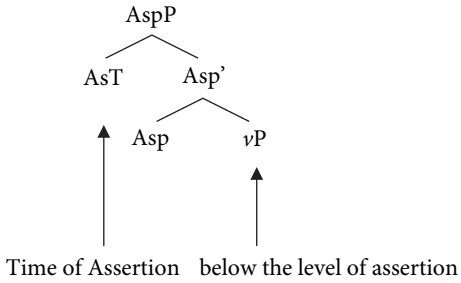
It would be desirable to characterize the commonalities of these two types of clauses as well as their differences. The main clause in (38) and the embedded subjunctive clauses in (37) have in common that the situation expressed by the *v*P is not asserted. I will claim that in the two types of clauses this comes about in different ways, and that the difference in the source of non-assertion accounts for whether the clause as a whole makes an assertion or not. The idea is that in the subjunctive clause, the absence of assertion is due to properties of the CP, which does not contain an assertive Force head. Consequently, nothing can be asserted. In (38) however, there is a declarative Force head in CP. The non-assertion of the event is not due to properties of C, but due to the *blocking effect* of the modal: since it enters into the relationship of satisfying the [Polarity] feature of C, the *v*P is inaccessible, and consequently is not part of the assertion.

This proposal is similar in spirit to the local relationship that satisfies the Wh-criterion in questions. Essentially, the element that agrees with the interrogative head is the only constituent (except in multiple questions) that is interpreted as interrogative. The rest of the clause is presuppositional. In modal sentences however, the remaining material is not presuppositional; it is unrealized, or unknown as to its realized or unrealized status. This circumstance is not unique in declaratives. Another context in which a situation is unrealized or unknown is found in the system of viewpoint aspect. This system of grammatical relations expresses the imperfective or perfective status of a situation. It has been described as focusing of part or all of a situation; if part of the situation is focused, the remainder is *outside* the view taken by the speaker, and is not asserted. In a progressive sentence, only the internal parts of the event are viewed:

(39) John was crossing the street.

The fact that the endpoint of the progressive is not asserted is analyzed in Demirdache & Uribe-Etxebarria (2000) in terms of the distinction between event time and *assertion time*. The event time is the interval that represents the entire situation expressed by the *v*P. The assertion time is that part of the event time that is actually asserted in a particular context, based on the adverbials and aspect morphology of the clause. The distinction is shown in (40):

(40)



In modal sentences, only the modal is asserted. A way of accounting for the non-assertion of the *v*P phase in modal sentences would be to suppose that the assertion time has to be interpreted relative to the assertive predicate in Force. This means that only the constituent that bears a relevant assertion feature can value the assertion feature of Force. Any other constituent with this feature is too distant – blocked by the modal from being interpreted as the asserted constituent. Modals then pattern with aspectual auxiliaries in the sense that they introduce intervention effects of a particular type: they prevent all or part of the situation introduced by a main verb from being directly related to the speaker's event of assertion.

5. Summary

It was argued here that the important differences between epistemic and root modals do not derive from intrinsic semantic differences between the two types, but rather from a difference in feature specification for [person]. A modal bearing [person] will be interpreted deontically; the person feature establishes a DP argument of the main verb as the individual with permission or obligation. A modal without a person feature is licensed in relation to the Force head of the clause, whose feature corresponding to [Center of deixis] allows the modal to be interpreted as speech-event oriented. This in turn accounts for the fact that epistemic modals are interpreted as evaluated at speech-time, since the same feature is responsible for setting both the nominal and temporal reference point for the speech situation. It was shown as well that this characterization of Force has the potential to account for peculiarities of clauses with special force properties, such as relative tenses and evidential expressions. Finally, it was shown that, in conjunction with the idea of assertion time, this approach can account for the

differences between modal sentences and subjunctives with respect to whether any assertion is made at all.

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Subject index

A

Activity Condition 45, 49, 53, 55–6, 63, 68
see also edge condition, freezing, locality, sub-extraction

Agree 45, 52–4, 66–8, 108, 186–7, 191, 194, 214–17
see also Φ-features

Antireconstruction 21, 25–6, 30, 32
see also reconstruction

Assertion 223, 227–8, 231–2, 234–6

B

Binding 37–41, 108–9, 119–24, 126–30, 171–3, 176–7, 182, 188, 197–9

Binding Domain 171–2, 186, 188, 202

C

Case-marked objects 49, 65–7
see also inherent accusative, structural accusative

Center of deixis 226–8, 231, 233, 235

Chains 19, 21, 37–40, 43, 50, 116
see also copy

Clitic doubling 21, 27, 30, 34–5, 64–5

Complementizer 101–2, 133–5, 155–9, 163–4, 166–7, 179–83, 185, 188, 192–4, 202–4, 213, 215–7
see also subjunctive complementizer

Contrastiveness 76–7, 80, 82–7
see also focus

Control 176–7, 191–6, 198–200, 214–5, 217
non-obligatory 191–4, 214, 217
obligatory 191, 193–4, 199, 214, 217
see also coreference, disjoint reference, infinitives, obviation

Copy 37–9, 107–9, 113, 115–7, 124–30
see also chains

Coreference 171–3, 175–8, 193
see also control, disjoint reference, infinitives, obviation

D

Declaratives 144, 151, 204–5, 207, 210, 227–9, 231, 233–4

Deletion 37–8, 71–2, 78, 84–5, 124–6, 129–30, 204

Disjoint reference 177, 191, 193, 200, 201, 203, 213, 217
see also control, coreference, infinitives, obviation

D-linking 20–1, 23, 26
see also specificity

Domain of quantification 1–2, 11–2, 15, 17, 102

Double access reading 224
see also modals

E

Edge 45, 47–8, 54–7, 62, 65–6, 68, 107, 222

Edge Condition 55
see also activity condition, locality, sub-extraction

Ellipsis 71–8, 80–1, 83, 85–7, 124–6, 129–30, 196–7

Emphatic affirmative markers 143, 145–7, 150, 153, 163, 167
see also polarity

Emphatic affirmative sentences 134–6, 141, 143–4, 147, 149–51, 153–5, 164–7
see also polarity

Entailment 1, 5, 7–9, 12

Evidential systems 223, 227, 231–2

Exclamative sentences 89–92, 95–6, 99, 101–2, 105–6, 108, 110, 147, 149, 154, 163–4

Exhaustivity 74, 81–4, 87
see also focus

Existential *there* 21, 27–9, 35–6

Extreme degree quantifiers 102–4

F

Focus 22, 42, 60, 71–5, 77–87, 101, 107–8, 133, 145, 147, 150, 153–6, 163–4, 167, 185, 226
see also contrastiveness, exhaustivity

Focus movement 77, 80–5, 87

Focus Phrase 81, 83, 85, 101, 108, 133, 135, 143–8, 151, 153–5, 163–5
see also left periphery

Force 141–2, 145, 155, 163, 165–7, 185–7, 209, 221–3, 226–9, 231–5

Force Phrase 133, 135, 144, 151, 155, 165–7

see also left periphery
Freezing 45, 49, 51, 53, 56, 60–4
see also activity condition

I
Imperfect 2, 10, 17
see also perfect
Imperfective 1–5, 17
see also perfective
Imparfait 2, 3, 10, 13
Imperfecto 2, 3, 9–10, 13
see also perfecto
Implicature 1, 10, 15, 102, 104, 141, 157
Infinitives
inflected 176, 191, 193–200, 202–10, 213–7
personal 215
see also control, coreference, disjoint reference, obviation
Inherent accusative 67
see also case-marked objects, structural accusative
Islands 26, 29, 46, 51, 53, 62, 95, 106, 113–4, 117–20, 123, 126, 130, 211
weak 21, 25–6, 29–33, 37, 43, 114–15, 123, 126–7
see also relativized minimality

L
Left periphery 21, 38–40, 133–5, 154, 163–4, 167, 171, 182, 185–8, 226
see also focus phrase, force phrase, polarity phrase
Locality 38–9, 45, 54–6, 68, 173
see also activity condition, edge condition, sub-extraction

M
Modals
counterfactual reading of 1–2, 5, 8, 12, 14–17
epistemic 1–6, 9–10, 12–17, 221–31, 235
implicative reading of 1, 2, 7, 9, 14–16
root 8, 221–2, 224–8, 231, 235
Mood opposition 171, 182, 188
see also subjunctive

N
Negation 2, 13–15, 89–91, 95–102, 104–10, 140, 144, 147, 153, 158, 162–4, 182–5, 206–8, 213

O
Object Shift 63–4, 78–80
Obviation 171–80, 182–9, 191, 193, 200–3, 214
see also control, coreference, disjoint reference, infinitives, subjunctive complementizer

P
Passé composé 1–5, 7–8, 10, 13–16
Past participle agreement 26–7, 30, 33, 39
Perfect 2, 6, 14–16, 78
see also imperfect
Perfective 1–5, 7, 10, 14–17, 234
see also imperfective
Perfecto 1, 14–16
see also imperfecto
Person feature 221–3, 226, 230, 235
Phase heads 54, 171, 186–8
Pied-piping 61–2
Polarity 89–90, 96, 102, 104–5, 133–7, 139–44, 153, 158, 161–3, 166–7, 188, 228–30, 234
items 89, 96, 102, 105
negative 90, 104–5, 143–4, 159, 188
positive 102, 104–5, 137, 139, 141–2, 144, 153, 159
see also emphatic affirmative markers, emphatic affirmative sentences
Polarity Phrase 133, 135, 140, 143, 151, 153–4, 159, 163–7
see also left periphery
Presuppositional import 133, 155–6, 167
see also emphatic affirmative markers
Preterit 1, 2, 5–7, 9–12, 15–17
Pretérito 2–5, 7, 9–10, 12–17
see also perfect, imperfect
Pseudogapping 63, 71–3, 76–80, 83–7
see also ellipsis, focus

R
Reconstruction 21, 25, 28–31, 36–8, 43, 55–6, 63, 74, 89–90, 107–10, 113–30
see also antireconstruction
Relativized Minimality 37, 46
see also islands
Resumption 113–30

S
Scope reconstruction 21, 29–31, 36
Scope relations 89–90, 96, 98–9, 102, 106–7
Sluicing 46, 72, 77, 86–7
see also ellipsis, focus
Specificity 19–21, 23–32, 35, 37, 41, 43, 49, 63, 65
see also D-linking
Speech event 224, 227, 230–1, 235
Structural accusative 67
see also case-marked objects, inherent accusative
Sub-extraction 45–6, 48–9, 51–2, 55–64, 66–8
see also activity condition, edge condition, locality
Subject Condition 45, 50–1, 53–4, 56, 58, 60, 62
Subjunctive 171–3, 175–89, 191, 193–4, 200–9, 211–14, 217, 234–236
see also mood opposition

Subjunctive Complementizer 179–80, 182–3, 185, 188
see also complementizer, obviation

T
Tense 1–6, 9–11, 14–17, 186–8, 194–6, 214–16, 221–7, 231–3, 235
relative 227, 231–3, 235
sequence of 224

W
Weak Crossover 19–20, 22, 37, 39–40, 43
Weakest Crossover 19–20, 22, 37, 39
Wh-operators 19–20, 22, 38, 146–8
Wh-phrases 21, 35, 38, 48, 55, 89, 92–3, 95, 99, 102–7, 164
Φ-features 51, 53, 63
see also agree

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