Romance Languages and Linguistic Theory

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Romance Languages and Linguistic Theory 2008

Selected papers from 'Going Romance' Groningen 2008

Edited by
Reineke Bok-Bennema
Brigitte Kampers-Manhe
Bart Hollebrandse

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Romance Languages and Linguistic Theory 2008

Romance Languages and Linguistic Theory (RLLT)

The yearly 'Going Romance' meetings feature research in formal linguistics of Romance languages, mainly in the domains of morphology, syntax, and semantics, and, to a certain extent, phonology. Each volume brings together a peer-reviewed selection of papers that were presented at one of the meetings, aiming to provide a representation of the spread of topics at that conference, and of the variety of research carried out nowadays on Romance languages within theoretical linguistics.

Editor

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Volume 2

Romance Languages and Linguistic Theory 2008. Selected papers from 'Going Romance' Groningen 2008
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Table of contents

Foreword

From early on Going Romance became the reference conference in the area of formal linguistic research on Romance languages, both at the European and international level, and it has kept this status to date. Organized every year at a different university in the Netherlands (and occasionally elsewhere in Europe), its continuity and quality standards are guaranteed by a steering committee formed by Romanists from all participating institutions. This yearly meeting features research mainly in the domain of syntax, semantics and morphology, and to a certain extent, phonology. It attracts speakers and attendees not only from Europe but also from the rest of the world (North and South America mostly).

The present volume assembles a significant number of selected papers that were presented at the 22nd edition of Going Romance, which was organized by the Chair of Romance Linguistics of the University of Groningen in December 2008. In addition to non-thematic general sessions, this conference featured a workshop on tense and aspect. As is common practice in the publications of volumes from Going Romance, all the submissions were thoroughly peer-reviewed by external referees and on the basis of their judgments the editorial team decided which ones to publish and asked for revisions where required. It is well worth mentioning that the contributions of the invited speakers of the conference, Brenda Laca, Richard Kayne (main sessions) and Hamida Demirdache & Myriam Uribe-Etxebarria (workshop) are all present in this volume.

Over the last three decades, the richness of the empirical phenomena in Romance languages significantly contributed to the research agenda of formal linguistics. Nowadays romance 'problems' have a big impact on virtually every single topic addressed in theoretical approaches to the various fields of linguistics. In many cases existing descriptions from more traditional perspectives have been revitalized, reinterpreted and incorporated into actual theoretical discussions. As a consequence of the methodology used, new data have been brought into the picture, shedding new light on linguistic issues. They are often put in connection with other sets of data that were previously considered to be unrelated. Research on languages of the Romance family has been extended to the dialects and spoken varieties of those languages.

The volume you have before you is an illustrative example of the developments described in the previous paragraph. It contains a wide spread of topics, ranging

from comparative correlatives, Romanian degree constructions to the structure of Italian nouns. More than a third of the articles is dedicated to tense, mood and aspect, thus addressing traditional themes, but shedding new light on them on the basis of recent theoretical insights. The range of languages in this volume not only includes standard, but also non-standard varieties.

The papers by Richard Kayne and Asier Alcázar & Mario Saltarelli concern agreement phenomena that occur in the case of plural imperatives in combination with objects clitics in non-standard varieties of Spanish. Harris & Halle (2005) propose a primarily morphological approach to the same data. The approach of the papers in this volume, on the other hand, is syntactic.

Kayne's analysis involves functional positions for agreement-heads, verb phrases and clitics. He shows that this analysis is more revealing than the one presented by Harris & Halle and ties in to other aspects of Spanish, such as general requirements on clitic ordering. He also links the phenomena under consideration to aspects of the grammar of other languages and dialects, as, for instance, multiple participle agreement in Italian perfect passives.

The central claim put forward by Alcázar & Saltarelli is that imperatives contain a silent prescriptive light verb, which can agree with the subject in the relevant varieties of Spanish. They extend the analysis to imperative expressions with first and third person subjects, proposing that these imperative clauses feature an additional causative head.

Anna Cardinalleti and Lori Repetti's paper is a contribution to the discussion on the distribution and the nature of the vowels appearing in preverbal position in many Northern Italian dialects. Their proposal, primarily based on data from the Emilian dialect of Donceto, differs from previous analyses of preverbal vowels in other Northern Italian dialects. They suggest that they are the spell-out of functional heads merged in CP as well as in IP and that they should be distinguished from true clitic pronouns. According to them they can realize different functional heads in one and the same dialect, and they can have a different distribution in different dialects.

The contribution by João Costa and Ana Maria Martins discusses the appearance of deictic locatives, such as *lá* 'there', in preverbal position in European Portuguese (EP). Although the properties of such locatives differ from those of clitics, the restrictions on their occurrence are strikingly parallel to the well-known restrictions on proclitization in EP. In earlier work Costa and Martins proposed that the latter follow from the fact that in the absence of other licensers a polarity-encoding head Σ above TP needs to be licensed by morphological merger, which requires it to be adjacent to the verb in T. In the present paper they extend this proposal to preverbal *lá*-type locatives, arguing that the latter scramble to spec,TP.

Claudia Borgonovo and Vidal Valmala present an elaborate syntactic analysis of Spanish comparative correlatives (CCs). Given their apparently idiosyncratic properties, CCs have been presented in the literature as providing evidence for Construction Theory. However Borgonovo and Valmala show that, at least for Spanish, the structure of CCs can be derived from, and reduces to, the syntax of A'-movement to topic and focus positions in the left-periphery. They also argue that their analysis can be extended to constructions involving sentence-initial adverbial adjunct clauses in general.

Whereas most of the papers in this volume study phenomena occurring at the clausal level, the contributions by Remus Gergel and Nicola Lampitelli concern, respectively, adjectival and nominal phrases.

Gergel's paper deals with the insertion of *de* in Romanian degree constructions, in particular in degree questions and in subcomparatives. *De*, he claims, is inserted by a last-resort mechanism based on visibility requirements on LF-binding that is sensitive to a dependency of degree binding. Adopting Embick's (2007) structure of AP, he proposes that *de* is inserted as the head of aP, while the degree phrase is inserted in Spec,aP. *De* appears when functional material is missing in the adjectival shell.

Lampitelli presents an analysis of the internal structure of non derived simple nouns in Italian. He shows that a simple phonological account cannot explain the regular alternations in the inflectional endings of nouns. He argues that the final vowel is an analyzable morphophonological complex formed by to elements: a Root-Element expressed by U, A, I or ø and a Number Marker (A for singular or I for plural). Adopting a syntactic approach to noun formation, he introduces a functional $V_{inf}P$ projection, an adjunct to the root, which provides an inflectional site as well as the Root-Element associated with a specific slot.

As mentioned above, a considerable number of papers come under the heading 'tense, mood and aspect'.

Brenda Laca argues against the widely held view that subjunctive forms are defective for Tense. The semantic contribution of subjunctive tenses in Spanish is examined first in root clauses and subsequently in argument clauses. She analyzes the subjunctive tense system in a parallel way to the indicative one and shows that the subjunctive imperfect is interpreted as a real past or a fake past, just like the corresponding indicative form. Key to the analysis is the consideration of Sequence of Tense principles and of temporal-modal restrictions of the context licensing the subjunctives.

Fernanda Pratas addresses the generally known observation that temporal interpretation in Creoles seem to be constrained by stativity: bare stative verbs mean present and nonstatives past. This generalization does not seem to hold for all creoles: Capeverdian statives such as *sabe* ('know') do not behave as nonstatives in

this respect. Pratas explains this in a Dowtonian way, proposing that the internal structure of events has a crucial influence on the temporal reading.

Event internal properties are also central to Lucia Tovena's paper, though from a very different angle. She analyzes verbs like Italian *mordicchiare* (nibble) as event-internal pluractional verbs. These verbs denote composite single events and they grammaticize a local form of number through the part-of relation. This opens the possibility of reading number marking in aspectual terms, whereby fragmenting is a form of modification that perturbs the mapping between event and object.

Both the papers by Monica Alexandrina Irimia and the one by Hamida Demirdache and Myriam Uribe-Etxebarria address temporal interpretation and modality in a morpho-semantic way.

Irimia proposes a morpho-semantic analysis of the *presumptive* (MODAL AUX + BE + PRESENT/PAST PARTICIPLE). Romanian is interesting in this respect because it is modal construction which conveys indirect evidentiality. Irimia proposes that aspectual heads can be interpreted modally and the indirect evidentiality is derived from the semantics of the participle and the verb *be*.

Demirdache and Uribe-Etxebarria explore the morphosyntax-semantics interface of non-root modals in Spanish and French. These languages are contrasted with the morphologically impoverished English. They propose that temporal construals are derived from a single phrase structure (Tense-P > Modal-P > Aspect-P). Syntactic movement of time arguments (*Zeit*-Ps) and/or temporal heads (t°/asp°) accounts for the crosslinguistic variation.

The brief rendering of the contents of the contributions published here proves the wealth of topics, theoretical approaches, analytical solutions and empirical coverage Going Romance stands for, as well as the vitality of the research carried out on Romance languages within theoretical linguistics.

The editors would like to thank here the anonymous referees of the papers, whose valuable comments clearly contributed to the quality of this volume. Special thanks go to Angeliek van Hout, who was member of the local organizing committee of Going Romance 2008 too, as well as to Lieke van Maastricht and Miralda Meulman, for help with administrative and financial matters. We are also grateful to the Centre for Language and Cognition Groningen (CLCG), the Royal Dutch Academy of Sciences (KNAW), the Department of Romance Languages and Cultures (RTC) of Groningen University, and the joint-host organization of the Province, Municipality and University of Groningen. Without their financial support Going Romance 2008 would not have been possible.

In support of a syntactic analysis of double agreement phenomena in Spanish*

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Compound tenses may display double agreement in non-standard varieties of Spanish. Harris & Halle (2005) present a body of new data for affirmative imperatives, where third person plural *-n* is reduplicated (once or twice) or switches places with a clitic (metathesis). Kayne (2008) proposes a syntactic reinterpretation of the data, analyzing imperatives as compound tenses with silent auxiliaries (Kayne 1992). The contending assumptions in these works concern a long standing debate on whether agreement morphology is a product of syntactic operations or the syntax-phonology interface. This paper defends the former view building on an independent proposal by Alcázar and Saltarelli (2008a,b), who identify a prescriptive light verb in imperative clauses. We extend the analysis to imperative expressions with first and third person subjects, proposing that these imperative clauses feature an additional causative head.

1. Introduction

Since the above abstract explains in sufficient detail what the main goal of the paper is, this introduction will be brief and transition to the content areas of the paper without further delay.

The outline of the paper is as follows. Section 2 provides an appraisal of the Harris & Halle vs. Kayne debate, focusing on outstanding questions for the syntactic approach. Section 3 proposes to marry Kayne's analysis with Alcázar & Saltarelli's 'lighter' performative hypothesis. Section 4 extends said hypothesis to include first

* We would like to thank the audiences at *Going Romance 2008*, Richard Kayne and Brenda Laca for comments and suggestions. Thanks to Myriam Uribe-Etxebarria for proposing that we investigate Basque allocutive agreement in connection to the 'lighter' performative hypothesis. This we do in Alcázar & Saltarelli (2009a,b). Two anonymous reviewers helped us improve the paper with their questions and commentary. None of the persons mentioned necessarily agrees with the ideas defended here. We alone are responsible for any inaccuracies or errors.

and third person commands, proposing that the light verb subcategorizes for a causative complement. Section 5 presents the conclusions of the paper.

2. On the characterization of double agreement

Harris & Halle introduce previously unreported data for double agreement phenomena in imperative sentences (see also Minkoff 1994, Harris 1994). The morpheme involved in these cases is *-n*: third person plural across moods and tenses. Note that in Spanish the imperative verb can be expressed in the second or in the third person, the latter being used to denote a polite address. The translation to English of the third person imperatives in Spanish is rendered in the second person. The following data set illustrates the phenomena under investigation. The standard realization of the agreement marker on the imperative verb alone is shown in (1). For non-standard varieties, Harris & Halle report reduplication of this morpheme on the clitic pronoun (2a) and metathesis (local dislocation) of the agreement marker with the clitic pronoun (2b).

(1) *¡vénda-n-lo!*
sell-3PL-it
"(you guys) sell it!"

(2) a. *¡vénda-n-lo-n!*
sell-3PL-it-3PL
"(you guys) sell it!"

b. *¡vénda-lo-n!*
sell-it-3PL
"(you guys) sell it!" (Harris & Halle: 196, ex. 2a)

The terms reduplication and metathesis respond to Harris & Halle's interface analysis. They deal with (2) using an elegant mechanism. The segment to be replicated is enclosed between square brackets and, in the case of partial reduplication, a third element is called upon: a directional angle bracket to indicate what subsequence will be copied.[1] These diacritics would be eliminated after performing the operation. For example, in Madurese plurality is expressed by partial reduplication of the noun: *estre* 'wife', *tre-estre-an* 'wives', formally represented as [es>tre]-an → estre-estre-an = tre-estre-an (see pp. 199–200 for discussion).

1. "Reduplication is a process of word formation whereby a designated contiguous subsequence of elements in a base form is repeated – that is, appears twice – in its entirety ("full reduplication") or in part ("partial reduplication") in a derived form." Harris & Halle: 198. In their analysis, metathesis is reduced to a case of partial reduplication.

Similar phenomena are also found outside imperative expressions, in simple (3) and compound tenses (4). The non-standard Spanish example in (3) shows that the third person plural marker (*-s* in this case) may resurface next to the semantically singular accusative pronoun. In the standard dialect, the plurality of the redundant dative pronoun is not indicated, as *se* is invariant for number. The plural marker hanging on the accusative clitic thus counts as a sort of metathesis on account that *se* must bear an underlying plural feature, even if this feature is not morphologically expressed in the standard. In (4), the nonfinite forms bear an additional copy of *-n*. It is a case of reduplication for Harris & Halle. Note that standard Spanish would not show agreement on nonfinite forms.

(3) *Se* *lo-s* *vendí* *a ellos.*
3.DAT.PL 3.ACC.SG-PLU sell-1.SG.PAST to them
"I sold it to them."

(4) a. *Está-n* *besándo-se-n.*
be-3PL kissing-refl-3PL
"They are kissing each other."

b. *Quiere-n* *ver-me-n.*
want-3PL see.inf-me-3PL
"They want to see me." (Harris & Halle: 213, ex. 29)

With reference to the non-standard examples (2–4), Harris & Halle note that they are widely attested across Latin American and Peninsular varieties and that they respond to register differences. Accordingly, reduplication and metathesis are not to be seen as performance errors.

Harris & Halle separate the examples of compound tenses from the imperative data on the observation that the former do not show metathesis (meaning that in (4) it is not possible for the agreement marker to show only on the gerund or only on the infinitive; compare with 2b). Although their analysis would be able to generate these reduplicated forms, they assume that (4) is a different form of reduplication, since they find speakers who allow (4) but not (2a) and, more generally, they are not aware of any dialect that allows both. This is an important fact, as it suggests that the two phenomena, though related, must respond to independent factors.

Kayne (2008), on the other hand, proposes a syntactic reinterpretation of the data. He reexamines some of the arguments that, for Harris & Halle, rule out a syntactic approach to the above phenomena and point to interface operations instead. Two such arguments concern the lack of arbitrariness in the phonological segments under consideration. For example, if the *-n* is part of the verb root, as in *ten* [hold.VRoot], neither reduplication nor metathesis can occur. Likewise, if *lo* is not an accusative clitic, but an article (*¡hága-n-lo mejor!* 'do it better!' vs. *¡haga-n lo*

mejor! 'do the best thing!' cf. Harris & Halle: 202, exs. 10, 11), said phenomena cannot occur either. Here Harris & Halle assume that agreement morphology is not part of syntactic computation, in line with their Distributed morphology approach (Halle 1990, 1997, Halle & Marantz 1993, Embick & Noyer 2001). But Kayne rightly points out that the operations proposed by Harris & Halle to reduce (2) to reduplication, introduce a redundancy in the system, for they are analogous to the syntactic operations copy and merge. In effect, Harris & Halle view this redundancy in a positive light as the nature of the mechanisms operating at different levels is essentially the same: "While our data have been limited to phoneme sequences, it seems to us not far-fetched to speculate that movement and copy operations outside the phonology are handled by the machinery we have illustrated and defended here" (p. 219). If that were indeed the case, it needs to be ruled out that the syntax did not in fact create (2–4), considering that it has access to the same mechanisms necessary to produce the word/morpheme orders in question: copy and merge.

Kayne raises concerns about the restrictiveness of the operations of reduplication and metathesis to inflectional *-n* and clitic pronouns. He brings forward multiple permutations not ruled out by the mechanisms proposed by Harris & Halle. In fairness to them, it needs to be acknowledged that many of the unattested variants could be ruled out independently by phonological well-formedness conditions, as Harris & Halle discuss in a footnote with good cause (p. 216, fn. 14). That said, Kayne's argument about the thematic vowel (*a*, *e* or *i*) not being targeted for these operations seems more difficult to disregard, among other substantive arguments in his paper, because an additional vowel could hardly violate phonological well-formedness in Spanish. Hence, the participants in the phenomenon are clearly identified as verbal inflection and clitic pronouns, despite Harris & Halle's allusion in the conclusion to 'phoneme sequences'. [2]

As an alternative to the Distributed morphology account, Kayne returns to an earlier proposal about the syntax of imperative sentences (1992). In Italian it is not possible to negate the second person imperative verb (5a); an infinitive must substitute in (5b). He notes that the position for the object clitic with infinitives is normally enclisis (6a vs. 6b). However, negative imperatives constitute a departure from the norm, as they permit both enclisis (7a) and proclisis (7b).

(5) a. *Parla!*
"Speak!"

2. Caribbean Spanish attests to double agreement in nouns (e.g., *café*, *cafe-s-e-s*; the second plural mark triggers epenthesis of *e*; Dominican Spanish), arguably calling for a parallelism.

b. *Non parlare!*
NEG speak.INF
"Don't speak!"

(6) a. *Far-lo sarebbe un errore.*
do.INF-it would.be a mistake
"It would be a mistake to do it."

b. **Lo fare sarebbe un errore.*

(7) a. *Non far-lo!*
NEG do.inf-it
"Don't do it!"

b. *Non lo fare!*
NEG it do.INF
'Don't do it!' (Kayne 2008: 5–6, exs. 40–45)

The variable position of the pronoun in negative imperatives is reminiscent of clitic climbing in Romance, where the pronoun may generally precede (8) or follow a sequence of two verbs, the first one being finite. Kayne would thus see (7) as containing a silent auxiliary which is explicit in compound tenses outside imperative mood. Consequently, in Kayne's analysis, (1) and (2b) are analogous to clitic climbing, with the higher (8) or lower copy being spelled out, while in (2a) both copies are expressed (see 1', 2').

(8) *Gianni lo deve fare.*
Gianni it must.3SG do.INF
"Gianni must do it." (Kayne 2008: 6, exs. 47)

(1') *¡vénda-n-lo-aux!*

(2') a. *¡vénda-n-lo-aux-n!*

b. *¡vénda-lo-aux-n!*

One substantive difference is that in imperatives the verb must move higher than the auxiliary. Kayne assumes the following: "If the complement of an auxiliary is finite, then that complement must raise to a position higher than the auxiliary." (p. 7).

Harris & Halle also report the behavior of these dialects with clitic clusters, where the *-n* may be reduplicated on either clitic (9a,b) or both clitics (9c), depending on the dialect, to the extent that the inflectional marker can appear up to three times (9c; exs. cf. Harris & Halle: 206, ex. 17).

(9) a. *¡Dé-n-me-lo-n!*
give-3PL-me-it-3PL
"Give it to me!"

b. *¡Dé-n-me-n-lo!*
c. *¡Dé-n-me-n-lo-n!*

Consistent with his analysis, Kayne assumes that in these cases the imperative sentence must contain a second silent auxiliary (9').

(9') a. *¡Dé-n-me-aux-n-lo-aux-n!* (Kayne: 6, ex. 53)

Kayne's analysis presents several advantages over Harris & Halle. Double agreement phenomena receive a unified analysis, as the imperative data is brought together with that of compound tenses. Furthermore, reduplication and metathesis are generalized as cases of multiple agreement in the syntax. Kayne also succeeds in providing a syntactic account for dialectal preferences studied by Harris & Halle in the clitic pronouns that most readily accept double agreement (see Kayne 2008, this volume). A major advantage of Kayne's syntactic analysis lies in the fact reported by Harris & Halle that neither reduplication nor metathesis is possible in negative imperatives. In contrast to affirmative imperatives, which show enclisis, negative imperatives in Spanish (subjunctive forms) are proclitic. Kayne assumes here that negation blocks raising the complement.

On the other side of the coin, if Harris & Halle must introduce redundant operations across different levels of representation, Kayne is forced to introduce an empty category in the syntax of imperative clauses and, by the logic of his analysis, two empty categories to address double instances of reduplication. The characterization of the auxiliaries is preliminary at this point. Kayne states that he means variants of *be* and *have* and perhaps modals (p. 7). Another aspect that bears consideration is that, as Harris & Halle note, double agreement in imperatives does not entail double agreement in compound tenses, and vice versa, for the speakers they consulted with. If the syntactic scenario is exactly the same, the analysis can miss an important empirical fact.

Having introduced the quandary in the analysis of double agreement phenomena in Spanish, the rest of this paper is dedicated to explore a more precise characterization of the identity and syntactic role of these auxiliaries in the syntax of imperative sentences. To this end, the paper now turns to an independent proposal by Alcázar & Saltarelli (2008a,b) where imperative clauses are seen as syntactically different from declaratives and interrogatives due to the presence of a prescriptive light v*.

3. The 'lighter' performative hypothesis

We have proposed that the syntax of imperative clauses is uniquely defined by a light verb expressing the relation between the Speaker of an utterance and the

grammatical subject or Addressee (Speaker prescribes [Addressee to *DO P*]). The proposal constitutes a return to part of the conceptual bases of the old performative hypothesis (OPH for short) of Transformational Grammar (Ross 1970), originally built on Austin (1962) and Searle's work (1969) in philosophy of language, and now re-conceived in Minimalist terms (Chomsky 2001, 2008). Other scholars exploring similar options (focusing on the Addressee) include Zanuttini (2008), Mauck et al. (2005) and Jensen (2004). Koopman (2001) proposes a performative-like analysis for Maasai imperatives, positing a silent causative verb with semantics similar to English *get*. In a different line, but also compositional, is Zanuttini & Portner's (2003) account of exclamative clauses as embedded CPs.

The OPH can be characterized by three fundamental assumptions. First, all sentences contain an 'abstract' performative verb responsible for the illocutionary force of the utterance. Secondly, evidence for the 'abstract' performative is necessarily indirect, since the Speaker, the performative verb itself, and the Addressee are all targeted by deletion rules. Lastly, indirect speech acts (*could you pass me the salt?*), where sentence form and intended meaning do not match, are presumed to have the underlying syntax of the intended meaning (e.g., Sadock 1974). Upon closer examination, the three assumptions received sharp and accurate criticism in succeeding scholarly work and the OPH was ultimately abandoned (Levinson 1983, Chierchia & McConnell-Ginet 1990, van der Wurff 2007).

We defend a 'lighter' performative hypothesis (LPH for short) in Minimalism. With particular reference to imperative clauses, the LPH shares with the OPH the assumption that a (light) verb could introduce the Speaker of the utterance and identify the grammatical subject as the Addressee. Nonetheless, the OPH and the LPH are dissimilar in the aforementioned three fundamental assumptions. The LPH is limited to imperative syntax; it is expected to provide realized evidence of the prescriptive light verb and its arguments; and it steers away from overarching claims concerning the interpretation of indirect speech acts, which lie outside the scope of this work. The LPH being limited to imperative clauses, however, it promises to provide theoretical grounds for the asymmetries that imperative clauses present compared to the other two universal types: declaratives and interrogatives (Sadock & Zwicky 1985).

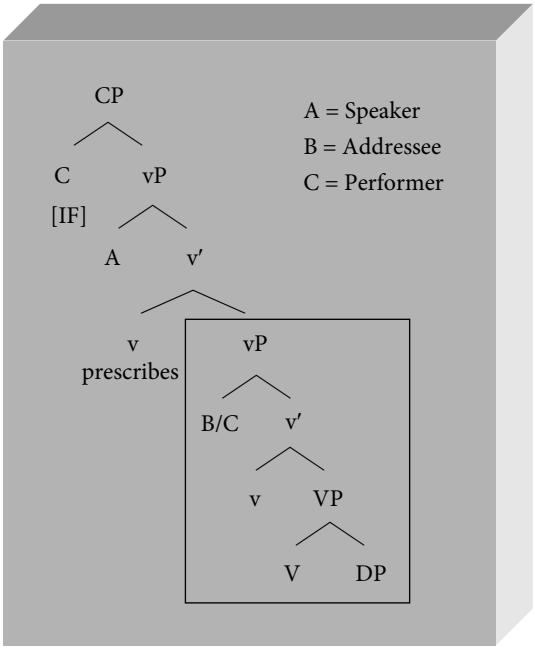
Alcázar & Saltarelli (2008a,b) propose that an imperative clause is characterized by a Complementizer bearing imperative force and the aforementioned 'prescriptive' v*, which introduces the Speaker of the utterance in its specifier, and thematically identifies the subject of the verb as the Addressee (10). Note that the Addressee is also the intended Performer. The figure in (11 cf. Alcázar & Saltarelli 2008b: 9, ex. 22) serves as illustration. The tree is a simplified representation. For example, we assume that prescriptive v* relates to null Speaker and Addressee arguments in the left periphery of the clause (see Baker 2008 and references therein). Basque allocutive

(or Addressee) agreement is realized evidence for the Addressee argument in root clauses. (see Alcázar & Saltarelli 2009a,b for data and discussion).

(10) a. [A 'prescribes' [B/C to *DO P*]] *Go!*
b. [CP [$_{vP}$ A [prescribe-v* [$_{vP}$ B/C [*DO P*]]]]]

(i) Participant argument roles:
Speaker A (=prescriptor)
Addressee B (=recipient of the prescription)
Performer C (=performer of *P*)

(11) The 'lighter' performative hypothesis



We view imperative sentences as prescriptions (following Xrakovskij 2001): "a sentence typically derived in association with the abstract functional properties *v** common to the class of explicit imperative predicates such as *demand, request, prohibit,* etc, but also polite requests such as *invite*, *urge*, etc." (2008b, p. 3).[3]

3. Katz & Postal (1964) introduce presentential markers (Q for questions and I for imperatives) to align syntactic structures and semantic rules of interpretation. Coincidentally, the proposed semantics of I is defined along a similar paraphrase. K & P coin the more general acronym RIM (request, insist, demand).

We propose to identify one of the auxiliaries posited by Kayne as the prescriptive v* of the 'lighter' performative hypothesis (1", 2") that we have developed on independent grounds.

(1") *¡vénda-n-lo-v*!*
(2") a. *¡vénda-n-lo-v*-n!*
b. *¡vénda-lo-v*-n!*

In this manner, one of the empty categories in the syntactic analysis of double agreement is not so empty anymore. It bears a concrete semantic value and shows specific morphological realizations. If the imperative verb moves past this position when realization is null, it may be because the imperative force feature must be prosodically realized (see Alcázar & Saltarelli 2008a and references therein). Kayne's syntactic reinterpretation of the Harris & Halle facts is thus strengthened. Furthermore, if one of the verbs involved in imperative syntax is different from those in non-imperative mood, namely prescriptive v*, then we have cause not to expect that dialects showing double agreement would do so across all moods.

Alcázar and Saltarelli present several arguments that vindicate the existence of a second verbal projection in imperative sentences. For reasons of space, it will be necessary to enumerate some of these arguments. The reader is referred to Alcázar and Saltarelli (2008ab, 2009ab and references therein).

(12) a. Romance imperatives show clitic placement analogous to clitic climbing (e.g., French, Spanish, Italian).
b. Ibero-Romance features causative-like and particle-like verbs in imperatives (e.g., Panamian, Salvadorian).
c. The second verbal position is related to imperative-specific properties, such as the ban on embedding and temporal interpretation (e.g., Maasai, Slavic, Mandarin Chinese and English).
d. From a typological perspective, prohibitive constructions (and their affirmative counterparts) are the preferred means of expressing an imperative clause (e.g., Latin, Greek, Afrikaans, Badiotto).
e. Subject position in negated English imperatives, alongside the distribution of emphatic *do* & *do-support* with *be* and *have (got)* call for a higher verbal position in imperative clauses.
f. Basque allocutive agreement references the Addressee in root clauses, coordinated clauses, parataxis and (exceptionally) in the protasis of conditional clauses. It is banned in embedded clauses. Said syntactic distribution runs parallel to imperative clauses.

4. In search of aux 2: Causatives in other imperative expressions

If indeed the syntactic analysis of double agreement is in the right track, the possibility to reduplicate *-n* twice reported by Harris & Halle would logically be due to the existence of yet another verb. For Kayne this verb would be another auxiliary, presumably analogous to overt auxiliary sequences outside imperative mood in familiar languages. Is it possible to find a third verbal head in imperative sentences? It is in fact possible when imperative sentences are broadened to include expressions that involve a first or third person subject. In these cases one may see an explicit causative verb (13).

(13) a. have/make/let/get John (to) go!
b. have/make/let/get me (to) go!

While in canonical imperatives the Addressee is also the Performer, the causative verb in (13) syntactically disassociates the Addressee role from the Performer role. The LPH can be extended to include first and third person imperatives on the assumption that these imperative expressions contain an additional verbal head: a causative v* (10').

(10') a. [A 'prescribes' [B to 'cause' [C/A/*B to *DO P*]] *Let ... go!*
b. [CP [$_{vP}$ A [prescribe-v* [$_{vP}$ B [cause-v* [$_{vP}$ C [*DO P*]]]]]]]

(i) Participant argument roles:
Speaker A (=prescriptor)
Addressee B (=recipient of the prescription)
Performer C (=performer of *P*)

Let us call the imperative expressions defined in (10') extended imperatives for short. Considering the identity of the Performer argument, imperative expressions naturally divide into canonical or extended (see Table 1 in (14)). In the first, the Performer must be co-referential with the Addressee (type 1). In the latter, there is no such requirement, giving rise to multiple possibilities: the Performer may be disjoint from both the Speaker and Addressee (type 2), be co-referential with the Speaker only (type 3), with both Speaker and Addressee (type 4: inclusive exhortation), or with the Speaker and a third party that is not identified as the Addressee (type 5: exclusive exhortation).

According to our theory, the fundamental difference between canonical and extended imperatives is rooted in the syntax. Extended imperatives contain an additional causative vP in the prescription (cf. 10b'). If we recognize four subtypes of imperative sentences here (cf. types 2–5), it is merely for ease of exposition. Strictly speaking, canonical imperatives have an Addressee that is also a Performer,

whereas in extended imperatives the Addressee is also a Causer. The difference for us lies in the presence or absence of the causative vP in the prescription.[4]

(14) **Table 1**. Arguments and Roles[5]

	Speaker	Addressee	Performer	Imperative sentence
1	A	B	B	*Go!*
2	A	B	C	*Let him/her/them go!*
3	A	B	A	*Let me go!*
4	A	B	A + B	*Let's go!*
5	A	B	A + C – B	*Let us go!*

Realized evidence for distinct Addressee and Performer arguments is readily found in verbal agreement. For example, Basque extended imperatives with an overt causative *utzi* 'let' agree with the Addressee and Performer independently (types 2, 3 & 5). Certain inclusive exhortations in synthetic verbal form (type 4) show both first person plural as well as second person singular agreement. Spanish causatives agree for second person (types 2, 3 & 5), or for first person plural (type 4). Arguably, Spanish causatives agree with the Addressee, or with the Performer to signal inclusive exhortation.

An attractive and simple explanation though this might be, we need to remember that the imperative verb data of Harris & Halle consists of third person imperatives *at a morphological level*, for third person in Spanish imperatives, as well as other moods, is interpreted as an honorific. The command is still a direct address. Hence, the semantics for it is (10a) and not (10a').

At this point we have reached a quandary. Either the syntax of the honorific is that of (10b), with prescriptive v* and the imperative verb, or it is that of (10b'), with the additional causative vP. In the first case, it is not clear what the third verb would be, it would remain unidentified. On the other hand, if the morphology of the honorific is consistent with its syntax, then the direct address interpretation arises pragmatically. An additional causative head would be expected. The causative head is not explicit in the Harris & Halle examples, but we know that it need

4. The Performer role is not intended as a new thematic relation or part of our theory's ontological commitment. Whatever theta-role the 'Performer' argument bears will be determined by the predicate with which it is construed (e.g., Agent, Causer). The Performer role thus serves a narrative function in our discussion. By contrast, the Speaker and Addressee roles are intended as genuine thematic relations explicitly represented in imperative/performative syntax.

5. Absent from this table are apparent gaps in the paradigm, such as self-exhortations in canonical imperatives (Speaker A Addressee A) and self-exhortations in extended imperatives (Speaker A Addressee B Performer B).

not be; for example, 'someone open the door!' or the Spanish counterpart with an overt complementizer (*¡que alguien abra la puerta!* [Lit.: that someone open the door]). If the second option were correct, we can identify the aux 2 in Kayne's analysis with a causative head, providing a rationale for double instances of reduplication in the sense of Harris & Halle (9").

(9") a. *¡Dé-n-me-v*-n-lo-v*-n!* PRESCRIBE, CAUSE

On this last note, the section ends with a discussion of the similarities between extended imperatives and double causative constructions. The similarities suggest that coercing (10'b) into an honorific interpretation may not be simply pragmatics, but syntactically or semantically principled. How these principles would operate is beyond our understanding at this point, but we think it is worthwhile pointing to the similarities.

Regarding morphological causatives, the causative head may merge once or *twice*, depending on the language. For example, in Capanawa the causative morpheme *ma* can merge twice (15: Payne 1990: 229 cf. Dixon 2000: 60).

(15) a. *-mapet* "ascend"
b. *-mapet-ma* "bring [it] up" (i.e., make ascend)
c. *-mapet-ma-ma* "make/allow someone to bring [it] up"

In Apalai, the causative morpheme is *-ma-* or *-nohpo-* for intransitive verbs and *-po-* for transitives. As (16) shows (Koehn & Koehn 1986: 51 cf. Dixon 2000: 61), both morphemes can be merged in sequence. Other languages with double causatives are Turkish, Hungarian, Kabardian, Karbi, Nivkh (see Dixon 2000 and references therein; Comrie 1985).

(16) a. *otuh* "eat"
b. *otuh-ma* "feed [someone], i.e., make someone eat"
c. *otuh-ma-po* "get [someone] to feed [someone]"

Granted the differences that exist between double causative constructions and extended imperatives, we note that both structures share at least one causative vP. In addition, a second vP introduces a higher subject argument, giving both types of sentences a sort of parallel argument structure. If we agree with the analysis advanced by Koopman for Maasai (2001), it would be possible to regard 'prescriptive' v* as a causative too, perhaps entering a unique relation with the illocutionary force operator in C, making it a prescription (vs. past tense, which is not interpreted as a prescription).

One characteristic of double causative constructions that has called our attention is that they can be coerced into a different meaning. For example, in Tariana they can be used to express 'intensity of causation' (71 cf. Aikhenvald 2003: 272–3;

also in Warekena of Xié cf. Aikhenvald 1998: 348–52), rendering one of the argumental subject positions semantically null. This is fairly interesting, as languages like Spanish may resort to the syntax of an extended imperative (overt complementizer type: *¡que te vayas!* 'GO, damn it!') to denote the 'intensity of the prescription' of a canonical imperative. These are used in repetitions of canonical imperatives and strong canonical imperatives. On the assumption that extended imperatives contain a causative vP, the argumental subject position has been rendered semantically vacuous as well in these familiar cases.

5. Conclusion

This paper has appraised an open debate on the best possible analysis of double agreement phenomena that has been sparked by new data discussed in Harris & Halle and Kayne's response to it. The data is relevant in its own right, but it also bears direct relation to an important facet of the architecture of the grammar: where does agreement morphology belong? Taking sides with Kayne's syntactic analysis, this paper has proposed to identify the two auxiliary positions as light verbs or v*. One of these heads is likely the prescriptive v* of the 'lighter' performative hypothesis of Alcázar & Saltarelli. The second verb might as well be the causative head that imperative expressions may display when the subject is not a second person. If the above is correct, the syntax can handle double agreement in imperatives and other moods and also associate their distribution to related phenomena in the languages involved. As a syntactic phenomenon, double agreement phenomena resemble number agreement for infinitives in Brazilian Portuguese, which perhaps indicates that Spanish is moving in this direction. That being the case, Kayne is right in seeing the unexpected plural inflections reported by Harris & Halle as no grounds for the syntax-phonology interface to be allowed copy and merge operations that are largely attested in the syntax.

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The syntax of Spanish comparative correlatives*

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In this paper we provide a principled account of the syntactic properties of Spanish Comparative Correlatives (CCs) within Principles and Parameters theory. CCs have lately been at the centre of the debate between Construction Theory proponents, who claim construction status for them because of their idiosyncratic syntax and semantics, and supporters of UG-based syntax.[1] We contribute to this debate by showing that, despite appearances, Spanish CCs have a regular internal and external syntax. Assuming a cartographic approach to the syntax of Topic and Focus, we argue that their informational properties are the clue to their macrostructure. Specifically, we propose that C1, the first clause of CCs, is a subordinate clause that sits in the specifier position of the topic Phrase of the main clause and is followed by a focus-fronted constituent which occupies the specifier position of the focus Phrase of the main clause. We also show that our analysis can be extended to other sentence-initial adverbial adjunct clauses.

1. Introduction: Constructions and comparative correlatives

Within the Principles and Parameters approach, the term *construction* is used to refer to chunks of syntactic structure with certain identifiable properties, as in the passive or raising constructions, for instance. The notion does not have any theoretical status; constructions are epiphenomena whose properties derive from the properties lexical items have plus the properties of the computational system as encoded in UG. In Construction Grammar, on the contrary, constructions are the

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1. Universal Grammar or UG is here to be taken as the innate faculty of language as understood in the work of Chomsky (1995, for example) and many others.

central and primitive units; all syntactic structures are constructions in this sense and are stored as pairs of form and meaning (Goldberg 2003). Comparative correlatives, as in (1), are one of the main empirical areas of debate between these two approaches.

(1) The more cheese you give him, the more wine he'll demand.

CCs have been used as an argument in favour of the existence of constructions as theoretical constructs because, as Culicover (1999), Culicover & Jackendoff – C&J– (1999, 2005), and Abeillé & Borsley (2008) argue, their syntax is idiosyncratic and their semantics non-compositional. If constructions are widely needed in view of CCs and other examples they analyze, C&J ask, why not dispense with UG entirely instead of having two systems, the UG-ruled core and the construction-laden periphery?

If one believes that there is more than enough evidence in favour of UG, then there is an interest in minimizing the role of constructions (in the sense of syntactic units which theories such as the Principles and Parameters approach or Minimalism cannot handle on the basis of UG-fixed principles) by expanding the empirical coverage of UG in order to account for as much data as possible. There still might be a constructional residue, but in this case, the smaller, the better.

In this paper we examine Spanish CCs with the intention of contributing to the Construction vs. UG debate. We show that the syntax of CCs is reducible to syntactic patterns attested independently in the language and we conclude that they do not constitute an argument against a UG-based approach to syntax. We propose that their general phrase structure is best investigated on the basis of their informational properties, which we translate into a cartographic account (as in Rizzi 1997). To conclude, we suggest that the account of CCs we propose can be extended to other high sentential adjuncts such as conditionals and temporal clauses.

2. The internal structure of C1 and C2

Following the tradition, let us call the CC's first constituent C1 and the second C2. As illustrated in (2), the defining property of C1 and C2 is the presence of a displaced constituent in initial position (*cuanto más* in C1 and *tanto más contento* in C2). C2 may be introduced by the determiner/adverb *tanto* (so much), which is always optional; C1 is always introduced by the determiner/adverb *cuanto* (how much).

(2) [$_{C1}$ *Cuanto más comes*], [$_{C2}$ *(tanto) más contento estás.*
how.much more eat.you (that.much) more happy are.you
"The more you eat, the happier you are."[2]

There is a syntactic dependency relation between the displaced constituent and the internal gap in both C1 and C2; as shown in (3) and (4), it exhibits Complex-NP and Wh-island condition effects. We thus conclude that the displaced constituents in C1 and C2 undergo movement from the position of the gap to their surface position.

(3) a. **Cuanto más interesante oigas el rumor de que es, ...*
how.much more interesting hear.you the rumour of that is
"The more interesting you hear the rumour that he is, ..."

b. *?*Cuanto más interesante te preguntes si es, ...*
how.much more interesting yourself ask.you if is
"The more interesting you ask yourself whether he is, ..."

(4) a. *..., *tantos más confirmarás la sospecha de que son.*
that.many more will.confirm.you the suspicion of that are
" ..., the more you will confirm the suspicion that they are."

b. *..., *?menos te preguntarás si hay.*
less yourself will.ask.you if there.are
"..., the less you will wonder whether there are."

The question is what kind of A'-movement CCs instantiate. Of the three possible candidates –topicalization, Wh- and focus movement–, the first can be eliminated since in CCs (in 5), as in Wh- (in 6a,b) and focus movement (6c,d), but not in topicalization (6e), the fronted constituent must be adjacent to the verb.

(5) **Cuanto más queso Juan come, *más jamón Pedro come.*
how.many more cheese Juan eats more ham Pedro eats
"The more cheese Juan eats, the more ham Pedro eats."

(6) a. *¿Cuánto queso come Juan?*
how.much cheese eats Juan
"How much cheese does Juan eat?"

b. **¿Cuánto queso Juan come?*

c. DEMASIADO QUESO *ha comido Juan.*
too.much cheese has eaten Juan
"Too much cheese Juan has eaten."

2. We translate Spanish CCs into their English counterparts; the reader should keep in mind the glosses, which make it clear that *cuanto* is *how much/many* and *tanto* is *that much/many*.

d. *DEMASIADO QUESO *Juan ha comido.*

e. *El queso Juan lo come con pan.*
the cheese Juan it eats with bread
"The cheese, Juan eats it with bread."

Obligatory adjacency between V and the fronted contituent, then, eliminates topicalization as a possible candidate for fronting. We claim that the initial constituent in C1 instantiates Wh-movement; *cuanto* is a Wh-element which appears in Wh-questions (7a), free relatives (7b) and exclamatives (7c) in the language:

(7) a. *¿Cuánto queso ha comido Juan?*
how.much cheese has eaten Juan
"How much cheese has Juan eaten?"

b. *Él comió cuanto quiso.*
He ate how.much wanted.he
"He ate as much as he wanted."

c. *¡Cuánto queso hay aquí!*
how.much cheese there.is here
"What a lot of cheese there is here!"

A little bit more controversially, we propose that the movement operation in C2 is focus fronting. Semantically this is a plausible analysis, since it is a well-known fact that quantified expressions like the ones under discussion are good focuses but not good topics. The parallelism between (8a), in which C2 appears as an independent answer with the *tanto*-phrase as a clear focus, and (8b), a CC with the same lexical material, supports our claim. (8a) is structurally similar to C1, the difference being that the fronting of the QP is the result of interrogative Wh-movement in the former. The self-answer that follows shows the same type of focus fronting we argue for in C2, the difference being that the second sentence in (8a) illustrates focus movement of *(tanto) más* in an independent sentence.

(8) a. *¿Cuánto más estás dispuesto a ofrecerme tú, dos millones?*
how.much more are ready to offer.me you two millions
Entonces (tanto) más pienso pedirte yo... ¡porque.
then (that.much) more think.I ask.to.you I because
no quiero vender!
not want.I sell
"How much more are you ready to offer me, two millions? Then that much more I will ask you...because I don't want to sell!"

b. *Cuanto más estés dispuesto a ofrecerme tú,*
how.much more are.you ready to offer.me you

(tanto) más pienso pedirte yo... ¡porque no quiero vender!
(that.much) more think.I ask.to.you I because not want.I sell
"The more you are willing to offer to me, that much more I'll ask you... because I don't want to sell!"

We now present a first piece of evidence for the focus status of the QP in C2. Sentences can have multiple topics, but foci cannot multiply. Given this, we predict that C2 cannot coexist with a sentential focus. We start by embedding a CC under *es obvio* (it is obvious), in (9a). The b. sentence shows *obvio* in focus position, with the QP in C2 in a post-verbal (i.e., not focus fronted) position. The c. sentence shows that focus fronting of the same QP is incompatible with a focused *es algo obvio*:

(9) a. *Es obvio que cuantas más veces leas el artículo,*
it.is obvious that how.many more times read.you the paper
mejor lo entenderás.
better it will.understand.you
"It is obvious that the more times you read the paper, the better you will understand it."

b. *Que cuantas más veces leas el artículo lo*
that how.many more times read.you the paper it
entenderás mejor es algo OBVIO.
will.understand.you better is something obvious
"That the more times you read the article, you'll understand it better is something obvious."

c. *??Que cuantas más veces leas el artículo mejor lo*
*??*that how.many more times read.you the paper better it
entenderás es algo OBVIO.
will.understand.you is something obvious

We now present a second piece of evidence in favour of considering the displaced QP in C2 as focus. The complementizer *que* can optionally appear between the fronted comparative and the Infl + V complex in C2 but not in C1 (10). This is, in principle, rather strange, given that C2 is the matrix and it is the subordinate clause that one would expect to have an overt complementizer:

(10) a. *Cuanto más comes, más que engordas.*
how.much more eat.you more that get.fat.you
"The more you eat, the fatter you get."

b. **Cuanto más que comes más engordas.*
how.much more that eat.you more get.fat.you

Notice that *que* appears with other focus fronted elements (11a,b), which confirms that the QP in C2 is focus (11).

(11) a. *¡UN DIAMANTE (que) se ha comprado Ana!*
a diamond (that) REFL.3SG has bought Ana
"Ana has bought a DIAMOND!"

b. *¡CUÁNTO DINERO (que) tiene Ana!*
how.much money (that) has Ana
"How much money Ana has!"

We now turn to C1's and C2's subject position. Ordóñez (1997) proposes that in Spanish questions post-verbal subjects are in [Spec,VP] on the basis of the impossibility of floating quantification (12). As shown in (13), the floating quantification test suggests that in clauses with a focus-fronted constituent the post-verbal subject is also in situ.

(12) *¿[$_{CP}$ *De dónde vienen estos turistas* [$_{VP}$ *todos*]]?
from where come those tourists all
"Where do all those tourists come from?"

(13) *QUESO FRANCÉS *comen mis hijos todos.*
cheese French eat my children all
"FRENCH CHEESE eat all my children."

If, as we claim, C1 and C2 feature Wh-movement and focus fronting respectively, the subject should also be in situ. The floating quantification test confirms this for both C1 (14a,b) and C2 (14c,d):

(14) a. *Cuanto más felices sean todos mis hijos, más feliz seré yo.*
how.much more happy are all my children more happy will.beI
"The happier all my children are, the happier I will be."

b. **Cuanto más felices sean mis hijos todos, más feliz seré yo.*
how.much more happy are my children all more happywill.be I

c. *Cuanto mejor padre consiga ser, más felices serán todos mis hijos.*
how.much better father get.I be more happy will.be all my children
"The better father I become, the happier all my children will be."

d. **Cuanto mejor padre consiga ser, más felices serán*
how.much better father get.I be more happy will.be
mis hijos todos.
my children all

Ordóñez (1997) argues against V to C movement in Spanish Wh-questions. In the case of C2 it is clear that V to C movement does not take place, as the complementizer can optionally appear between the focus fronted constituent and the verb (15).[3]

(15) *Cuanto más dinero le das, más dinero que gasta.*
how.much more money to.him give.you more money that spends
"The more money you give him, the more money he spends."

As for C1, neither the declarative complementizer *que* nor the interrogative complementizer *si* can appear between the fronted comparative and the verb (16a). But this should not be taken as an indication of V to C movement, as the impossibility of a complementizer in these contexts could be due to Doubly-Filled Comp Filter effects. If we assume Ordóñez (1997)'s proposal that proclisis reveals that the verb does not move to Comp in wh-questions, the verb cannot have moved to comp in C1, as in these contexts there is also proclisis (16b,c).

(16) a. **Cuanto más dinero que/si le das, más*
how.much more money that/whether to.him give.you more
dinero gasta.
money spends
"The more money you give him, the more money he spends."

b. *Cuanto más dinero le das, más dinero gasta.*
how.much more money to.him give.you more money spends
"The more money you give him, the more money he spends."

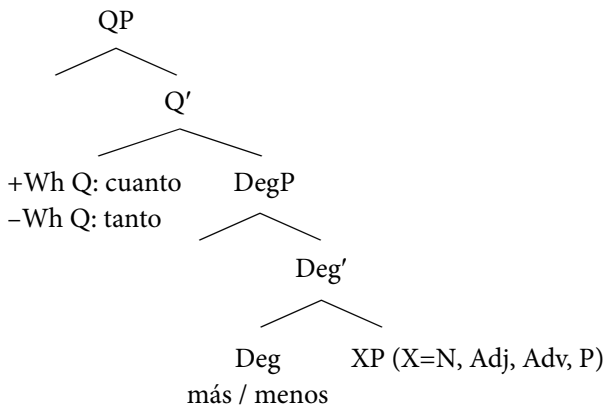
c. **Cuanto más dinero das-le, más dinero gasta.*
how.much more money give.you-to.him more money spends

To complete this section, we will assume without further discussion the structure in (17) for both displaced QP constituents: it is partially based on Kennedy (1999).

3. As has been noted by Demonte & Fernández Soriano (2005), the complementizer can also show up in focus fronting in the general case (i).

(i) UN DIAMANTE *que le han dado!*
a diamond that to.him have given
"A DIAMOND she has been given!"

(17)



3. The macro-structure of Spanish CCs

There is ample and convincing evidence in favour of C1 being a subordinate clause in Spanish. We will limit ourselves to the following: Firstly, there exists a clear dependency relation between C1 and C2, such that C1 cannot be uttered on its own (18B).

(18) A. *¿Qué pueden hacer para aprender más?*
what can.they do to learn more
"What can they do to learn more?"

B. **Cuantos más libros lean.*
how.many more books read.they
"The more books they read."

In the second place, Wh-extraction is grammatical out of C2 (19a) but not out of C1 (19b); CED effects are responsible for the latter, since the PP is extracted from the adjunct clause (examples from Abeillé et al. 2006, attributed to Cristina Sánchez).

(19) a. *Dime de quién, cuanto más lo conoces, menos te fías.*
tell.me of whom how.much more him know.you less REFL.you trust
"Tell me whom the more you know him, the less you trust."

b. **Dime a quién, cuanto más conoces, menos*
tell.me to whom how.much more know.you less
te fías de él.
REFL.you trust-you of him
"Tell me whom, the more you know, the less you trust."

Lastly, when a CC is embedded under an intensional subjunctive selecting verb, the verb in C2 (i.e., the matrix verb) is the one which must appear in the subjunctive. This

again indicates that the verb in C1, because of its immunity to external selection, is embedded. We thus conclude that C1 is an embedded clause and C2 is the matrix.

(20) a. *Quiero que cuanto más leen, más entiendan.*
want.I that how.much more read.IND.they more understand.SUBJ.they
"I want them to understand more the more they read."

b. **Quiero que cuanto más lean, más entienden.*[4]
want.I that how.much more read.SUBJ.they more understand.IND.they

Let us now consider the position that C1 occupies in the structure. Clitic left dislocated – such as *a Juan* in (21a) – and topicalized -*dinero* in (21b)- elements appear before C1, showing that the latter does not occupy the topmost position in the structure:

(21) a. *A Juan, cuanto más queso le das, más vino le tienes que poner.*
to Juan how.much more cheese to.him give.you more wine to.him have.you to put
"The more cheese you give to Juan, the more wine you have to give him."

b. *Dinero, cuanto más tienes, más quieres.*
money how.much more have.you more want.you
"The more money you have, the more money you want."

As shown in (20), the complementizer appears above C1 when CCs are embedded; all this evidence suggests that C1 is adjoined to an IP-related position.[5] Incidentally, the evidence presented here argues against the structures posited for CCs in Den Dikken (2005) and Taylor (2006); both authors claim CP adjunction for C1.[6]

We now discuss more evidence indicative of the structural position of C1. Iatridou (1991), when considering the structural position of sentence-initial and sentence-final *if*-clauses, concludes that the former are left-adjoined to IP and the latter are right adjoined to VP or I' on the basis of the Principle C effects illustrated in (22). We obtain exactly the same Condition C effects for the position of C1 in CCs (23).

(22) a. If Mary_i is hungry, she_i yells at Bill.

4. Subjunctive in C1 is fine when CCs are not embedded and it also is when they are; it is the indicative morphology in C2 that causes ungrammaticality in this example.

5. Inflection Phrase, the projection between the complementizer domain and VP, is a position lower than the projection that contains the complementizer

6. In the Principles & Parameters approach, the highest sentential projection.

b. *She$_i$ yells at Bill if Mary$_i$ is hungry.

(23) a. *Cuanto más enfadado está Luis$_i$, más pro$_i$ grita.*
how.much more angry is Luis more pro yells
"The angrier Luis is, the more he yells."

b. **pro$_i$ grita más cuanto más enfadado está Luis$_i$.*
pro yells more how.much more angry is Luis

We draw two conclusions from these facts. Firstly, C1 in canonical CCs occupies some position below the highest CP-related head of C2 but is not c-commanded by the matrix subject. Secondly, the absence of obligatory reconstruction effects to the post-verbal position indicates that, like the protasis in conditionals, C1 can be generated in initial position.

Iatridou also argues that in some cases the sentence-initial position of *if*-clauses is derived by movement. She concludes that the *if*-clause in (24) has moved from the embedded pre-IP position on the basis of the existence of island restrictions (25a), and obligatory Principle C reconstruction effects to the embedded pre-IP position (25b) but not to the final position of the embedded clause (25c).

(24) If it rains, Mary believes that Bill will come.

(25) a. *If it rains Mary heard the rumour that Bill will come.
b. *If John$_i$ is sick, he$_i$ thought that Bill will visit.
c. If John$_i$ is sick Mary said that he$_i$ takes aspirin.

Let us now return to the position of C1 in CCs. C1 can appear in what seems to be a displaced position in the matrix clause (26). That C1 in these contexts is moved from the embedded clause is also confirmed by the Complex NP Constraint effects in (27a). Furthermore, the reconstruction effects of (27b) and the lack of reconstruction effects in (27c) indicate that C1 has been moved from the pre-IP position of the embedded clause.

(26) *Cuantos más pomelos comes, yo creo que más*
how.many more grapefruits eat.you I believe that more
adelgazas.
lose.weight.you
"The more grapefruits you eat, I think the more weight you lose."

(27) a. **Cuantos más pomelos comes, he oído el*
how.many more grapefruits eat.you have.I heard the
rumor de que más adelgazas.
rumour of that more lose.weight.you
"The more grapefruits you eat, I heard the rumour that the more weight you lose."

b. **Cuantos más pomelos coma Juan$_i$, pro$_i$ cree que*
how.many more grapefruits eats Juan pro thinks that
más naranjas comerá Luis.
more oranges will.eat Luis
"The more grapefruits Juan eats, he thinks that more oranges Luis will eat."

c. *Cuantos más pomelos coma Juan$_i$, María dice que*
how.many more grapefruits eats Juan María says that
más pro$_i$ adelgazará.
more pro will.lose.weight
"The more grapefruits John eats, María says that the more weight he will lose."

In Spanish CCs, then, C1 sometimes moves from the initial position of an embedded clause to the initial position of a matrix clause.

4. A cartographic approach to CCs

We now turn to the informational properties of CCs, which provide us with the clue as to their overall phrase structure. We can show that C1 is part of the common ground and C2 is the bearer of new information; consider the following exchange:

(28) A. *Pedro quiere comer más queso.*
Pedro wants eat more cheese
"Pedro wants to each more cheese."

B1. *Pero cuanto más queso coma, más vino beberá!*
but how.much more cheese eats more wine will.drink.3SG
"But the more cheese he eats, the more wine he'll drink!"

B2. #*Cuanto más vino beba, más queso le daré.*
how.much more wine drinks more cheese to.him will.give.I
"The more wine he drinks, the more cheese I'll give him."

The sentence in (28A) conveys information to which (B1) and (B2) respond. B1 is felicitous, because C1 contains what is now considered old information; (B2) is not, precisely because C1 contains new information and C2, old.

To complete the picture, we show that C2 contains information relevant to provide the answer to a question, which makes it focal, as shown in the question-answer pairs below.

(29) A. *¿Os divertís en las fiestas?*
REFL.2PL have.fun.you at the parties
"Do you have fun at parties?"

B1. *Pues mira, cuanta más gente hay, más nos divertimos.*
well look how.much more people there.is more REFL.1PL have.fun.we
"Well, you know, the more people there are, the more fun we have."

B2. *#Pues mira, cuanto más nos divertimos, más escándalo hacemos.*
well look how.much more REFL.1PL have.fun.we more scandal make.we
"Well, you know, the more fun we have, the rowdier we get."

These facts indicate that C1 has topic-like properties and C2 is either focus or comment, but in all cases a focal element, the fronted comparative of C2, follows C1. Additional evidence in support of our claim comes from recomplementation (Uriagereka 1988, Fontana 1993), a phenomenon which consists in marking topics and foci/comments in embedded structures via the repetition of the complementizer *que*: in (30) the first complementizer precedes the topic *a su hermana* and the second precedes the focus-fronted object *un diamante*.

(30) *Luis dice que a su hermana que* UN DIAMANTE *le dieron.*
Luis say that to his sister that a diamond to.her gave.they
"Luis says that they have given his sister a diamond as a present."

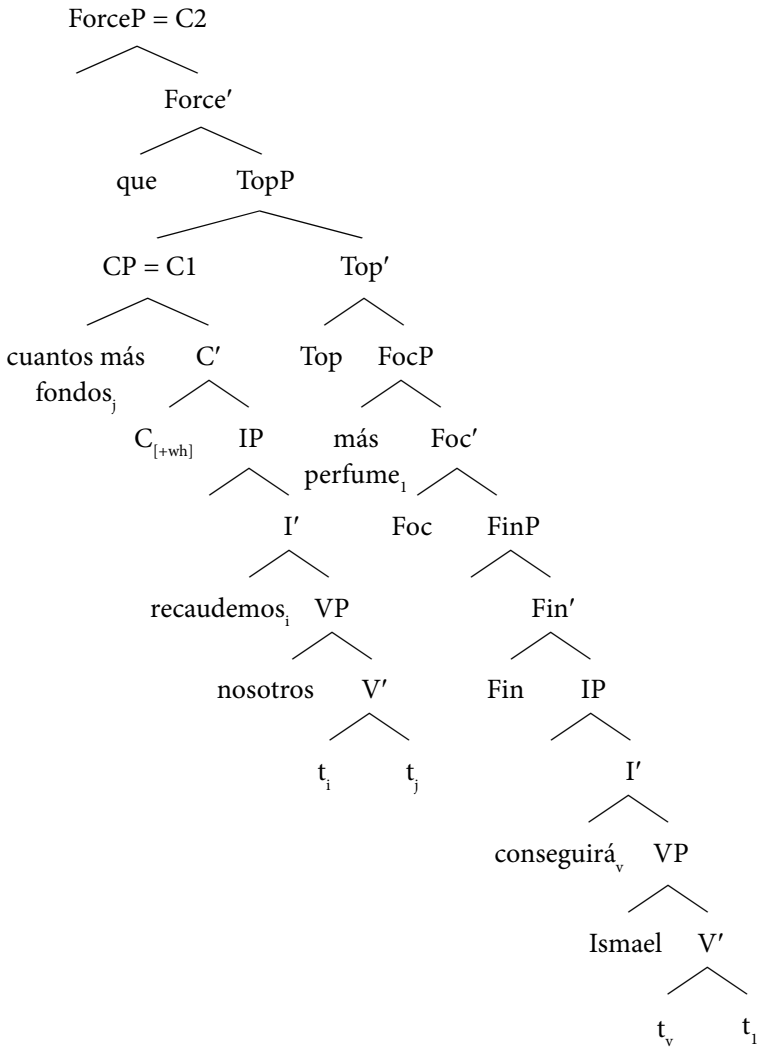
Interestingly, as shown in (31), recomplementation is compatible with CCs, with the first complementizer preceding C1, which we consider to be topical, and the second preceding the comparative in C2, which we consider to be focal. Thus, the parallelism observed between (30) and (31) clearly supports our claim.

(31) *Dicen que cuantos más fondos recaudemos, que MÁS* DELEGADOS *conseguiremos.*
say.they that how.much more funds collect.we that more delegates will.get.we
"They say that the more funds we collect, the more delegates we'll get."

Based on all the evidence gathered and discussed here, we propose the macrostructure of Spanish CCs in (32b) for (32a), which translates our insights about the informational properties of CCs onto a cartographic representation of clausal architecture (Rizzi 1997).

(32) a. *Creo que cuantos más fondos recaudemos nosotros,*
think.I that how.many more funds collect we
más perfume conseguirá Ismael.
more perfume will.get Ismael
"I think that the more funds we gather, the more perfume Ismael will get."

b.



C1 occupies the Spec position of topic Phrase of C2; the A'-moved QP in C1 is in the Spec position of its CP.[7] The focused QP which follows C1 is in the Spec position of the focus Phrase of C2. Both subjects remain in their initial, VP internal position and both verbs move to I.

This structure is not unique to CCs; in the examples in (33), a free relative, a temporal clause and C1 appear in [Spec,TopP]; *más dinero* (more money) is in all cases in [spec,FocP] of the matrix clause. The relevant structures are provided in (34).

(33) a. *A quien más dinero tiene, más dinero le dan.*
to whom more money has more money to.him give.they
"Those who have more money are given more money."

b. *Cuando más dinero tiene, más dinero le dan.*
When more money has more money to.him give.they
"When he has more money, he is given more money."

c. *Cuanto más dinero tiene, más dinero le dan.*
how.much more money has more money to.him give.they
"The more money he has, the more money he is given."

(34) a. ...[$_{\text{TopP}}$ [A quien más dinero tiene]$_j$ [$_{\text{FocP}}$ [más dinero]$_i$ [$_{\text{IP}}$ le dan t_i t_j]]

b. ...[$_{\text{TopP}}$ [Cuando más dinero tiene] [$_{\text{FocP}}$ [más dinero]$_i$ [$_{\text{IP}}$ le dan t_i]]

c. ...[$_{\text{TopP}}$ [Cuanto más dinero tiene] [$_{\text{FocP}}$ [más dinero]$_i$ [$_{\text{IP}}$ le dan t_i]]

There is more evidence in favour of this macro-structure; in the rest of this section we show that C1 behaves like a topic in that it can be adjoined to the left of either the matrix or the embedded verb, as topics normally do.

Our first piece of evidence shows that C1, like topics in general (35a,b), can be left-dislocated to the embedded or matrix clause (35c,d).

(35) a. *Supongo que el libro ya lo habrán comprado.*
suppose.I that the book already it will.have.they bought
"I suppose that they have already bought the book."

b. *El libro supongo que ya lo habrá comprado.*
the book suppose.I that already it will.have.he bought
"The book, I suppose he's already bought it."

c. *Supongo que cuanto más tarde llegues menos*
suppose.I that how.much more late arrive.you less

7. For expository purposes, we provide a simplified non-split structure for C1.

te pagarán.
to.you will.pay.they
"I suppose that the later you arrive, the less they will pay you."

d. *Cuanto más tarde llegues supongo que menos*
how.much more late arrive.you suppose.I that less
te pagarán.
to.you will.pay.they
"The later you arrive, I suppose the less they'll pay you."

Our second piece of evidence is based on the judgments of certain speakers on (36), as reported in Abeillé et al. (2006). They observe that that only some speakers accept the inverted C2–C1 order for Spanish 'canonical' CCs illustrated in (36). The sentence in (37), with inverted order but no focus movement, is perfectly grammatical.

(36) %*(Tanto) más entiendo, cuanto más leo.*
(that.much) more understand.I how.much more read.I
"I understand more, the more I read."

(37) *Entiendo más cuanto más leo.*
understand.I more how.much more read.I

Our analysis can explain the divided judgements. Because the initial clause tends to be interpreted as topic, a focus-fronted comparative within the topic becomes 'unnatural' and 'unexpected', as speakers report. The effect disappears once the focus is removed.

The conclusion of this section is thus that the syntax of Spanish comparative correlatives follows patterns well attested in the syntax of topic and focus in the language and is thus not idiosyncratic. Moreover, in the next section we will show that there are clear parallelisms in the behaviour of comparative correlatives and other types of sentence-initial subordinate clauses in Spanish which both support our analysis of the former and show that our analysis should be extended to the latter.

5. Extension of the informational analysis to other adjunct clauses and conclusions

The information structure we have proposed for CCs is not unique to them. In this section, we show that other high adjuncts show the same informational properties. Our proposal about the overall syntax of CCs can fruitfully be extended to them, since they can be given the same phrase structure. With neutral intonation,

if-clauses typically appear in initial position if they are topic (38B.1), and in final position if they are focus (39B.1).

(38) A. *¿Y si llegan tarde?*
and if come.they late
"And if they are late?"

B1. *Si llegan tarde, llamaré a un taxi.*
if come.they late will.call.I to a cab
"If they are late, I'll call a cab."

B2. *#Llamaré a un taxi si llegan tarde.*
will.call.I to a cab if come.they late
"I'll call a cab if they're late."

(39) A. *¿Cuál es tu condición para llamar a un taxi?*
what is your condition to call to a cab
"What are your conditions to call a cab?"

B1. *Llamaré a un taxi si llegan tarde.*
will.call.I to a cab if come.they late
"I'll call a cab if they're late."

B2. *#Si llegan tarde, llamaré a un taxi.*
if come.they late will.call.I to a cab
"If they're late, I'll call a cab."

The same applies to temporal clauses, as shown in (40) and (41).

(40) A. *¿Qué haces cuando llegan tarde?*
what do.you when come.they late
"What do you do when they are late?"

B1. *Cuando llegan tarde, llamo a un taxi.*
when come.they late call.I to a cab
"When they are late, I call a cab"

B2. *#Llamo a un taxi cuando llegan tarde.*
call.I to a cab when come.they late
"I call a cab when they are late."

(41) A. *¿Cuándo llamas a un taxi?*
when call.you to a cab
"When do you call a cab?"

B1. *Llamo a un taxi cuando llegan tarde.*
call.I to a cab when come.they late
"I call a cab when they are late."

B2. #*Cuando llegan tarde, llamo a un taxi.*
when come.they late call.I to a cab
"When they are late, I call a cab."

High adjunct clauses such as conditionals and temporal clauses (to which we might add concessives) show the same informational properties as CCs: the subordinate clause contains common ground material whereas the matrix has focus-like properties. There are numerous syntactic parallels between these three types of high adjuncts (conditionals, temporal clauses, concessives) and CCs. Below we discuss three of them.

In the first place, both temporal and conditional clauses can appear in initial or final sentential position; we repeat the data for conditionals (42a,b) and we add temporal (42c,d) and concessive clauses (42d,f).

(42) a. *Si lee más aprenderá más.*
if reads more will.learn.he more
"If he reads more, he'll learn more."

b. *Aprenderá más si lee más.*

c. *Cuando lea más aprenderá más.*
when reads more will.learn.he more
"When he reads more, he will learn more."

d. *Aprenderá más cuando lea más.*

e. *Aunque leyó poco aprendió mucho.*
although read.PAST.he little learned.PAST.he a.lot
"Although he read little, he learned a lot."

f. *Aprendió mucho aunque leyó poco.*

Like CCs (43a), conditional (43b), temporal (43c) and concessive (43d) clauses also show the possibility of recomplementation which, as discussed above, relates to topic-focus/comment structures.

(43) a. *Dicen que cuantos más libros lea que más aprenderá.*
say.they that how.many more books reads that more will.learn.he
"They say that the more books he reads the more he will learn."

b. *Dicen que si lee más libros que aprenderá más.*
say.they that if reads more books that will.learn.he more
"They say that if he reads more books, he will learn more."

c. *Dicen que cuando lea más libros que aprenderá más.*
say.they that when reads more books that will.learn.he more
"They say that when he reads more books, he will learn more."

d. *Dicen que aunque leyó poco que aprendió mucho.*
say.they that although read.he little that learned.he a.lot
"They say that although he didn't read much, he learned a lot."

High adjunct clauses such as the ones shown above have the possibility of displacing the subordinate clause to the left periphery of the matrix clause in contexts of embedding, again a topic-focus/comment property. This is shown in (44).

(44) a. *Cuanto más pronto llegue creo que más sitios libres va a encontrar.*
how.much more early arrives think.I that more seats free goes to find
"I think that the earlier he arrives the more free seats he'll find."

b. *Si llega pronto, creo que va a encontrar más sitios libres.*
if arrives early think.I that goes to find more seats free
"I think that if he arrives early, he'll find more free seats."

c. *Cuando llega pronto, creo que suele encontrar sitios libres.*
when arrives early think.I that uses find seats free.
"I think that when he arrives early he finds free seats."

d. *Aunque llegue tarde, creo que suele encontrar sitios libres.*
Although arrives late believe.I that uses find seats free
"Although he arrives late, I think he frequently finds free seats."

These shared properties plus the syntactic parallels we noticed in preceding parts of the paper lead us to two interrelated conclusions. The first is that all high adjunct clauses can be fruitfully given a syntactic analysis in cartographic terms (see Borgonovo & Valmala 2010 for more details). The second is that CCs are not unique in their properties and are another member of a subgroup of the family of clausal adjuncts.

We conclude that full CCs in Spanish do not provide an argument in favour of constructions (understood as stored patterns of structure paired with a meaning). We have shown that the structure of CCs can be derived from, and reduces to, the independent syntax of A'-movement, topic and focus. To put it differently, there is no reason to appeal to anything outside UG principles augmented with the parametric settings proper to Spanish to give an account of CCs. Furthermore, we believe that this exploration gives us a clue to handling the syntax of other high, non complement clauses in natural language which can also be fruitfully analyzed in terms of their informational structure.

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Functional vowels in main questions in Northern Italian dialects*

Anna Cardinaletti & Lori Repetti

The goal of this paper is to describe the distribution and to explain the nature of the vowels that appear in preverbal position in main questions in many Northern Italian dialects. We use data primarily from the town of Donceto in the province of Piacenza, as well as data from many other Northern Italian dialects, including other Emilian dialects, Piedmontese dialects, many Veneto dialects, Friulian dialects, and standard Italian. We suggest that the preverbal vowels are the spell-out of functional heads of the CP and IP layers, and that they should be distinguished from true subject clitic pronouns. Furthermore, the functional vowels can realize different functional heads in one and the same dialect, and they can have a different distribution in different dialects.

1. Introduction

The aim of this paper is to understand the distribution and the nature of the vowels that appear in preverbal position in many Northern Italian dialects (NIDs). The analysed data come primarily from field work on the Emilian dialect spoken in the town of Donceto (province of Piacenza), which will be compared with data from other dialects.

Previous analyses of preverbal vowels in other NIDs (e.g. Poletto 2000) take them to belong to two different classes of subject clitics (SubjCLs): invariable subject clitics (i.e., those displaying the same form in all persons of the verbal paradigm) and deictic subject clitics (i.e., those displaying different forms in the 1st/2nd person and the 3rd person). The two classes are both merged as functional heads of the CP layer. Two other classes of subject clitics (person and number subject clitics) are taken to be merged as functional heads of the IP layer.

* We thank two reviewers for their critical comments, which allowed us to clarify and sharpen our proposals.

Emilian data show that this analysis is not sufficient.[1] On the one hand, some properties attributed to deictic subject clitics are displayed in Donceto by a vowel which occurs in all persons of the verbal paradigm, a vowel which would qualify as an invariable subject clitic. On the other hand, in (some) interrogative sentences a pattern is found in which a vowel occurs with the 1sg, 1pl, 2pl forms of the verb. The same pattern is found in declarative sentences.

Our analysis differs from previous proposals in many respects. We suggest that (i) preverbal vowels are the spell-out of functional heads merged not only in the CP, but also in the IP layer; (ii) preverbal vowels can realise different functional heads in one and the same dialect depending on the type of clause in which they occur; (iii) preverbal vowels can have a different distribution in different dialects; (iv) preverbal vowels should be distinguished from true clitic pronouns like 2sg, 3sg and 3pl SubjCLs: while the latter are subject pronouns moved from an argumental position, the former are the spell-out of functional heads in the clausal skeleton (see Cardinaletti and Repetti 2004, 2008). We refer to them with the descriptive term 'functional vowels' to indicate that they consist in (phonologically unmarked) vowels.

2. The distribution of preverbal vowels in main questions

In the dialect of Donceto, both yes-no questions and wh-questions display the preverbal vowel [ə]. The vowel has a different distribution in the two types of questions, which is summarised in (1) and exemplified in (2)–(4):

(1) a. in yes-no questions, the preverbal vowel is optional in all six persons of the verbal paradigm (2);

b. in *wh*-questions, its distribution depends on the type of *wh*-element:
- with *wh*-phrases, the vowel is obligatory in all six persons (3);
- with *wh*-words, the vowel is optional with the 1sg, 1pl, 2pl forms of the verb and impossible in the 2sg, 3sg, 3pl (4).

(2) yes-no questions:

without preverbal vowel	*with preverbal vowel*
a. be:v-jə	ə be:v-jə
"Am I drinking?"	
bu'vum-jə	ə bu'vum-jə
"Are we drinking?"	
bu'vi:-v	ə bu'vi:-v
"Are you:pl drinking?"	

1. In this paper, we focus on interrogative sentences and declarative sentences with preverbal subjects. For preverbal vowels in declaratives containing topics and foci, see Section 8.4.

b. be:v-ət — ə be:v-ət
"Are you:sg drinking?"
be:və-l — ə be:və-l
"Is he drinking?"
be:vən-jə — ə be:vən-jə
"Are they drinking?"

(3) wh-phrases: [kwã:t an] "how many years = how old"

without preverbal vowel	*with preverbal vowel*
a. *kwã:t an go-jə	kwã:t an ə go-jə
"How old am I?"	
*kwã:t an gum-jə	kwã:t an ə gum-jə
"How old are we?"	
*kwã:t an gi:-v	kwã:t an ə gi:-v
"How old are you:pl?"	
b. *kwã:t an gɛ-t	kwã:t an ə gɛ-t
"How old are you:sg?"	
*kwã:t an ga-l	kwã:t an ə ga-l
"How old is he?"	
*kwã:t an gan-jə	kwã:t an ə gan-jə
"How old are they?"	

(4) wh-words: [dõ:d] "where"

without preverbal vowel	*with preverbal vowel*
a. dõ:d vo-jə	dõ:d ə vo-jə
"Where am I going?"	
dõ:d num-jə	dõ:d ə num-jə
"Where are we going?"	
dõ:d nɛ:-v	dõ:d ə nɛ:-v
"Where are you:pl going?"	
b. dõ:d vɛ-t	*dõ:d ə vɛ-t
"Where are you:sg going?"	
dõ:d va-l	*dõ:d ə va-l
"Where is he going?"	
dõ:d van-jə	*dõ:d ə van-jə
"Where are they going?"	

The distribution of preverbal schwa in *wh*-questions with *wh*-words (4) is identical to the distribution of preverbal schwa in declarative sentences, (5):

(5) declarative sentences:

	without preverbal vowel	*with preverbal vowel*
a.	‘be:v “I drink.”	ə ‘be:v
	bu’vum “We drink.”	ə bu’vum
	bu’vi “You:pl drink.”	ə bu’vi
b.	tə skri:v “you:sg write.	*ə tə skri:v[2]
	la ‘be:və “She drinks.”	*ə la ‘be:və[3]
	i ‘be:vən[4] “They drink.”	*ə i ‘be:vən

Before proceeding, it is necessary to point out that the pattern in (4) concerns wh-words which are clitic. Among other syntactic properties that point to the clitic status of *dõ:d* in (4), consider the fact that it cannot be used in isolation: **dõ:d?* ‘where?’. Given that the clitic/weak/strong tripartition proposed by Cardinaletti and Starke (1999) has proved to be successful for various categories, such as personal pronouns and adverbs, we believe that it can be extended to wh-elements, and we analyse [dõ:d] in (4) as a clitic, i.e., a head.[5]

2. We use a different verb with respect to the rest of the paradigm to clearly show that the preverbal vowel is impossible. In [tə skri:v], an epenthetic vowel follows /t/ in order to syllabify the initial /s/ + consonant cluster of the verb (in careful speech, [ət əskri:v] is also possible). See Cardinaletti and Repetti (2004), (2008) for discussion. Notice that forms such as [ət ‘be:v] ‘you:sg drink’ is not a counterexample to the claim made in the text, because the schwa is epenthetic and needed to syllabify the 2sg subject clitic /t/. The fact that Poletto (1993b) and following work did not recognize the epenthetic status of the vowel in the 2sg (e.g. [ət ‘be:v]) led her to analyse the Emilian dialects of Piacenza and Bologna as displaying deictic vocalic clitics (see Poletto 1993b:133).

3. We use a different gender with respect to the other examples to clearly show that the preverbal vowel is impossible. In [əl ‘be:və] ‘he drinks’, the schwa is epenthetic and needed to syllabify the 3sg masc. clitic/l/. See Cardinaletti and Repetti (2004), (2008).

4. Although it is a vowel, the 3pl /i/is a true subject clitic pronoun and does not enter the typology of functional vowels discussed in this paper. It occurs in all sentence types and is found both in proclitic and enclitic position (see Cardinaletti and Repetti 2008), while the functional vowels discussed in this paper are only preverbal.

5. The fact that the vowel in [dõ:d] is long does not imply, as it would in Italian, that it has word stress and is thus to be categorised as a weak rather than a clitic form. In the Donceto dialect, atonic vowels can be long ([a:’me] ‘honey’), as can nasal vowels, whether tonic ([kã:p] ‘field’) or atonic ([kõ:’tæ] ‘to count’). As we will see below, wh-clitics are found in other NIDs.

3. The distribution of preverbal vowels in embedded questions

Let us consider the distribution of preverbal vowels in embedded questions. The following data from Donceto show that embedded questions only display vowels in the 1sg, 1pl, 2pl (6a,a')–(8a), i. e., in the same persons as in (4a) and (5a). The vowel occurring in all persons in main yes-no questions (2) and wh-questions with wh-phrases (3) is not possible, (6c)–(7c) (the vowel occurring with the 2sg subject clitic in (7b) and (8b) is an epenthetic vowel (see fn.2), which does not need to be inserted in (6b) because the /t/ is syllabified with the vowel-final complementizer *se*).

(6) a. əl lə sa mia se (ə) be:v
"He doesn't know if I drink"

a' əl lə sa mia se (ə) bu'vum
"He doesn't know if we drink"

b. əl lə sa mia se t be:v
"He doesn't know if you:sg drink"

c. əl lə sa mia se (*ə) tə skri:v
"He doesn't know if you:sg write"

(7) a. əl lə sa mia kwã:t an (ə) go
"He doesn't know how old I am"

b. əl lə sa mia kwã:t an ət ge
"He doesn't know how old you:sg are"

c. əl lə sa mia kwã:t libər (*ə) tə skri:v
"He doesn't know how many books you write"

(8) a. əl lə sa mia dõ:d (ə) vo
"He doesn't know where I am going"

b. əl lə sa mia dõ:d ət vɛ
"He doesn't know where you:sg are going"

c. əl lə sa mia dõ:d (*ə) la va
"He doesn't know where she is going"

Embedded questions thus confirm the different behaviour of the vowels found in main clauses, which occur in two sets of persons: all persons on the one hand and 1sg, 1pl, 2pl on the other.

To sum up the presentation of the data so far: yes-no questions and wh-questions with wh-phrases display preverbal vowels in the whole verbal paradigm; wh-questions with wh-clitics, embedded questions and declarative sentences display preverbal vowels only in the 1sg, 1pl, 2pl. The two sets of vowels clearly cannot be one and the same element.[6]

4. Previous analyses

Preverbal vowels similar to the schwas seen in (2)–(4) are found in other Northern Italian dialects and have been previously analysed by Poletto (2000) as two different classes of SubjCLs merged in the CP layer. They differ with respect to their distribution in wh-questions:

a. invariable SubjCLs (i.e., those which have the same form in all persons of the verbal paradigm) are possible in yes-no questions, but cannot occur in wh-questions, as shown in Paduan (9), taken from Benincà (1983);
b. deictic SubjCLs (i.e., those which have different forms in the 1st/2nd person and 3rd person) are optional in yes-no questions (10), obligatory in wh-questions with wh-phrases (11), and impossible in wh-questions with wh-clitics (12) (data come from the Friulian dialect of S. Michele al Tagliamento, Poletto 2000:25, 59–60, 69):[7]

(9) invariable subject clitic (Paduan)
a. *A ve-to via?*
a go-you:sg away
b. *(*a) dove (*a) ze-lo ndà?*
a where *a* is-he gone

(10) deictic subject clitic in yes-no questions (Friulian)
(I) mangi-tu un milus?
i eat-you:sg an apple

6. Manzini and Savoia (2005) provide similar data in many dialects spoken in the Emilia Romagna and Lombardy regions: in yes/no questions, preverbal vowels are optional and very often identical in the whole verbal paradigm (see p. 373). In the same dialects, preverbal vowels also occur in main wh-questions (see p. 404, 480, 509f).

7. Since the wh-word *do* in (12b) displays the typical behaviour of clitic forms (it cannot be coordinated, occur in isolation, combine with a preposition), Poletto (2000:74) takes it to be clitic. The other forms in (12), which Poletto analyses as weak following Cardinaletti and Starke's (1999) typology, should display a similar behaviour, but no data are provided.

(11) deictic subject clitic with wh-phrases (Friulian)

a. *Quant *(i) mangi-tu?*
when *i* eat-you:sg

b. *Quantis caramelis *(i) a-tu mangiat?*
how many sweets *i* have-you:sg eaten

c. *Quant *(a) van-u a Pordenon?*
when *a* go-they to Pordenone

(12) deictic subject clitic with wh-words (Friulian)

a. *Quant (*i) mangi-tu?*
how much *i* eat-you:sg

b. *Do (*a) van-u?*
where *a* go-they

c. *Se (*a) fa-nu?*
what *a* do-they

As for embedded questions, Poletto (2000:84) provides one example of embedded subject wh-question from the Alpine Lombard dialect of Livigno containing a vowel which seems to be an invariable subject clitic, and Poletto (2000:73) discusses one example from San Michele al Tagliamento containing a deictic subject clitic:

(13) a. *Al so ca chi c a laverà i piac.*
a-it knowPR.1.SG not who that *a* wash.Fut.3.SG the dishes
"I don't know who is going to wash the dishes."

b. *A mi an domandat par'se ch' a nol riveva.*
a to-me have.PR.3.PL asked why that *a* not-he arrived
"They asked me why he did not come."

Poletto (2000:24–26; 71–79) explains this complex distribution of preverbal vowels in cartographic terms. Assuming a hierarchy of projections as in (14),

(14) a. [$_{\text{LDCP}}$ invariable [$_{\text{CP}}$ ~~invariable~~ [$_{\text{CP}}$ ~~invariable~~ [$_{\text{AgrCP}}$ ~~invariable~~ [IP...

b. [$_{\text{CP}}$ wh-phrases [$_{\text{CP}}$ deictic [$_{\text{AgrCP}}$ wh-clitics [IP

she suggests that invariable SubjCLs are merged in the lowest projection hosting wh-elements, called AgrC, which is targeted by clitic and weak wh-forms (see fn.7). This is the reason why invariable SubjCLs cannot co-occur with wh-clitics. Invariable SubjCLs raise to the head of the projection hosting left-dislocation (LDCP), which is higher than the projection targeted by wh-phrases (Rizzi 1997). By moving through the head of the wh-projection, the possibility that invariable clitics co-occur with wh-phrases is also excluded. As for deictic SubjCLs in (14b), they

occur between the positions targeted by wh-phrases and weak/clitic wh-forms. This assumption should explain why they can co-occur with the former but not with the latter.[8]

Some problems arise with this analysis: first, since preverbal vowels co-occur with subject enclitics (see both the Emilian data in (2)–(4) and the Friulian data in (10) and (11)), the proposal that preverbal vowels are subject clitics implies that there are two subject clitics per sentence; how this fares with thematic theory is not discussed. Second, the assumed movement of invariable clitics to higher heads in (14a) is not motivated. Third, it is not clear why the order deictic clitic – *wh*-clitic predicted by the structure in (14b) is never found in any dialect. As for weak wh-forms (see fn.7), Poletto (2000:74) proposes that deictic SubjCLs do not undergo the process of spec-head agreement necessary to license weak wh-items, but since weak wh-items are suggested to occur in the lower specAgrCP, the lack of co-occurrence of the two elements is not explained.

The Emilian data seen in (2)–(4) raise further questions. First, they seem to show that two classes of vocalic SubjCLs are too many. Donceto preverbal vowels are found in all persons of the verbal paradigm (in yes-no questions and in wh-questions with wh-phrases) and seem to qualify as invariable SubjCLs. However, as shown in (3), they can occur in wh-questions with wh-phrases, something which is impossible with invariable SubjCLs of other dialects (see e.g. Paduan (9b)). They thus seem to have the same distribution as deictic SubjCLs in other dialects, see e.g. Friulian (11).[9] If SubjCLs found in all persons of the verbal paradigm can occur in wh-questions with wh-phrases, the two classes could be conflated; this implies that the ungrammaticality of (9b) in Paduan must be explained in another way (see Sections 8.2 and 8.4). Similar remarks hold for Paduan yes-no questions. As reported in Chinellato (2004a,b), a yes-no question like (9a) is only possible with an intonation of emphasis or surprise and cannot be used as an informative question. True questions as in (15) are ungrammatical:

(15) *A vu-to un toco del me panin?
a want-you.sg a piece of-the my sandwich?
"Do you want a piece of my sandwich?"

8. Invariable and deictic subject clitics occurring in declarative sentences are analysed by Poletto as occupying the same CP positions as in questions. See Section 8 for discussion.

9. The preverbal vowels in wh-questions in the Emilian dialects of Bologna, Bondeno and Guastalla are treated by Poletto (2000:59–60) together with the deictic subject clitics found in Friulian dialects. As shown by the 2sg and 3pl wh-questions reported in Poletto (2000:60) and (2000:69), respectively, where one and the same vowel is found, the Guastalla dialect does not seem to display a deictic system. Similarly to the Donceto data, preverbal vowels in these dialects look like invariable subject clitics and represent a problematic case for the claim (based on Paduan (9)) that invariable subject clitics are not found in wh-questions.

Emilian preverbal vowels, which can occur in yes-no questions, again pattern with deictic SubjCLs of other dialects (see (10)) and not with invariable ones, in spite of the fact that they occur in all persons of the verbal paradigm.

Another way of approaching the cross-linguistic differences keeping the distinction between invariable and deictic SubjCLs intact is to assume the existence of subclasses of invariable clitics, those which can occur in yes-no questions and wh-questions, as in Donceto, and those which cannot, as in Paduan.

That two classes of vocalic SubjCLs are not enough is also shown by another set of Emilian data. A further class is needed to account for the vowel occurring in the 1sg, 1pl, 2pl in declarative sentences (5). This pattern is well-known from traditional descriptions (see Renzi and Vanelli 1983 for many dialects[10] and Vanelli 1984 for Friulian) and quite wide-spread in NIDs: it is not only found in Emilian dialects (Cardinaletti and Repetti 2004), but also attested in Veneto dialects (Central and Northern Vicentino dialects, see Chinellato 2004a,b and Section 8.2) and Piedmontese dialects (Tortora 1997:54,fn.36, Goria 2004) (see also Manzini and Savoia 2005:72–82).[11] These vowels qualify neither as invariable nor as deictic subject clitics in Poletto's typology (Poletto 2000 did not analyse this pattern, however).[12] As a consequence of the previous point, the parallel behaviour of the declarative sentences in (5) and the interrogative sentences in (4) and (6)–(8) was not previously noticed.

10. Renzi and Vanelli (1983) show that the pattern which we illustrate with data from Donceto (5) contains a vowel in 1sg, 1pl, 2pl forms which is identical in all three forms and optional (see their generalisation #4 and their Section 1.2).

11. Goria (2004:121) shows that two Piedmontese dialects (Turinese and Astigiano) that seem to have deictic and invariable subject clitics, respectively, display an optionality in the paradigms that makes them resemble the 1sg, 1pl, 2pl pattern (see also Parry 1993):

(i)	**Turinese**	**Astigiano**	
1sg	(i) mangio	(a) mangio	I eat
2sg	it mange	at mange	you:sg eat
3sg	a mangia	a/al/'l mangia	he eats
1pl	(i) mangioma	(a) mangioma	we eat
2pl	(i) mange	(a) mange	you:pl eat
3pl	a mangio	a mangio	they eat

12. In Benincà and Poletto (2005:274), this pattern is identified in the Venetian dialect of the XVI century and analyzed as realising person features. If person features are encoded in IP-internal projections, their proposal is not in contradiction with our proposal that preverbal vowels can also occur IP-internally.

5. The analysis: Functional vowels

Because of the reasons pointed out in the preceding discussion, we suggest that Emilian preverbal vowels are not instances of the two classes of invariable and deictic SubjCLs merged in CP. We suggest that they are the spell-outs of functional heads of the left periphery and the higher portion of the IP layer. We base our analysis on Rizzi's (1997), (2001) cartography of the left periphery and Cardinaletti's (2004) multiple subject approach.

The left periphery of embedded and main questions looks as in (16a) and (16b), respectively. Int is the position of the interrogative complementizer *se* in (17a), which precedes the focalised constituent *questo* occurring in specFocP (Rizzi 2001:289). Q is the head of the projection hosting the wh-phrase *che cosa* in (17b), which follows the focalised constituent *a Gianni* (Rizzi 1997:330,n.18). As (17c) shows, wh-phrases and focalised constituents cannot co-occur in main questions (Rizzi 1997:291). This can be captured by assuming head movement of Q to Foc, creating the complex head Q + Foc (Rizzi 2006:128,n.8):

(16) a. embedded questions: Force (Top) Int (Top) Foc Q Fin Subj T
b. main questions: Force (Top) Int (Top) Q + Foc ~~Q~~ Fin Subj T

(17) a. *Mi domando se* QUESTO *gli volessero dire, non qualcos'altro.*
I wonder whether this [they] to-him wanted [to] say, not something else.
b. *Mi domando A* GIANNI *che cosa abbiano detto, non a Piero.*
I wonder to Gianni what [they] have said, not to Piero.
c. *A GIANNI *che cosa hai detto, non a Piero?*
To Gianni what [you] have said, not to Piero?

With these assumptions in mind, we develop our analysis of preverbal vowels in interrogative clauses as follows:

a. in main wh-questions with wh-phrases, the preverbal vowel is the spell out of the complex Q + Foc head. We call it an 'interrogative vowel'. The interrogative head has an edge feature which attracts the wh-phrase. We exemplify the derivation with the 2sg form of (3b):[13]

(18) [$_{FocP}$ kwã:t an ə [$_{QP}$ ~~Q~~ [$_{FinP}$ [$_{SubjP}$ [$_{YP}$ gɛ-t [$_{TP}$ t ~~gɛ~~ [$_{VP}$ ~~t gɛ kwã:t an~~]]]]]]]

13. In (18) and the following structures, verb – subject clitic inversion is obtained by moving the two elements to Y (see Cardinaletti and Repetti 2008, 2010, for discussion). We take the Y head to be located in the INFL layer. This is coherent with the wide-spread proposal that no V-to-C movement takes place in Romance languages (see Cardinaletti and Repetti 2008:543, fn.26 and the references quoted there). V-to-Y movement is motivated by the need to check the inflectional [wh] feature on the verb (Rizzi 1996, 2001) against the Y head.

b. in main yes-no questions, the preverbal vowel is an 'interrogative vowel' that spells out the Int(errogative) head; an empty operator (OP) is inserted in SpecIntP (Rizzi 2001, De Crousaz and Shlonsky 2003). We exemplify the derivation with the 2sg form of (2b):

(19) $[_{IntP}$ OP (ə) $[_{FinP}$ $[_{SubjP}$ $[_{YP}$ be:v-ət $[_{TP}$ ~~t be:v~~ ... $[_{VP}$ ~~t be:v~~]]]]]]

c. in main *wh*-questions with *wh*-clitics, the monosyllabic *wh*-word cliticises to the Focus head and excludes merge of the 'interrogative vowel'. We exemplify the derivation with the 2sg form of (4b):

(20) $[_{FocP}$ dõ:d $[_{QP}$ ~~dõ:d~~ Q $[_{FinP}$ $[_{SubjP}$ $[_{YP}$ vɛ-t $[_{TP}$ ~~t vɛ~~ $[_{VP}$ ~~t vɛ dõ:d~~]]]]]]]

If wh-clitics pattern with pronominal clitics in undergoing a two-step derivation (XP-movement followed by head-movement), we might wonder what the landing site of the XP-movement step of their derivation is. We propose that it is the specifier of the Q head hosting [wh] features. As in the case of personal pronouns, weak wh-forms need to move to the specifier of a head with relevant features;

d. in embedded questions, interrogative vowels are excluded: in yes-no questions (6), the Int head is realised by the complementizer *se*; in wh-questions with wh-phrases (7), the Q head is realised by an empty complementizer, as assumed in V/2 languages to prevent movement of the verb to the CP layer in embedded questions.

Consider now the preverbal vowel in the 1sg, 1pl, 2pl in (4a): we take it to be the same element as the one that occurs in the same persons in declarative sentences (5a) and embedded questions (6a,a')–(8a), namely a vowel spelling out a functional head of the subject-field of the INFL layer (Cardinaletti 2004). We call this head Z and the vowel 'subject-field vowel'. The structures we suggest for (4a), (5a) and (6a) are depicted in (21), where the derivation is exemplified for the 1sg:[14]

(21) a. $[_{FocP}$ dõ:d$[_{QP}$ ~~dõ:d~~$[_{FinP}$ $[_{SubjP}$ $[_{ZP}$ (ə) $[_{YP}$ vo-jə $[_{TP}$ ~~jə vo~~ $[_{VP}$ ~~jə vo õ:d~~]]]]]]]]

b. $[_{FinP}$ $[_{SubjP}$ $[_{ZP}$ (ə) $[_{YP}$ $[_{TP}$ Ø be:v $[_{VP}$ ~~Ø be:v~~]]]]

14. For the fact that 1sg, 1pl, 2pl questions display overt enclitics (*jə* in (21a)), while the corresponding declaratives display null subjects (*Ø* in (21b)), see Cardinaletti and Repetti (2008), (2010).

If the (identical) vowel found in the 1sg, 1pl and 2pl is not a simple case of homophony, the question arises as to which features these three persons of the paradigm have in common. In the feature system proposed by Goria (2004: Ch.4), the 1sg, 1pl and 2pl have the following features in common: [–(add,sg)] [+part], i. e., they indicate the participants in the speech act that are not a singular addressee (for the motivations that the 2sg is characterized by the feature [+(add,sg)], see Goria 2004: 130; 3sg and 3pl are characterized by the features [–(add,sg)] [–part]). The Z head can thus be taken to encode the [–(add,sg)] [+part] features. For a different view, see Chinellato (2004b).

The fact that in declarative sentences, the vowel occurring in the 1sg, 1pl, 2pl follows a preverbal subject (which occurs in SpecSubjP, Cardinaletti 2004) confirms that ZP is a projection of the IP layer. Given the person features involved, the preverbal subject is a strong pronoun (e.g. the 1sg *me* in (22)):

(22) $[_{SubjP}$ me $[_{ZP}$ (ə) $[_{YP}$ $[_{TP}$ Ø be:v $[_{VP}$ Ø ~~be:v~~]]]]]
"I drink."

The structure in (16b) predicts that interrogative vowels should occur higher than preverbal subjects which sit in specSubjP. Unfortunately, the position of these vowels with respect to the subject cannot be tested because in NIDs, as in Italian, preverbal subjects are not possible in main questions. Nor can the subject follow the wh-phrase as in French "Complex Inversion" (Kayne 1983); Complex Inversion is ungrammatical in NIDs (see Brandi and Cordin 1989:134, Poletto 1993a:212). However, the contrast between main and embedded questions discussed above and the data discussed in Section 7 clearly show that interrogative vowels are merged in the CP layer and are therefore higher than the subject-field vowel.

To sum up the new conclusions arrived at so far: (1) preverbal vowels are not restricted to the CP layer, but also found in the IP layer (see also Chinellato 2004a,b, Goria 2004; Manzini and Savoia 2005); (2) they are the spell out of different functional heads in different clause types; (3) more than one type of functional vowel can be found in one and the same dialect.

6. Long preverbal vowels

Support for our analysis comes from the fact that with the 1sg, 1pl, 2pl forms of the verb, the preverbal vowel can be pronounced as a long vowel in both yes-no questions (2a) and *wh*-questions with *wh*-phrases (3a), as shown in (23a) and (23b), respectively, for the 1sg:

(23) a. ə: 'be:v-jə?
"Am I drinking?"

b. kwã:t an ə: go-jə?
"How old am I?"

We take a long vowel to be the simultaneous realisation of the 'interrogative vowel' and the 'subject-field vowel':

(24) a. ə ə be:v-jə? *interrogative vowel + subject-field vowel*
b. kwã:t an ə ə go-jə? *interrogative vowel + subject-field vowel*

No long preverbal vowel is ever found in the 1sg, 1pl, 2pl with *wh*-clitics (4a) and in embedded questions (6a)–(8a), where only the subject-field vowel can occur, or with any of the 2sg, 3sg, 3pl forms of the verb (2b)–(3b), where only the interrogative vowels can be found. A summary of the interrogative data is provided in (25):[15]

(25) Distribution of preverbal vowels	**2sg, 3sg, 3pl**	**1sg, 1pl, 2pl**
Yes-no questions:	Optional – interrogative vowel	Optional – interrogative vowel or – subject-field vowel or – interrogative vowel + subject-field vowel
Wh-phrases:	Obligatory – interrogative vowel	Obligatory – interrogative vowel or – interrogative vowel + subject-field vowel
Wh-clitics:	Impossible	Optional – subject-field vowel
Embedded questions:	Impossible	Optional – subject-field vowel

7. Questions without subject-verb inversion

Further evidence in support of our analysis comes from questions without subject-verb inversion. As in many other NIDs, yes-no questions can be formed in Donceto by adding interrogative intonation to declarative word orders, as shown in (26a,b). In this case, the subject-field vowel can occur (26a), but the interrogative vowel cannot, (26c,d). Remember that the vowel in the 2sg subject clitic *ət* in (26b) is an epenthetic vowel inserted to syllabify the clitic /t/(see fn.2):

15. The same distribution of functional vowels in questions and the same data with long and short preverbal vowels are attested in a nearby dialect, spoken in the town of Gazzoli.
The question as to why preverbal vowels are sometimes optional and sometimes obligatory, which also arises in cross-dialectal analysis (see Section 8.3), is left open here.

(26) a. ə be:v?
"I drink?"

b. ət be:v?
"You:sg drink?"

c. (*ə) la skri:və?
"She is writing?"

d. (*ə) i be:vən?
"They drink?"

We suggest that in these cases, the left periphery is not activated, and no functional vowel spells out the Int head. The IP internal Z head is however spelled out by *ə* (26a).

A similar restriction is found in wh-questions in the dialect of Gazzoli. In this dialect, two different forms for the word meaning 'where' exist: a long form, which we take to be a strong form and with which the interrogative vowel is mandatory (compare (27a) with (3)), and a short form, which we take to be a clitic form and with which the interrogative vowel is impossible (the subject-field vowel is optional) (compare (27b) with (4)):

(27)	a. *strong form*	b. *clitic form*
	õ:də *(ə) vo-jə	õ:d (ə) vo-jə
	"Where am I going?'	
	õ:də *(ə) num-jə	õ:d (ə) num-jə
	"Where are we going?"	
	õ:də *(ə) nɛ:-v	õ:d (ə) nɛ:-v
	"Where are you:pl going?"	
	õ:də *(ə) vɛ-t	õ:d (*ə) vɛ-t
	"Where are you:sg going?"	
	õ:də *(ə) va-l	õ:d (*ə) va-l
	"Where is he going?"	
	õ:də *(ə) van-jə	õ:d (*ə) van-jə
	"Where are they going?"	

In Gazzoli, lack of verb – subject clitic inversion in main questions is also marginally possible with wh-clitics, as shown in (28a). With the strong wh-form *õ:də*, however, verb – subject clitic inversion is required, and the interrogative vowel is also required; see the contrast between (28b) and (28c):

(28) a. ʔõ:d õ va, Giani?/ʔGiani, õ:d õ va?
where he goes, Gianni?

b. *õ:də ə õ va, Giani?/*Giani, ondə ə õ va?
where he goes, Gianni?

c. õ:də ə va-l, Giani/Giani, õ:də ə va-l? (see (27a))

These data show that the activation of the Q + Foc head with strong wh-forms (and the consequent realisation by *ə*) necessarily implies the activation of the lower head Y, where verb – subject clitic inversion obtains.

8. Comparative remarks and open issues

If the analysis developed so far is correct, it can be applied to other dialects. In particular, we predict that there can be (i) cross-linguistic differences in the distribution of functional vowels depending on the functional head realised in each dialect, and (ii) more than one type of functional vowel in one and the same dialect, as we have seen above for Donceto, where we have identified two types of functional vowels, i. e., the interrogative and the subject-field vowels. In what follows, we show that both predictions are correct.[16]

8.1 Deictic subject clitics

In wh-questions, Friulian deictic SubjCLs have the same distribution as Donceto interrogative vowels: they are required with wh-phrases, but impossible with wh-clitics (compare (11) with (3), and (12) with (4)). Deictic SubjCLs in questions can be analysed along the same lines as Donceto interrogative vowels. In wh-questions with wh-phrases, they spell out the complex head Q + Foc; wh-clitics cliticise to Foc and make the realisation of the focus head through the interrogative vowel impossible.

The main difference between the Friulian and the Donceto data has to do with the quality of the vowel. In Donceto, the vowel is the same in all persons of the verbal paradigm (i. e., [ə]), while in Friulian, the preverbal vowel is [i] in the 1st/2nd persons and [a] in the 3rd person. This is surprising if, as we suggest, the vowel spells out the complex head Q + Foc. Why should the interrogative vowel have two different realisations depending on the persons of the paradigm? Suppose that the two vowels spell out a combination of functional heads, as we have seen for Donceto. The interrogative vowel in (11) can be seen as the realisation of a complex head which also incorporates subject features: Subj + (Fin +)Q + Foc:

16. The second prediction is correct for the Southern Veneto dialect of Loreo, whose vocalic subject clitics are invariable in main declarative sentences (Poletto 2000:20) and deictic in embedded sentences (Poletto 2000:84).

(29) a. Force (Top) Int (Top) Foc Q Fin Subj Y TP
b. Force (Top) Int (Top) Subj + Fin + Q + Foc ~~Q Fin Subj~~ Y TP

It is straightforward to assume that (i) the Subj head shares features with the lower functional heads of the IP, and (ii) incorporation makes inflectional features be copied onto the CP layer. In this way, CP vowels are sensitive to the type of subjects present in the clause.

In Friulian, deictic clitics also occur in declarative sentences. In this case, they follow preverbal subjects (Poletto 2000:151). If preverbal subjects sit in SpecSubjP (Cardinaletti 2004), deictic clitics in declarative sentences are to be analysed as IP-internal vowels (see also Section 8.2 for Veneto dialects). This analysis seems superior to the proposal by Poletto (2000) according to which (in all sentence types) deictic SubjCLs occur between the positions targeted by wh-phrases and weak/clitic wh-forms (14b). This portion of clause structure is never activated in declarative sentences, and it is therefore surprising that in these sentences, a deictic clitic realizes this CP head. Preverbal vowels can also be said to occur in IP in those Friulian questions in which wh-phrases are followed by the complementizer (13b). If the complementizer sits in the Fin head (as in Benincà 2001:62), the preverbal vowel must necessarily occupy a IP-internal head.

Further evidence for our hypothesis comes from Veneto dialects. Studying the distribution of preverbal vowels in eleven Veneto dialects, Chinellato (2004a,b) found that the deictic system of Northern Vicentino, where the same vowel occurs in the 1st and 2nd persons,[17] is spurious and it indeed hides a 1sg, 1pl, 2pl + 2sg system. In the 2sg, the preverbal vowel *a* is only possible in exclamative sentences and incompatible with the exclamative marker *ecome se* in (30a), which introduces an embedded sentence. The vowels in the 1sg, 1pl, 2pl can instead co-occur with it (30b):[18]

(30) a. *Ecome se (*a) te ghe pianto!*
"Indeed you:sg have wept!"
b. *Ecome se a go/a ghemo/a gavì pianto!*
"Indeed I have/we have/you:pl have wept!"

The 2sg *a* also differs from the 1sg, 1pl, 2pl *a* in that it cannot follow a strong pronominal subject (see (31a)). If Chinellato is correct, in (30b) *a* is not a deictic subject clitic occurring in the CP layer, but it presumably realizes the IP-internal Z head seen in (21). The contrast in (30) supports our proposal that (i) different sentence types

17. Differently from Friulian dialects, no preverbal vowel occurs in the 3rd person.

18. This is not an isolated case. Chinellato shows that in the variety of Salzano, *a* is only found in the 2sg in exclamative contexts and ungrammatical in other persons and sentence types.

(here, exclamatives vs. embedded clauses) may display different preverbal vowels, and (ii) different types of preverbal vowels can be found in one and the same dialect.[19]

8.2 Veneto dialects and wh-questions

In the eleven Veneto dialects investigated by Chinellato (2004a,b), preverbal vowels are impossible in all wh-questions. This restriction seems to be independent of the persons of the paradigm in which the vowels occur and whether the vowels are possible in yes-no questions or not, as the data in (31b–g) show. The data are compared with those of Donceto in (31a):[20]

(31)

preverbal vowel	wh-Q	yes-no-Q	declaratives	persons
a. Donceto	√	√	√	all/1sg, 1pl, 2pl
b. Eastern Polesano	*	√	√	all
c. Eastern Vicentino	*	√	√	all
d. Paduan	*	*	√	all
e. Central Polesano	*	*	√	1sg, 2sg, 1pl, 2pl
f. Northern Vicentino	*	*	√	1sg, 1pl, 2pl
g. Central Vicentino	*	*	√	1sg, 1pl, 2pl

As Chinellato himself has concluded, preverbal vowels in Veneto dialects do not instantiate either of the two classes postulated by Poletto (2000). Many more classes of subject clitics are needed to account for the great micro-variation found in this dialectal area (see also Section 8.4).

These data can be addressed more easily if functional vowels realise different functional heads in the different dialects and if more than one type of vowel exist in one and the same dialect depending on the sentence type in which they occur. For instance, in Eastern Polesano and Eastern Vicentino (31b–c), vowels realize the Int head in yes-no questions and other heads in declaratives and with left-peripheral items (see Section 8.4). In the dialects in (31d–g), the Int head cannot be realized by preverbal vowels. In none of the Veneto dialects in (31b–g) can the Q + Foc head be realised by preverbal vowels.

19. Chinellato suggests that 2sg *a* is an exclamative marker, a proposal criticized by one reviewer. Whatever the analysis of 2sg *a* in exclamatives, the point made in the text holds.

20. In the persons in which they occur, preverbal vowels are identical. No vowel occurs in the other persons of the paradigm (see fn.17). In (31), we consider declaratives without left periphery. For declaratives with left-peripheral constituents, see Section 8.4.

8.3 Cross-linguistic variation in wh-questions and yes-no questions

As we have just seen, in Veneto dialects, preverbal vowels are impossible in wh-questions with wh-phrases. In Emilian and Friulian dialects, preverbal vowels are instead obligatory, (3) and (11). Finally, in Piedmontese dialects, preverbal vowels are optional (Goria 2004:44, 214). This wide cross-linguistic variation needs to be studied in more detail than can be done in this paper.

Another dimension of variation is the interpretation associated with the presence of preverbal vowels. For instance, Poletto (2000:75) points out that in the Friulian dialect of S. Michele al Tagliamento, the presence of the vocalic segment triggers a different meaning of the wh-question when it co-occurs with some wh-elements like *dulà* 'where' and *coma* 'how' (namely a surprise interpretation; for a similar reading triggered in yes-no questions, see below in the text). These data are accounted for by assuming that the wh-element is ambiguous between a strong form (which behaves like the wh-phrases in (11) and can move to the relevant, higher interrogative projection, presumably similar to what happens in rhetorical questions, Obenauer and Poletto 2000) and a deficient form (which behaves like the wh-clitics in (12)).[21]

Similarly, in yes-no questions, the preverbal vowel can be optional (Emilian dialects, (2) and fn.6; some Veneto dialects, (31b–c); Piedmontese dialects: Goria 2004:43) or impossible (some Veneto dialects, (31d–g)). We suggest that the Int head can be realized by a vowel only in the former group of dialects. In some dialects, the presence of functional vowels correlates with a different interpretation; this is the case of Friulian (10), where the presence of the preverbal vowel signals surprise and the request of additional information (Poletto 2000:69). The difference in interpretation suggests that different heads of the CP layer are realised by the vocalic segments in e.g. Friulian and Emilian dialects: the functional heads responsible for the non-canonical interpretation of questions and Int, respectively.[22]

The situation in wh-questions with wh-clitics seems to be more regular: in this case, interrogative vowels are impossible in all dialects. This fact can be captured with the proposal suggested above that wh-clitics and preverbal vowels compete for the same position and are therefore mutually exclusive. It should however be remembered that, as we have seen for Donceto, wh-questions with

21. In this analysis, it is unclear why the vowel which is obligatory with wh-phrases (11) does not also correlate with the non-canonical interrogative interpretation.
Remember that in Gazzoli, strong and deficient wh-items have a different morphological form (27), and no apparent optionality of the preverbal vowel as in Friulian arises.

22. For the Emilian dialects spoken in Piacenza and Guastalla, Poletto (2000:69) reports that sentences with the preverbal vowel are used in out-of-the-blue questions. This observation is in line with the results of our field research: in Donceto, the vowel seems to be truly optional.

wh-clitics can display IP-internal vowels (what we have called subject-field vowels). While analysing this type of wh-questions, the occurrence of functional vowels should be compared with their distribution in declarative sentences and embedded questions.

8.4 Paduan and constructions with left-peripheral constituents

Consider now the Paduan sentence in (9b), repeated here for convenience:

(32) Dove (*a) zelo ndà?
where *a* is-he gone

Paduan vowel *a* is found in all persons of the paradigm in declarative sentences and is ungrammatical in wh-questions. Given the Donceto data in (3), the ungrammaticality of (32) with *a* is surprising. Why do Donceto and Paduan differ in this respect?

As said above in Section 8.2, preverbal vowels are impossible in wh-questions in all Veneto dialects investigated by Chinellato (2004a,b). (32) could be an instance of this general restriction operating on this dialect family.

There might be another explanation for the data in (32). Paduan does not display preverbal vowels in any left-peripheral construction (Benincà 1983; see (15) for yes/no questions). The ungrammaticality of (32) could thus be seen as a consequence of this other more general restriction operating on this dialect. That Paduan is indeed special among Veneto dialects can be seen by the distribution of vowels in the many constructions studied by Chinellato (2004a,b). His data can be summarised as follows:

(33)

	yes-no	> LD	> Focus	> QP-subj.	> strong subj.	> Ø
Eastern Polesano	√	√	√	√	√	√
Eastern Vicentino	√	√	?	√	?	√
Central Polesano	*	√	√	_[23]	√	√
Northern Vicentino	*	*	√	_[23]	√	√
Central Vicentino	*	*	*	_[23]	√	√
Paduan	*	*	*	*	*	√

The table in (33) shows that there is an implicational scale for the occurrence of preverbal vowels among the different constructions involving the left periphery

23. Since in Central Polesano, Northern Vicentino and Central Vicentino, preverbal vowels are not found in the 3rd person (fn. 17), they cannot occur with quantified subjects. In the persons in which they occur, preverbal vowels are possible with strong pronouns (as signalled in (33) by the next column to the right, headed by "strong subj.").

and the high IP layer. This implicational scale correlates with the functional hierarchy in (34b) (see (16) and (21); for the projection hosting quantified DP subjects, see Tortora 1997:67, Cardinaletti 2004:134):

(34) a. yes-no > LD > Focus > QP-subj. > strong subj. > Ø
b. Int Top Focus Quant Subj T

This micro-variation can be accounted for by saying that in different dialects, preverbal vowels spell out different heads of the left-periphery and the highest portion of the IP layer. For reasons of space, we cannot analyse in detail the derivation of the observed implicational scale, to which we will return in future work. As stated above, the only exception to this implicational scale is provided by the incorporated Q + Focus head, which is never realised by a preverbal vowel in Veneto dialects. This peculiarity of Veneto dialects also remains an open issue here.

9. Conclusions

In conclusion, the hypothesis that preverbal vocalic segments are two different classes of SubjCLs merged in the CP layer is not sufficient to handle the Emilian data in (2)–(4) (and the data from other NIDs, as shown by Cardinaletti and Repetti 2004, Chinellato 2004a,b, Goria 2004, Manzini and Savoia 2005), unless we want to assume many further classes of vocalic SubjCLs. We have suggested that the preverbal schwas in (2)–(5) are functional vowels which realise different functional heads of the clausal skeleton in different sentence types. Our data also show that functional vowels can be merged in both the CP and the IP layers. The functional vowels of the two layers can be found in one and the same *dialect*: see e.g. (2)–(3) and (4)–(5), respectively, for the Emilian dialect of Donceto. We have seen that similar evidence comes from other dialects, such as the Veneto dialects. Nothing prevents functional vowels of the CP and the IP layers from co-occurring in one and the same *sentence*, as we have seen in (24). While we believe to have paved the way for a more satisfactory understanding of the microvariation found in NIDs with respect to preverbal vowels, the broader question remains open: it remains to be established why in (many) NIDs, functional heads of the clausal skeleton can be spelled out by phonologically unmarked material.

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Middle scrambling with deictic locatives in European Portuguese*

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This paper discusses the peculiar ability of certain deictic locatives (like *lá* 'there') to appear left-adjacent to the verb in European Portuguese. We propose that leftward movement of *lá* (and similar deictic locatives) is middle scrambling, understood as movement to Spec,TP. In order to explain why *lá*-preposing to Spec,TP is not always permitted, we elaborate on the hypothesis of Costa & Martins (2003, 2004) that in EP the strong nature of the polarity-encoding head Σ requires it to be 'lexicalized' either by syntactic merger or by morphological merger under adjacency. Middle scrambling is barred whenever Σ and V must be adjacent. The analysis derives the particular syntax of the deictic locatives (in different clausal structures, including restructuring infinitives) and its puzzling parallelism with clitic placement. Finally, we suggest that speaker/utterance-anchorage is what links together deictic locatives and tense, enabling the former to enter the syntactic domain of the latter.

1. Introduction: Scrambling in Portuguese and romance

While Old Portuguese and most Old Romance languages allowed generalized middle scrambling (Martins 2002, 2005), Modern Romance apparently contrasts with other Indo-European language families (e.g. Germanic) in excluding it.[1] The goal of this paper is to present new empirical evidence revealing that contemporary

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1. There are no restrictions with respect to the types of syntactic constituents which may undergo middle scrambling in Old Portuguese. This type of displacement affected DPs, PPs, APs, AdvPs and reduced clauses (infinitival or participial). Sentence (ia) below, to be contrasted with (ib), illustrates Old Portuguese middle scrambling; the SOV order it displays is not a grammatical option in contemporary Portuguese.

(i) a.

E	*se (...)*	*vos*	*alguem*	a	dita	vinha	*embargar*
and	if	you.DAT	someone	the	mentioned	vineyard	blocks

European Portuguese actually allows middle scrambling, but that only the deictic locatives identified in (1) can scramble to the middle field.[2]

(1) *aqui/cá* 'here' [+close to speaker]
aí 'there' [–close to speaker, +close to addressee]
ali/lá 'there' [–close to speaker and addressee]

The sentences in (2) illustrate how the oblique verbal complement *lá* 'there', usually postverbal according to the basic SVO order of Portuguese, can surface in preverbal position (compare (2a) with (2b)). We will contend that SOV order as seen in (2b) is an instantiation of middle scrambling, understood as movement to Spec,TP.[3]

b. *E se (...) vos alguem embargar* a dita vinha
and if you.DAT someone blocks the mentioned vineyard
"And if by chance someone blocks the vineyard from you" (Cf. Martins 2002:234)

As for middle scrambling in Germanic, see Corver & Riemsdijk (1994), Zwart (1996), and Grewendorf & Sabel (1999), among others.

2. As first noted by Costa (1998), contemporary European Portuguese (EP) also displays short scrambling, which might be a universal feature of natural languages if Takano (1998) is right. The examples in (i) show that short leftward movement of the object (see (ib)) places it before the VP-adjoined adverb *bem* 'well' but after the verb. Thus EP short scrambling, differently from Old Portuguese middle scrambling, does not derive the order SOV.

(i) a. *O João fala bem* francês.
the João speaks well French

b. *O João fala* francês *bem.*
the João speaks French well
"John speaks French well."

3. A reviewer asks whether the deictic locatives under discussion may co-occur with different verb classes and suggests a correlation between the facts described with respect to *lá*-type locatives and unaccusativity. Examples (i) to (iii) show that *lá* 'there' (preposed or not) is not restricted to unaccusative contexts.

(i) a. *Ele ainda joga/trabalha* lá. (unergative verbs)
he still plays/works there

b. *Ele ainda* lá *joga/trabalha.*
he still there plays/works
"He still plays/works there (in that team/in that place)."

(ii) a. *Eu nunca comi uma boa sopa* lá. (transitive verb)
I never ate a good soup there

b. *Eu nunca comi* lá *uma boa sopa.*
I never ate there a good soup

For presentation purposes, all the examples henceforth are built with the locative *lá* 'there', as minor differences of grammatical behaviour between the deictic locatives in (1) are orthogonal to our purposes in this paper.

(2) a. *Ele não sabe que eu vou* lá *amanhã.*
he not knows that I go there tomorrow

b. *Ele não sabe que eu* lá *vou amanhã.*
he not knows that I *there* go tomorrow
"He doesn't know that I'm going there tomorrow."

The paper is organized in 7 sections. In Section 2, we describe the syntactic conditions under which *lá*-preposing (like in (2b)) is allowed or is instead blocked and compare the placement of *lá* in the clause with clitic placement in EP. Although in most cases *lá*-preposing surfaces in proclitic contexts and is barred from enclitic contexts, the relevant deictic locatives are not clitics and their leftward movement is not head-movement. In Section 3, we propose that *lá*-preposing is middle scrambling (specifically, movement to Spec,TP) and introduce a further particular grammatical feature of EP (concerning the polarity-encoding functional head Σ) in order to thoroughly account for the facts described in Section 2 (including the unexpected positional parallels between deictic locatives and clitic pronouns). Section 4 offers independent empirical evidence supporting our proposals by checking whether the predictions of the analysis with respect to the behaviour of the deictic locatives in restructuring infinitival structures stand. Section 5 considers simple negative sentences (where negation is only expressed by the predicative negation marker *não* 'not'). These sentences appear at first glance to be problematic to our analysis; nonetheless, by admitting that negative sentences are structurally parallel to affirmative sentences with respect to the grammatical expression of polarity, we will be able to smoothly accommodate simple negative sentences into the analysis. In Section 6, we will seek to understand why certain deictic locatives but not locatives in general can undergo middle scrambling. We will tentatively suggest that speaker/utterance-anchored deixis is what links together the relevant

c. *Eu nunca* lá *comi uma boa sopa.*
I never there ate a good soup
"I've never had a good soup there (in that place)."

(iii) a. *Já há* lá *pessoas muito simpáticas.* (existential verb)
already is there people very nice

b. *Já* lá *há pessoas muito simpáticas.*
already there is people very nice
"There are very nice people there (in that place) now."

locatives and tense, enabling the former to enter the syntactic domain of the latter. Section 7 concludes the paper.

2. Preverbal vs. postverbal *lá*

Deictic locatives like *lá* 'there' may occur between the subject and the verb in syntactic environments similar to those inducing proclisis in European Portuguese, but are ruled out from that position in contexts typical of enclisis, as illustrated in (3) and (4) below.[4]

In (3a–b), where *lá*-preposing is a grammatical option, proclisis would be derived if the sentence included a clitic (the element that would trigger proclisis if a clitic were present is underlined); this is confirmed by (3c–d). The examples in (4a–d) show that *lá*-preposing is not available in the contexts where proclisis is also excluded and enclisis appears as the regular pattern of clitic placement.[5]

4. This was first noted by Castro & Costa (2002).

5. In European Portuguese, affirmative root clauses constitute typical enclitic contexts while negative root clauses and finite embedded clauses display proclisis (see (i) vs. (ii), where the underlined negative items and complementizer induce proclisis). Nevertheless, proclisis emerges in affirmative root clauses when ingredients such as quantification, contrastive focus and emphasis come into play. The sentences in (iii) illustrate proclisis triggered respectively by quantifiers, exclusive focus-markers and wh-phrases, which must occur in preverbal position in order to have an effect on clitic placement.

(i) a. *Ele telefona*-me *todas as tardes.*
he calls-me all the afternoons

b. **Ele* me *telefona todas as tardes.*
he me calls all the afternoons
"He calls me everyday in the afternoon."

(ii) a. *Ele* <u>*não*</u> me *telefonou.*
he <u>not</u> me called
"He didn't call me."

b. *Ele* <u>*nunca*</u> me *telefona.*
he <u>never</u> me calls
"He never calls me."

c. *Espero* <u>*que*</u> *ele* me *telefone.*
hope.1SG <u>that</u> he me calls
"I wish he calls me."

(iii) a. <u>*Todos*</u> me *ajudaram.*
<u>all</u> me helped
"Everybody helped me."

As the sentences in (3a–b) also make clear, *lá*-preposing is optional when available (in this respect contrasting with proclisis).[6]

(3) a. *Eu nunca vi a Maria* lá.
I never saw the Maria there

b. *Eu nunca* lá *vi a Maria.*
I never there saw the Maria

c. *Eu nunca* a *vi lá.*
I never her.ACC saw there

d. **Eu nunca vi*-a *lá.*
I never saw-her.ACC there
"I've never seen Maria/her there."

(4) a. *Eu vi a Maria* lá.
I saw the Maria there

b. **Eu* lá *vi a Maria.* (* under the intended reading)[7]
I there saw the Maria

c. *Eu vi*-a *lá.*
I saw-her.ACC there

d. **Eu* a *vi lá.*
I her.ACC saw there
"I saw Maria/her there."

b. *Só tu* me *ajudas.*
only you me help
"Only you are helping me."

c. *Como/quanto* me *tem ajudado*!
how/how-much me has helped
"How (much) he has helped me!"

6. Although the question of optionality certainly deserves further consideration (by itself), as pointed out by one of the reviewers, time and space considerations preclude us from developing the matter within the scope of this paper.

7. See Footnote 8. Sentence (4b) would be grammatical with a non-locative interpretation for *lá*, i.e.: "I finally saw Maria, and I am happy about that".

In the contexts in which *lá*-preposing is allowed, *lá* 'there' must be adjacent to the verb, as exemplified in (5) and (6).[8] Only clitic pronouns and the predicative negation marker (which, like V itself, are tense-related items) can occur between *lá* and the verb.[9]

8. Besides being a deictic locative, the word *lá* is also an emphatic/affective marker in EP. Emphatic/affective *lá* is devoid of locative meaning, is invariably preverbal as far as there is no verb movement beyond T (see (i)–(ii)), does not need to be left-adjacent to the verb (see (iii)) and precedes locative *lá* when cooccuring with it (see (iv)) – emphatic *lá* is a proclisis trigger, so it makes scrambling of *para lá* 'to there' in (iv) possible.

(i) [A]a. *Como é que está a Maria*?
"How is Maria doing?"

[B]b. *Lá está.*
LÁ is
"She is doing okay/she is doing not so bad."

c. *#Está lá.*
is $LÁ_{\text{locative}}$
"She is there."

(ii) a. *A Maria lá telefonou.*
the Maria *LÁ* called

b. **A Maria telefonou lá.* (* under the intended meaning)
the Maria called *LÁ*
"Maria called, at last!"

(iii) *À meia.noite, lá o bébé adormeceu*!
at.the midnight *LÁ* the baby fell.asleep
"At midnight the baby fell asleep, at last!"

(iv) *E eu lá para lá ia se soubesse o que*
and I $LÁ_{\text{emphatic}}$ to $LÁ_{\text{locative}}$ would.go if knew.1SG the what
ia acontecer?!
was.going happen.INF
"And you think I would have been there if I knew what was to come?"

9. The examples in (i) show that clitic pronouns and the predicative negation marker, which also seek to be left-adjacent to the verb, can disrupt the continuity between *lá* and the verb.

(i) a. *Ela diz que nunca* lá *te viu.*
she says that never *there* you.ACC saw
"She says that she never saw you there."

b. *Eu já* lá *não vou.*
I already there not go
"I'm not going there anymore."

c. *Eu já* lá *não o vejo há muito tempo.*
I already there not him.ACC see there-is much time
"I haven't seen him there for a long time."

(5) a. *Ela diz que* lá *vai amanhã.*
she says that there goes tomorrow

b. **Ela diz que* lá *amanhã vai.*
she says that there tomorrow goes

c. *Ela diz que amanhã vai* lá.
she says that tomorrow goes there
"She says that she will go there tomorrow."

(6) a. *Ela diz que nunca* lá *vai.*
she says that never there goes

b. **Ela diz que* lá *nunca vai.*
she says that there never goes

c. *Ela diz que nunca vai* lá.
she says that never goes there
"She says that she never goes there."

Lá-preposing does not depend on the hypothetical head status of the locative. As a matter of fact, Prepositional Phrases that include *lá* (or other deictic locatives) can appear in preverbal position in the relevant contexts. This is illustrated by sentences (7a) and (8a).

In the absence of a proclisis trigger (like the negative-word *nunca* 'never' in (7a) or the quantifier *todos* 'everybody' in (8a)), the preverbal position is not a grammatical option for the locative PPs, just as observed before with respect to *lá* by itself. The contrasts displayed by the pairs of sentences in (7) and (8) confirm that deictic locatives cannot be freely left-adjacent to the verb. The contextual restrictions to *lá*-preposing are a key issue in the present discussion.

(7) a. *A Maria nunca* para lá *telefona.*
the Maria never to there calls
"Mary never calls there."

b. **A Maria* para lá *telefonou.*
the Maria to there called
"Mary called there."

(8) a. *Todos* de lá *vieram doentes.*
everybody from there came sick
"Everybody came sick from there."

b. **A Maria* de lá *veio doente.*
the Maria from there came sick
"Maria came sick from there."

In the next sections, we will propose an integrated account for the facts described here and consider further implications of the analysis.

3. *Lá*-preposing as middle scrambling

Some of the facts introduced in Section 2 follow straightforwardly from our proposal that *lá*-preposing is middle scrambling, which in line with influential work by different authors we take to be movement to Spec,TP (cf. Chomsky 1994, Miyagawa 1997, 2001, Grewendorf & Sabel 1999, Bailyn 2004, among others).[10]

Before we proceed, a note of clarification is in order with respect to the structural position of the subject (as we are dealing with sentences with the word-order 'Subj-Loc-V' and proposing that Loc is in Spec,TP). We do not take Spec,TP to be the canonical subject position in European Portuguese. Independent evidence that we will not be discussing in this paper makes us believe that in the general case Spec,TP is not projected in European Portuguese (cf. Costa 2003); the regular position of preverbal subjects is the Specifier of Σ, the polarity-encoding head that immediately dominates TP (Martins 1994b, Costa & Martins 2003).[11]

Two sets of data are smoothly derived under the analysis of *lá*-preposing as movement to Spec,TP. First: since Portuguese has V-to-T movement and middle scrambling places the deictic locative in Spec,TP, the scrambled locative must be necessarily left-adjacent to the verb (or to a clitic-verb/neg-verb string). Second: movement of the deictic locative to a specifier position fits in with the empirical evidence showing that *lá*-preposing is not head-movement.[12]

But an important set of data is still left unaccounted for. As previously observed, there are contextual restrictions to *lá*-preposing and a puzzling connection between the position of *lá* with respect to the verb and the placement of clitic pronouns. Hence, we will want to know why movement of the deictic locatives to Spec,TP is specifically unavailable in the same contexts were proclisis is blocked

10. These different authors identify Spec,IP as the target of movement for the scrambled object in particular languages. In accordance with the date of publication of each paper, IP may be taken to split into different categories; accordingly, scrambled objects may be taken to target specifically Spec,AgrS (Chomsky 1994), the specifier of a *fused* AgrO-AgrS head (Miyagawa 1997) or Spec, TP (Miyagawa 2001).

11. As for its role with respect to the sentential subject, the ΣP projection of Martins (1994a, 1994b) may be taken to be equivalent or the SubjP (subject-of-predication) projection of Cardinaletti (1997, 2004). See also Alexiadou & Anagnostopoulou 1998, Barbosa 2000, Bailyn 2004.

12. The deictic locative moves to Spec,TP from within a Larsonian VP-shell. It is irrelevant to our concerns in this paper what the exact position of the locative *lá* is within the VP-shell. See Larson (1988, 1990).

and enclisis becomes obligatory. In order to answer this question, we will have to summarily refer to previous work by Costa and Martins on clitic placement and the nature of the polarity-encoding head Σ.

Costa & Martins (2003, 2004), who claim that the distinction between strong and weak functional heads is theoretically relevant (pace Chomsky 2001), propose that the distinctive property of strong functional heads is the fact that they require visibility at PF.[13] Thus a strong functional head is licensed if and only if it is given phonological content, which is to say, if it is 'lexicalized'. Lexicalization may arise under syntactic merger (associated or not with movement) or under morphological merger.

In European Portuguese, the functional polarity head Σ (Laka 1990, Martins 1994a, 1994b), which immediately dominates TP, is precisely subject to that type of visibility constraint at PF. Thus it is licensed only if it is lexicalized.[14]

In proclitic environments, Σ is licensed by some element syntactically merged in its domain or in a higher domain. In enclitic environments, Σ merges with the verb via morphological merger, specifically *local dislocation merger*, a post-syntactic process operating under strict adjacency (Embick & Noyer 2001).

We are now in a position to return to the issue of why middle scrambling of deictic locatives is contextually restricted. Just like pronominal clitics, locatives moved to Spec,TP block adjacency between the functional head Σ (with the feature [+aff]) and the verb. Therefore, in contexts in which Σ is licensed post-syntactically through morphological merger with the verb, that is, in typical enclitic contexts, middle scrambling of the deictic locatives yields ungrammaticality (just like proclisis does), since it prevents the licensing of Σ:

(9) *[Σ_P (Subj*without polarity features*) [$\Sigma_{[+aff]}$ [$_{TP}$ **loc** [(cl) [V + T]] ...

The examples in (10) and (11) illustrate again (cf. (3)–(4) above) the parallelism between the necessity of enclisis and the impossibility of *lá*-preposing (in other respects clitic placement and *lá* placement are naturally different). In a simple affirmative declarative sentence where only a referential subject precedes the verb, enclisis is obligatory (see (10)) and a deictic locative must be postverbal as well (see (11)).

(10) a. *A* *Maria* *telefonou*-me.
the Maria called-me.DAT

13. See also Martins (2003).

14. We adopt the view that there is an overall parallel between affirmative and negative sentences, meaning that every clause includes a polarity-encoding functional head where aff/neg features are located. Furthermore we take this functional head to display a different behaviour across languages in relation to verb movement (see Martins 1994a, 1994b, 2006).

b. **A Maria* me *telefonou*.
the Maria me.DAT called
"Mary called me."

(11) a. *A Maria telefonou* de lá.
the Maria called from there

b. **A Maria* de lá *telefonou*.
the Maria from there called
"Mary called from there."

4. Further empirical evidence: Restructuring and non-restructuring infinitives

The analysis put forth in the previous section makes a very precise prediction. If a particular clausal structure can be identified where the Σ-head is absent, there will be no restrictions to *lá*-preposing, because middle scrambling is only blocked when it would prevent the licensing of the Σ-head by disrupting the adjacency between Σ and V.

Restructuring infinitives give us the means to check this prediction because restructuring infinitives are functionally defective domains that do not include the polarity-head Σ (Martins 2000), as demonstrated by the fact that they cannot host negation.

We thus expect that within restructuring infinitives, but not in non-restructuring infinitives, *lá*-type locatives scramble freely. This prediction is borne out, as illustrated by the grammaticality contrast between (12a) and (12b). So (12a) with the restructuring verb *querer* (want) allows *lá*-preposing within the infinitival clause in the absence of a proclisis trigger, while (12b) with the non-restructuring verb *lamentar* (regret) does not.

(12) a. *Ela quer (sempre)* lá *ir*.
she wants (always) there go.INF
"She (always) wants to go there."

b. **Eu lamento* lá *trabalhar*.
I regret there work.INF
"I regret working there."

Moreover, even with a verb like *querer* (which allows restructuring optionally), *lá*-preposing is excluded if restructuring actually does not take place. This is shown by (13a) where the fact that the clitic pronoun did not climb signals the absence of

restructuring. In contrast, (13b) displays clitic climbing (signalling restructuring) and *lá*-preposing within the infinitival clause.

(13) a. **Eu não quero* lá *encontrar*-te *amanhã*.
I not want there find.INF-you.ACC tomorrow

b. *Eu não* te *quero* lá *encontrar amanhã*.
I not you.ACC want there find.INF tomorrow
"I don't want to find you there tomorrow."

The defectiveness of restructuring infinitives goes beyond the absence of the Σ-head and higher functional structure. Gonçalves (1999) shows that also T is in some ways defective in such infinitives (cf. Wurmbrand 2001 and Gonçalves & Matos (2009). Thus, besides excluding negation, restructuring infinitives cannot contain independent tense or clitics. The defectiveness of restructuring infinitival T may explain why *lá*-type locatives, like clitics, can 'climb', targeting Spec,TP of the finite clause (see (14a)), although they do not have to (see (14b–c)) since middle scrambling is optional. The parallelism with clitic placement is illustrated in (15a–b) (although clitics differently from deictic locatives are not freely postverbal or preverbal when they stay inside the infinitival clause, as shown by (15c)).[15]

(14) a. *Ela nunca* lá *quer ir*.
she never there wants go.INF

b. *Ela nunca quer ir* lá.
she never wants go.INF there

c. *Ela nunca quer* lá *ir*.
she never wants there go.INF
"She never wants to go there."

(15) a. *Ela nunca* me *quer ver*.
she never me.ACC wants see.INF

b. *Ela nunca quer ver*-me.
she never wants see.INF-me.ACC

c. **Ela nunca quer* me *ver*.
she never wants me.ACC see.INF
"She never wants to see me."

Extracting the deictic locative from within a non-restructuring infinitive is ruled out because long-distance scrambling is never an option in European Portuguese

15. This is comparable to what we observed before with respect to finite clauses: *lá*-preposing is optional but proclisis is obligatory given the relevant context.

(see (16)).[16] Similarly, clitic climbing is unavailable with the non-restructuring verb *lamentar* (regret) (compare (16) with (17)).

(16) a. **Ela nunca* lá *lamentou trabalhar.*
she never there regretted work.INF

b. *Ela nunca lamentou trabalhar* lá.
she never regretted work.INF there
"She never regretted working there."

(17) a. **Eu nunca* te *lamentei ajudar.*
I never you.ACC regretted help.INF

b. *Eu nunca lamentei ajudar*-te.
I never regretted help.INF-you.ACC
"I never regretted to help you."

5. Lá-preposing and negation

Simple negative clauses constitute a problem for our explanation of the contextual restrictions imposed on middle scrambling of deictic locatives. Although the

16. It is interesting to observe that similar facts can be found in German and Dutch with respect to the availability of middle scrambling out of infinitival clauses (even though scrambling is not the outcome of A-movement in German and Dutch).
Examples (i)–(ii), from German, show that the restructuring verb *versuchen* ('try') allows the scrambled object to target the middle field of the matrix clause, while the non-restructuring verb *behaupten* ('claim') does not.

(i) a. *daß jemand* [PRO die Frau *zu heiraten*] *versuchte.*
that someone.NOM the woman.ACC to marry tried

b. *daß* die Frau *jemand* [PRO *t zu heiraten*] *versuchte.*
that the woman.ACC someone.NOM to marry tried
"that someone tried to marry the woman."

(ii) a. *daß jemand* [PRO die Frau *zu heiraten*] *behauptete.*
that someone.NOM the woman.ACC to marry claimed

b. **daß* die Frau *jemand* [PRO *t zu heiraten*] *behauptete.*
*that the woman.ACC someone.NOM to marry claimed
"that someone claimed to marry the woman."

Examples taken from Grewendorf & Sabel (1999:36)

Sentence (iii) below illustrates the availability of scrambling out of restructuring infinitives in Dutch:

(i) *dat Jan* Marie *heeft geprobeerd* [*t te kussen*].
that Jan Marie has tried to kiss
"that John has tried to kiss Mary."

Example taken from Baltin (2002:657), who quotes Johnson (2001:80)

predicative negation marker (*não* 'not') triggers proclisis, it does not per se circumvent blocking of *lá*-preposing, as illustrated in (18), which is apparently unexpected under our analysis.

(18) a. *Eu hoje não* te *vi* lá.
I today not you.ACC saw there

b. **Eu hoje não* lá te *vi.*
I today not there you.ACC saw
"I haven't seen you there today."

c. **Eu hoje não* lá *vi ninguém.*
I today not there saw nobody
"I haven't seen anybody there today."

By assuming the view that there is an overall parallel between affirmative and negative sentences, we will be able to deal with this remaining conundrum. We accordingly propose that the predicative negation marker, like the verb, adjoins to T in the syntax (cf. Matos 1999) and merges with Σ post-syntactically whenever Σ is not independently licensed. In this way, the deictic locative moved to Spec,TP fatally blocks adjacency between $\Sigma_{[+neg]}$ and *não* 'not', just like in those cases in which $\Sigma_{[+aff]}$ must undergo morphological merger with the verb. The crucial structural similarity between affirmative and negative clauses is shown in (19), which clarifies why sentential affirmation and sentential negation interact with *lá*-preposing in basically the same way.[17]

(19) a. *[Σ_P (Subj*without polarity features*) [$\Sigma_{[+aff]}$ [$_{TP}$ **loc** [V + T]] ...

b. *[Σ_P (Subj*without polarity features*) [$\Sigma_{[+neg]}$ [$_{TP}$ **loc** [*não* [V + T]] ...

In the next and last section of the paper we will address in an exploratory manner the question of why middle scrambling is only available to a particular type of locatives.

17. It should be noted that sentences like (ia) are straightforwardly handled under the current analysis because in (ia) $\Sigma_{[+neg]}$ is independently licensed by *ainda* 'yet', exactly in the same manner that $\Sigma_{[+aff]}$ is licensed in (ib).

(i) a. *Ainda* lá *não te vi.*
yet there not you.ACC saw
"I haven't seen you there yet."

b. *Ainda* lá *te vi.*
still there you.ACC saw
"I've seen you there."

On the other hand, the perspective we are adopting with respect to negation is not free of riddles when clitic placement is integrated in the picture. We will not solve the puzzle herein.

6. The syntactic locus of UT-T and speaker/utterance-anchored locatives

While *lá*-type locatives can become left-adjacent to the verb by moving to Spec,TP, this position is not accessible to other locative constituents. The relevant contrast is exemplified in (20) and (21). The sentences in (20) show that a PP integrating *lá* can be preposed (see (20a)) while a PP integrating a locative proper name, like *Lisboa*, or a locative adverb like *longe* 'far away' cannot (see (20b–c)). Besides, (21) shows that when the deictic locative *lá* is doubled by a prepositional phrase, leftward movement of *lá* leaving the doubling PP behind is allowed (see 21a)), but movement of the whole big locative constituent is not (see (21b)).

(20) a. *O Pedro já* para lá *vai*.
the Pedro already/soon to there goes
"Peter is ready to go there."

b. **O Pedro já* para Lisboa *vai*.
the Pedro already/soon to Lisbon goes
"Peter is ready to go to Lisbon."

c. **O Pedro já* longe *vai*.
the Pedro already far goes
"Peter is far away already."

(21) a. *O Pedro já* lá *vai* a casa.
the Pedro already/soon there goes to house
"Peter is ready to go to his/her/their/our house."

b. **O Pedro já* lá a casa *vai*.
the Pedro already/soon there to house goes

Lá-type locatives denote a location identified with respect to the speaker's location at the utterance time. This is clearly shown in (22), as the location denotated by *lá* 'there' in this sentence is [–close] to speaker and addressee (the meaning of *lá*) at the utterance time but [+close] to speaker at the assertion/event time (an effect created by the presence of the 1st person oblique pronoun *comigo* 'with me').

(22) *Ontem ele esteve* lá *comigo*.
yesterday he was there with.me

Our suggestion is that the special link between Tense and *lá*-type locatives is rooted in their similar nature as speaker-anchored and utterance-anchored deictics (cf. Levinson 2004, among others).

Demirdache & Uribe-Etxebarria (2000) analyse Tense and Aspect as dyadic predicates projecting a maximal projection in the syntax and establishing an

ordering relation between its two time-denoting arguments. The external argument of Tense (T^0) is a reference time, the *utterance-time* (UT-T); its internal argument is the *assertion time* (AST-T). The external argument of Aspect (Asp) is a reference time, the AST-T; its internal argument is the *event time* (EV-T).

The *utterance time* (UT-T) plays a central role in the interpretation of *lá*-type locatives. The syntactic locus of the UT-T argument is Spec,TP. It now seems less enigmatic that Spec,TP might be the target of movement of this very particular type of speaker/utterance-anchored deictic locatives.[18] Seemingly, temporal and spatial anchoring can work together as far as the right kind of deictic locatives is available.[19]

7. Conclusion

In this paper, we have shown that contemporary European Portuguese displays middle scrambling restricted to *lá*-type deictic locatives, which share with tense the property of being speaker/utterance-anchored.

We put forward an analysis of locative middle scrambling as movement to Spec,TP, relating its availability with the nature of the polarity-encoding head Σ (in an extension of previous work on clitic placement and the syntax-morphology interface).

With this analysis, we were able to account for a set of interrelated and apparently enigmatic facts.

Although the deictic locatives that undergo middle scrambling are not clitics (but unambiguous X^{max}), their ordering with respect to the verb resembles clitic placement. We proposed that both *lá*-type locatives and clitics enter the syntactic domain of Tense (the former optionally, the latter obligatorily) and in doing so both create configurations that disrupt the adjacency between Σ and V. Hence,

18. T may project multiple specifiers under Demirdache & Uribe-Etxebarria (2000) analysis; so it can accommodate both the UT-T argument and a deictic locative.
As a final observation, we would like to call attention to the fact that adverbs that adjoin to TP (cf. Costa 1998) do not block morphological merger between Σ and V. This brings further support to the hypothesis that deictic locatives are in a specifier position and do not behave like adjuncts, which may relate to the fact that these adverbs are more nominal-like (cf. van Riemsdijk 1978, Larson 1985, den Dikken 2006).

19. Like Tense, deictic locatives can anchor events to utterances. Ritter & Wiltschko (2005) convincingly demonstrate that there are tense-less natural languages. In the absence of tense, such languages syntactically express LocP, instead of TP, and use spatial anchoring as an alternative strategy. Event location is asserted to coincide or not coincide with utterance location (i.e. the event takes place here or not).

whenever adjacency is required because Σ must be licensed through morphological merger with V, *lá*-type locatives cannot scramble and clitics are enclitic.

Restructuring infinitives prove, as expected under our analysis, that once Σ does not play a role, there are no restrictions to locative middle scrambling. We saw how *lá*-type locatives scramble freely in restructuring infinitives because those are functionally defective domains where Σ is not projected.

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Morphosyntactic variation in the temporal construals of non-root modals*

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We provide a principled account of the morphosyntax-semantics interface of non-root modals in two Romance languages (Spanish/French) *vs.* English. While English modals are morphologically impoverished, Romance modals are fully inflected for tense and aspect and the possible combinations of tense and aspect constrain the range of construals available: epistemic *vs.* metaphysical. We uniformly derive the range of possible construals from a restricted set of assumptions: (i) Tense/T°, Modal/M°, Aspect/ASP° and v° each contribute to the temporal calculus of the clause in which they occur a time argument projected in the syntax as a *Zeit*-P; (ii) *zeit*-Ps can enter into anaphoric and scopal dependencies. This proposal derives the temporal construals of non-root modals from a single phrase-structure (Tense-P > Modal-P > Aspect-P) without appealing to dedicated hierarchies of functional projections. Syntactic movement of time arguments (*Zeit*-Ps) and/or temporal heads (T°/ASP°) ultimately accounts for cross-linguistic variation in the morphosyntax of these construals.

Keywords: Tense, aspect, time arguments, *Zeit*-P, (non-root) modal, epistemic, metaphysical, English, French, Spanish

1. The temporal construals of non-root modals

Non-root modals report the speaker's modal judgment relative to the truth value of the modal propositional complement. There are two times involved in their interpretation:

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(i) the time at which the possibility or necessity under discussion holds, which we call the *modal-time* (MOD-T), and (ii) the time at which the situation described by the propositional complement of the modal holds – its *situation time* (SIT-T).

English perfect modals allow two non-root temporal construals: ***epistemic** vs. **metaphysical*** (Condoravdi 2002), discussed in turn below.

1.1 The epistemic reading

On their epistemic construal, the sentences in (1a) with a present/past-inflected modal combining with perfect *have* can be paraphrased as in (1b):

(1) a. Zara may/might have won the race
b. It is possible that Zara may/might have (already) won the race.

In (1a), on the construal in (1b), the time of the possibility under discussion (that is, the MOD-T) holds at *utterance time* (UT-T) and the SIT-T of the propositional complement in the scope of the modal [ZARA WIN THE RACE] is *past*-shifted relative to the present MOD-T. When the MOD-T holds at UT-T, we will say, following Condoravdi, that it provides a *present* temporal perspective. Since we are now at a time following the described past event, the issue of whether Zara has won the race or not has already been settled at UT-T/MOD-T. Modality thus relates to the *epistemic* state of the speaker, her lack of knowledge as to the outcome of the wining event.

1.2 The metaphysical reading

While the present epistemic construal ((1b)) obtains independently of the morphological tense form of the modal (*may*/*might*) in (1a), past inflection on the modal allows a further construal that can be paraphrased as in (2b):

(2) a. Zara might have won the race.
b. (At some point in the past), Zara might have (still) won the race.

On this construal, the time of the possibility (the MOD-T) holds at a *past* time and the SIT-T of the propositional modal complement [ZARA WIN THE RACE] is *future*-shifted relative to the past MOD-T. We will say that when the MOD-T holds at a past time, it provides a *past* temporal perspective. Notice that in this case, there is no epistemic uncertainty, since at the past time of the possibility, the issue of whether Zara won or not had not been settled and the world could have developed either way. Here, modality is *metaphysical* relating to how the world might have turned out to be.[1]

1. For Condoravdi, the metaphysical reading of English past-inflected modals ((2)) is counterfactual. It is not, however, altogether clear to what extent it is. As pointed out by a reviewer, it

For Condoravdi (2002), the ambiguity in the construal of perfect modals (epistemic *vs.* metaphysical) is a *scopal* ambiguity. That is, under the epistemic reading, the modal scopes over the perfect, as shown in (3a).[2] In contrast, under the metaphysical construal in (3b) the scope of the perfect relative to the modal is *reversed*: the perfect scopes over the modal.

(3) a. *epistemic modality:* PRES(MIGHT$_{MB}$(**PERF**(he win)))
$\lambda w \exists w'$ [$w' \in$ MB(w, *now*) & $\exists t'$ [$t' <$ [*now*, ∞) &
$\exists e$ [[he win](w') (e) & $\tau(e, w') \subseteq t'$]]]

b. *metaphysical modality:* PRES(**PERF**(MIGHT$_{MB}$(he win)))
$\lambda w \exists w' \exists t'$[$t' <$ *now* & $w' \in$ MB(w, t') &
$\exists e$ [[he win](w') (e) & $\tau(e, w') \subseteq [t', \infty)$]]

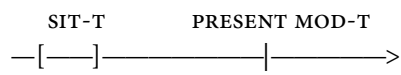
2. Crosslinguistic variation in the morphosyntax of non-root construals

We now turn to the issue of how non-root construals are morphosyntactically encoded across languages. We examine how epistemic *vs.* metaphysical construals are expressed in two Romance languages, French and Spanish (see Borgonovo & Cummins 2007, Laca 2005 for further discussion), as opposed to English. As we shall see, the comparison is of particular interest in that Romance modals fully inflect for tense, aspect and person agreement, thus contrasting sharply with English, where modals can fail to exhibit a morphological and/or semantic present/past alternation.

2.1 The morphosyntax of epistemic construals

Recall that on the epistemic construal, the MOD-T holds at UT-T and the SIT-T of the modal complement is *past-shifted* relative to this *present* MOD-T:

(4) *Present perspective about a past situation*



We have seen that this reading arises in English by combining perfect HAVE with a present ((5a)) or a past-inflected ((5b)) modal. Now, in French/Spanish, the

is only weakly counterfactual in English – as opposed to German: '(At some point in the past), Maddi could/might/ have won the race, and she did in fact.' [See also Footnote 7 below].

2. MB stands for the modal base. In (3a), MB(w, *now*) is the set of worlds compatible with what a subject knows in w at UT-T. In (3b), MB(w, t) consists of the set of metaphysical alternatives of w at t. τ stands for the running time of the event e.

epistemic construal arises with a variety of tense/aspect combinations: a present tense modal combining with perfect HAVE ((6a)); a present perfect modal ((6b)); or an imperfective past modal ((6c)). Finally, this reading also arises in Spanish with a perfective past/preterit modal ((7)).

(5) English:
   a. Amina *may have* won the race
   b. Amina *might/should have* won the race.

(6) French/Spanish:
   a. *Present* modal + perfect HAVE
      Maddi ***puede/debe*** ***haber*** *ganado la carrera*
      Maddi ***peut/doit*** ***avoir*** *gagné la course.*
      Maddi can/must$_{\text{PRES.3.SG}}$ have won the race
      "Maddi may/must have won the race."

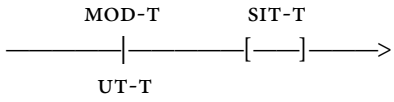
   b. *Present perfect* modal
      Maddi ***ha*** ***podido/debido*** *ganar la carrera*
      Maddi ***a*** ***pu/dû*** *gagner la course.*
      Maddi has$_{\text{PRES.3.SG}}$ can/must$_{\text{PARTICPLE}}$ win the race
      "Maddi may/must have won the race."

   c. *Imperfective past* modal
      Maddi ***podía/debía*** *estar en casa*
      Maddi ***pouvait/devait*** *être à la maison*
      Maddi can/must$_{\text{IMP.PAST}}$ be in the house
      "Maddi may/must have been at home."

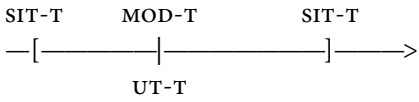
(7) Spanish: *Preterit* modal
   Maddi ***pudo/debió*** *ganar la carrera*
   Maddi can/must$_{\text{PRET.3.SG}}$ win the race
   "Maddi may/must have won the race."

Note that, in all three languages, past-inflected modals (e.g. *might/should* in English ((5b)), imperfective past modals in French/Spanish ((6c)) and perfective past modals in Spanish ((7))) allow an epistemic construal. There is, however, a crucial difference between French/Spanish on the one hand, and English on the other: the (im)perfective *past* modals in (6c)/(7) can yield the epistemic construal in (4) – where the SIT-T of the VP is *past*-shifted relative to UT-T – without perfect HAVE. This is not the case in English: (5) shows that the temporal construal in (4) arises with perfect HAVE, while (8) below shows that this reading is in fact not available with past inflection on the modal, in the absence of perfect HAVE.

(8) a. Amina might travel to Europe/be at home (tomorrow/*yesterday)
a'. *epistemic reading: present* MOD-T, *future-shifted* **SIT-T**



b. Amina might be at home (now/*yesterday)
b'. *epistemic reading: present* MOD-T, *present* **SIT-T**



On the epistemic construal of (8a/b), the MOD-T holds at UT-T, and the SIT-T of the modal complement is construed as either *future-shifted* relative to the present MOD-T/UT-T ((8a')), or as *ongoing* at the present MOD-T ((8b') with a stative modal complement). That is, the *past*-inflected modals in (8) provide a *present* temporal perspective about an *ongoing* or *future-shifted* situation.

Since past inflection on the modals in (8a/b) locates *neither* the MOD-T, *nor* the SIT-T of the modal complement, in the past, we conclude that it is *not* interpreted as a past tense and analyse it as a semanticully vacuous past – that is, as a *zero-tense*.

The Spanish/French sentences in (6c)–(7), just like the English sentences in (8a/b), involve a morphological past tense modal combining with an infinitive verb. Crucially, however, the past-inflected modal verbs in (6c)–(7) allow the epistemic *past*-shifted reading in (4), not the epistemic *ongoing/future*-shifted reading illustrated in (8). To express the latter reading, French/Spanish use the present tense modal sentences in (9):

(9) *Maddi* ***peut/doit*** *être à la maison/gagner la course*
Maddi ***puede/debe*** *estar en casa/ganar la carrera*
Maddi can/must$_{\text{PRES.3.SG}}$ be at home/win the race
"Maddi can/must be at home."

We conclude that past inflection on the French/Spanish modals in (6c)–(7) is semantically interpreted since it serves to locate the SIT-T of the infinitive predicate under the scope of the modal in the past.[3] In contrast, past inflection on the English

3. That past inflection on French/Spanish modals is always interpreted is uncontroversial for *perfective* past modals, less so for *imperfective* past modals. The Spanish/French 'imperfect' can be a zero-past in sequence of tense contexts and to some extent, it appears to allow zero-past (epistemic) modal construals, at least with *poder* in Spanish, as illustrated with (ii), in the context provided by (i). The imperfective past on the modal in (ii) is not interpreted since (just like the past on the modal in the English (8b)) it locates neither the MOD-T, nor the SIT-T of the modal complement in the past. We leave this issue open for further investigation

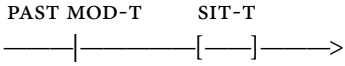
modals in (8a/b) is not interpreted since it locates neither of the two times involved in the temporal interpretation of modals (MOD-T/SIT-T) in the past ((8a'/b')). We, henceforth, refer to the semantically vacuous past on English modals as a zero-past (tense).

Summarizing. How is the (epistemic) present temporal perspective about a past situation construal of modals encoded in the three languages under discussion? It is always available with a present tense modal combining with perfect HAVE (English (5a), French/Spanish (6a–b)). In English, this construal is also available with a *zero*-past tense modal combining with perfect HAVE ((5b)), while in French/Spanish, it is available with a *semantic* past tense modal combining with an infinitive ((6c)–(7)). In sum, the epistemic construal in (4) requires either of the following ingredients: a semantic *past tense* (Romance), a *tenseless perfect* (English) or a *present perfect* (all three languages).

2.2 The morphosyntax of metaphysical construals

Recall that on the metaphysical construal, the MOD-T holds in the past, and the SIT-T of the modal propositional complement is *forward-shifted* relative to the *past* MOD-T, as illustrated in (10):

(10) *Past perspective about a future in the past situation*



This reading arises in English when a *zero*-past modal verb combines with perfect HAVE ((11)). In Spanish and French, this reading arises with an imperfective past modal, as in (12). In Spanish, the metaphysical reading is also available with a preterit modal, as in (13).

(11) English: *Zero-past* modal verb + perfect HAVE
Amina might/should *have* won the race

(12) Spanish/French: *Imperfective past* modal
Maddi ***podía/debía*** *ganar la carrera*
Maddi ***pouvait/devait*** *gagner la course*
Maddi can/must$_{\text{IMP.PAST}}$ win the race
"Maddi could/should have won the race."

(i) A: Where is Juan? B: I don't know, ask Miren. A: Why do you suggest that?

(ii) B: *No sé,* ***podía*** *estar con ella.*
NEG know can$_{\text{IMP.PAST}}$ be with her
"I don't know, he could be with her."

(13) Spanish: *Preterit* modal
Maddi ***pudo/debió*** *ganar la carrera*
Maddi can/must$_{\text{PRET.3.SG}}$ win the race
"Maddi could/should have won the race."

We conclude that the metaphysical (past perspective) construal is *available* with either *zero-past* modals (English) or *past-tense* modals (Spanish and French). Crucially, however, the metaphysicall construal is *not available* with *present-tense* modals since the combinations in (14) allow an epistemic, but not a metaphysical, construal.

(14) a. English/Spanish/French: *present* modal + perfect HAVE
Maddi may$_{\text{PRES}}$ have won the race. (examples (5)–(6a))
b. Spanish/French: *present* perfect modal (examples (6b))
Maddi has$_{\text{PRES}}$ can/must$_{\text{PARTICIPLE}}$ win$_{\text{INFINITIVE}}$ the race

Recall, from Section 1, that for Condoravdi both the metaphysical epistemi and the epistemic construal of English perfect modals involve a semantic present tense (see (3) above) and, moreover, that the ambiguity in the construal of perfect modals (epistemic *vs.* metaphysical) is a scopal ambiguity. When the modal scopes over the perfect, an epistemic reading arises, when the perfect scopes over the modal, a metaphysical reading arises:

(15) a. PRESENT > MODAL > PERFECT → Epistemic
b. PRESENT > PERFECT > MODAL → Metaphysical

Since the metaphysical construal is unavailable with present tense modals in the three languages under discussion and, in particular, in French/Spanish where as we have seen (Section 2.1) all modals exhibit a morphological present *vs.* past alternation that is never semantically neutralized, we conclude that Condoravdi's assumption that the metaphysical reading involves a semantic present tense cannot be right.

For Stowell (2005), the metaphysical/past perspective reading involves a semantic *past tense* construal of perfect HAVE scoping above the modal. The crosslinguistic morphosyntax of this reading supports his proposal since, as we just established, the metaphysical construal is *available* with simple *past-tense* modals in Spanish/French. The question for English then is why/how zero-past perfects can yield the construal of a simple past tense. We leave this question open until Section 5.2, which lays out our analysis of the metaphysical reading.

We now turn to the issue of how to achieve a unified and principled analysis of the temporal construals of non-root modals – while at the same time accounting for the patterns of morphosyntactic variation observed. We start by integrating

non-root modals within the framework for temporal interpretation developed in our previous work.

3. The temporal syntax of non root modals

Demirdache & Uribe-Etxebarria (2000, 2007, 2008 and references therein, henceforth D&UE) uniformly define temporal relations in terms of elementary and isomorphic semantic and structural primitives. The proposal is that tenses, aspects (as well as time adverbs) are spatiotemporal predicates establishing ordering/topological relations between time arguments.

Following Smith (1991), (viewpoint) aspect serves to focus a subinterval in the temporal contour of the described event. We take this interval to be the *assertion-time* (AST-T) in the sense of Klein (1995: 187) – that is, "the time to which the assertion is confined, for which the speaker makes a statement". Why does aspect focus a time span in the temporal contour of the described event? Because aspect is a spatiotemporal predicate ordering two time spans: the AST-T relative to the SIT-T. This ordering relation can be one of subsequence (retrospective/perfect aspect ((16a)), inclusion (progressive aspect ((16b)), or precedence (prospective aspect ((16c)):

(16) a. *Retrospective*
AST-T *after* SIT-T
SIT-T AST-T
—[——]—[——]—>

b. *Progressive*
AST-T *within* SIT-T
AST-T
—[—[——]—]—>
SIT-T

c. *Prospective*
AST-T *before* SIT-T
AST-T SIT-T
—[——]—[——]—>

(17) a. *Past*
UT-T *after* AST-T
AST-T UT-T
—[——]—[——]—>

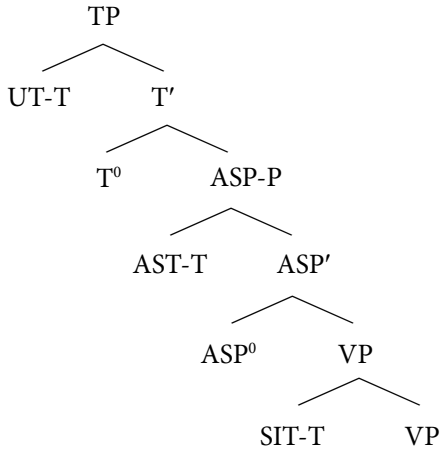
b. *Present*
UT-T *within* AST-T
UT-T
—[—[——]—]—>
AST-T

c. *Future*
UT-T *before* AST-T
UT-T AST-T
—[——]—[——]—>

Tense itself orders the AST-T relative to a REF-T (UT-T in main clauses). This ordering relation can again be one of subsequence (past tense ((17a)), inclusion (present tense ((17b)), or precedence (future tense ((17c)).

Predicates of spatiotemporal ordering project their time arguments onto the syntax as *Zeit*-phrases. This proposal yields the phrase structure in (18), where each temporal head orders its external time argument, the *Zeit*-P projected onto its (topmost) specifier position, relative to its internal argument, the *Zeit*-P in its immediate scope.

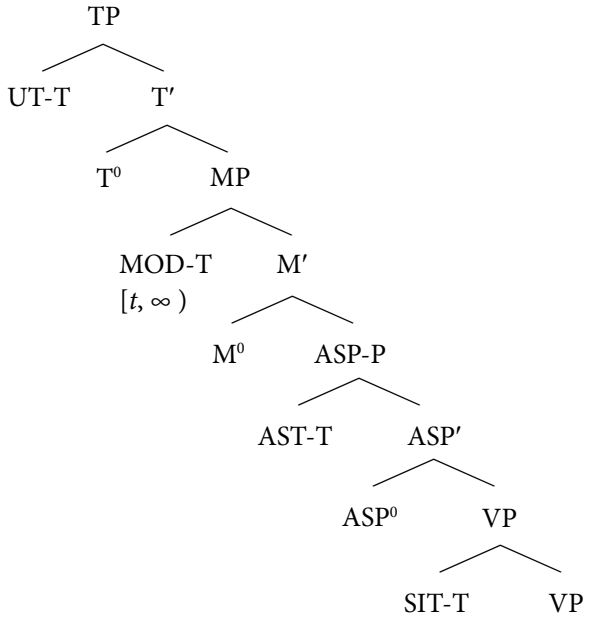
(18) *The phrase structure of tense and aspect*



Now, suppose there is no temporal head under either T° or ASP°. Then the ordering relation between their (respective) time arguments is established via *anaphora*, where the default construal of anaphora is (semantic) *binding* (Reinhart 1997). This assumption, as the reader shall see, will play a key role in our analysis of the temporal construals of modals.

We incorporate non-root modals into our syntax for tense and aspect by assuming that they head a maximal projection, Modal-P (MP), embedded under TP and above ASP-P, as shown in (19). We adopt Condoravdi's (2002) proposal that non-root modals expand time forward by contributing an open ended interval, $[t, \infty)$, to the temporal construal of their clause. This time interval, which we call the *modal-time* (MOD-T), is a reference time projected into the syntax as the external argument of the modal head. Under this proposal, the heads T°, M°, ASP°, V°, each introduce a time argument projected onto a specifier position in the syntax.

(19) *The temporal phrase structure of non-root modals*



We now show how this phrase-structure uniformly derives the epistemic *vs.* metaphysical construals of root modals, while accounting for the patterns of crosslinguistic variation observed in Section 2. We start with *present* tense *perfect* modals (Section 4), then turn to English *zero-past perfect* modals (Section 5), and finally to Romance simple *past* tense modals (Section 6).

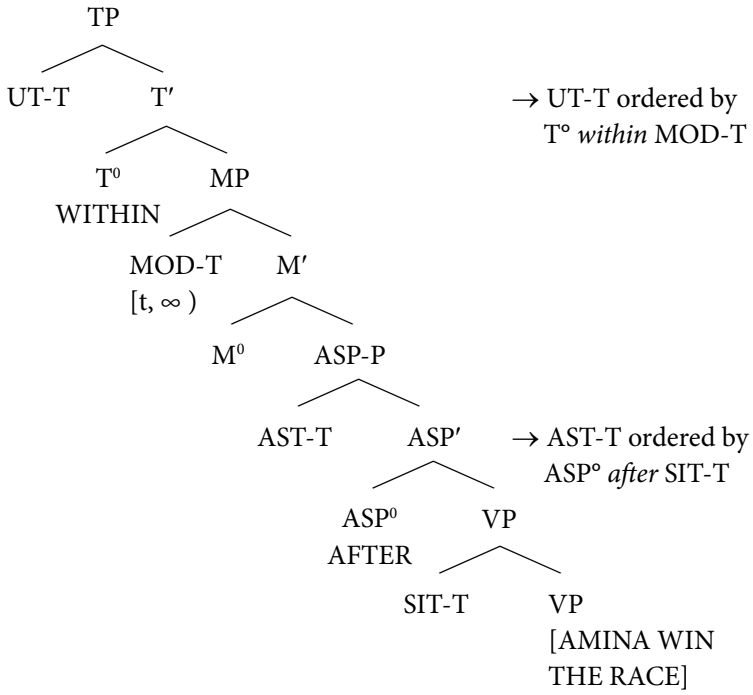
4. The epistemic construal of present$_{tense}$ + perfect$_{aspect}$ modals

Recall that in the three languages under consideration, the combination of present tense and perfect HAVE yields an epistemic construal, where the modal provides a present temporal perspective about a past situation.

Assuming the temporal syntax for non-root modals in (19), the modal sentence in (20a) will be assigned the temporal phrase-structure in (20b).

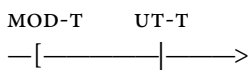
(20) a. Amina may$_{PRES}$ have$_{PERF}$ won the race

b.

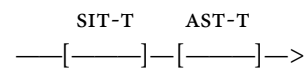


In (20b), present tense (that is the spatiotemporal predicate WITHIN generated under T°) orders the UT-T, its external argument, *within* the MOD-T, its external argument ((21a)). The MOD-T is itself an open-ended interval: [*t*, ∞). Since the UT-T falls within the MOD-T, the time of the possibility under discussion holds at UT-T. Perfect/retrospective aspect (that is, the spatiotemporal predicate AFTER generated under ASP°) in turn orders the AST-T, its external argument, *after* the SIT-T of the VP, its internal argument, as illustrated in (21b).

(21) a. UT-T *within* MOD-T



b. AST-T *after* SIT-T



At this stage, the time arguments of both T° (UT-T, MOD-T) and ASP° (AST-T, SIT-T) have been ordered relative to each other. The time arguments of the modal head M° (MOD-T, AST-T) remain, however, unordered relative to each other. There is no temporal head in (20b) to order the MOD-T relative to the AST-T (since the modal head, M°, is not a spatiotemporal predicate expressing subsequence, precedence or inclusion). The ordering relation between these two times is thus established via

anaphora. Recall that the default construal of anaphora is binding.[4] The MOD-T thus binds the AST-T.

Following Reinhart (1997) and Heim & Kratzer (1998), (variable) binding involves predication over the binder (here the MOD-T), with the bindee (here the AST-T) bound by the predicate abstractor (that is, the λ-operator). Thus, in (22), the antecedent of the AST-T (the time variable sitting in the specifier of ASP-P) is the MOD-T. The actual binder of this variable, however, is the λ-operator adjoined immediately below the MOD-T.[5]

4. Assuming that anaphora is established via either coreference or (semantic) binding, Reinhart (1997) argues that the default construal of anaphora is binding. Reinhart adopts a view of (variable) binding where the relationship between a binder and a bindee (be it a trace or a pronoun) involves predicate abstraction. On this proposal, when a trace/pronoun is bound by an antecedent, there is predication over the antecedent with the trace/pronoun bound by the predicate abstractor (λ-operator). This proposal elegantly explains why anaphora in (i) yields two truth-conditionally distinct readings. On the reading in (ia), where the λ-operator binds the VP internal subject trace and *Amina* corefers with *her*, the VP denotes the property of loving Amina's father (Mr. Grace), and (i) thus asserts that Amina is the only individual to love Mr. Grace. On the reading in (ib), where the λ-operator binds both the VP internal subject trace and the pronoun, the VP denotes the property of loving one's own father and (i) thus asserts that Amina is the only individual to love her own father.

(i) Only Amina$_i$ [t$_i$ loves her father]

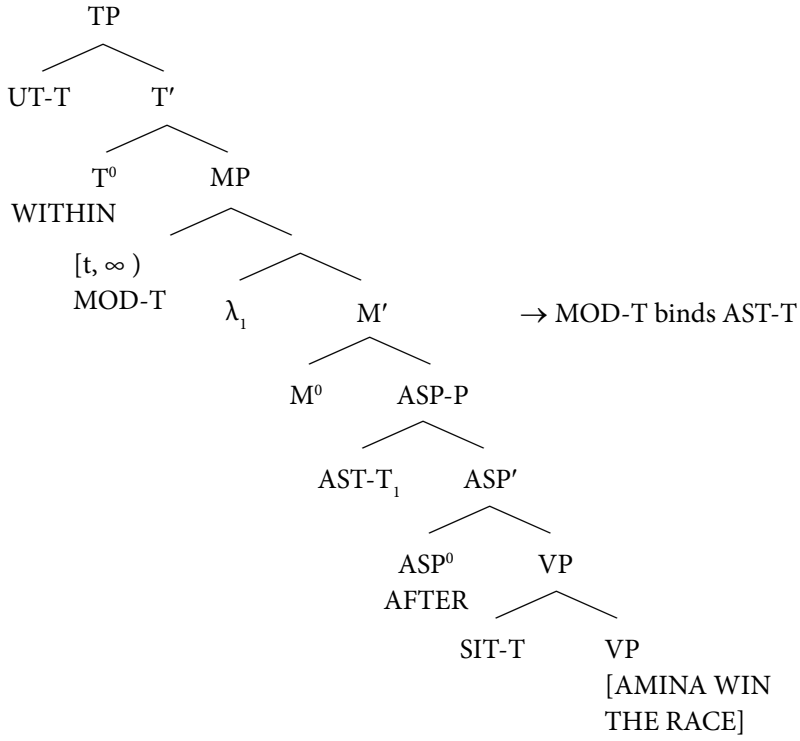
a. *Coreference*: Only Amina λ_x[*x* loves her father] (her = Amina)

b. *Binding*: Only Amina λ_x[*x* loves *x*'s father]

For D&UE (2008a, 2008b), the default hypothesis is that anaphora between time-denoting arguments, just like anaphora between individual-denoting arguments, be established via either coreference or (semantic) binding, with binding the default construal; and, furthermore, that coreference and binding yield distinct temporal construals. In particular, D&UE argue that (in the absence of morphological aspect) anaphora between the AST-T and the EV-T can be construed as either binding or coreference – binding yields the default aspectual viewpoint for simple tenses (so-called neutral aspect), while coreference yields a perfective viewpoint for simple tenses.

5. For arguments that variable binders introduce adjunction structures, see Heim & Kratzer (1998).

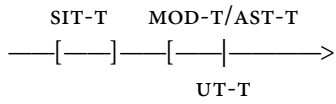
(22) *Ordering the* MOD-T *relative to the* AST-T *via binding*



λ-abstraction over the temporal variable in the specifier of ASP-P (the AST-T) creates a predicate that takes the MOD-T as its external argument:

(23) MOD-T λ_1 [AFTER (AST-T_1, SIT-T)]

Since the MOD-T binds the AST-T and, furthermore, the AST-T has itself been ordered by perfect aspect *after* the SIT-T of the VP, (23) requires that the MOD-T have the property of being an interval itself subsequent to the time of the situation described by the VP. Binding of the AST-T by the MOD-T thus ensures that the MOD-T be a time that falls after the time of *Amina's winning the race*, as illustrated below.

(24)


We thus derive the epistemic construal of modal sentences with present tense and perfect HAVE: they express that at the time of speech, it is possible (or necessary) that a certain situation obtained in the past.

We now show how our analysis derives crosslinguistic variation in the construals of past-inflected modals in English *vs.* Spanish/French from a single assumption (defended in Section 2.1): past inflection on English modals is a zero (semantically vacuous) tense, while in Spanish and French it is semantically contentful, contributing the predicate of spatiotemporal ordering *after* to the temporal calculus of the clause in which it occurs.

5. English zero-past perfect modals: Epistemic vs. metaphysical construals

Recall that English zero-past perfect modals allow both an epistemic ((5a)) and a metaphysical ((11)) construal. Let's see how we derive each of these readings from the syntax of temporal relations for non-root modals in (19).

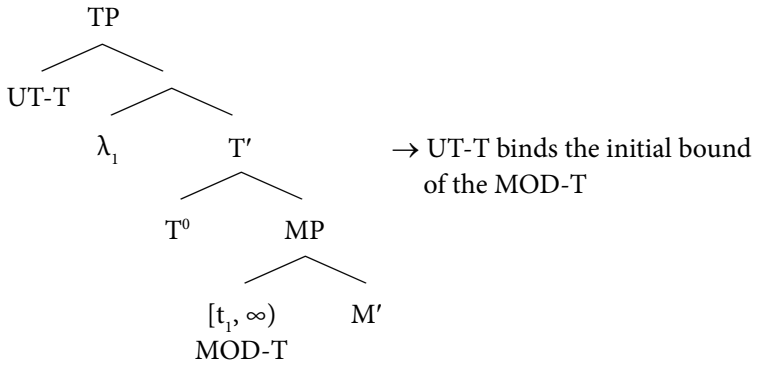
5.1 Present perspective about a past situation (epistemic reading)

As argued in Section 2.1 above, past inflection on the modal in the English sentence in (25) is a *zero*-past. This means that in the temporal phrase structure for (25), there is no spatiotemporal predicate under T^0 to order its external time argument (UT-T) relative to the time argument in its immediate scope (the MOD-T). The ordering relation will thus be established via anaphora, as illustrated in (26).

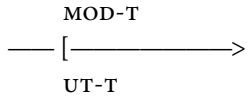
(25) Amina might$_{\varnothing\text{-PAST}}$ have$_{\text{PERFECT}}$ won the race.

(26) *Ordering the* UT-T *relative to the* MOD-T *via binding*

a.



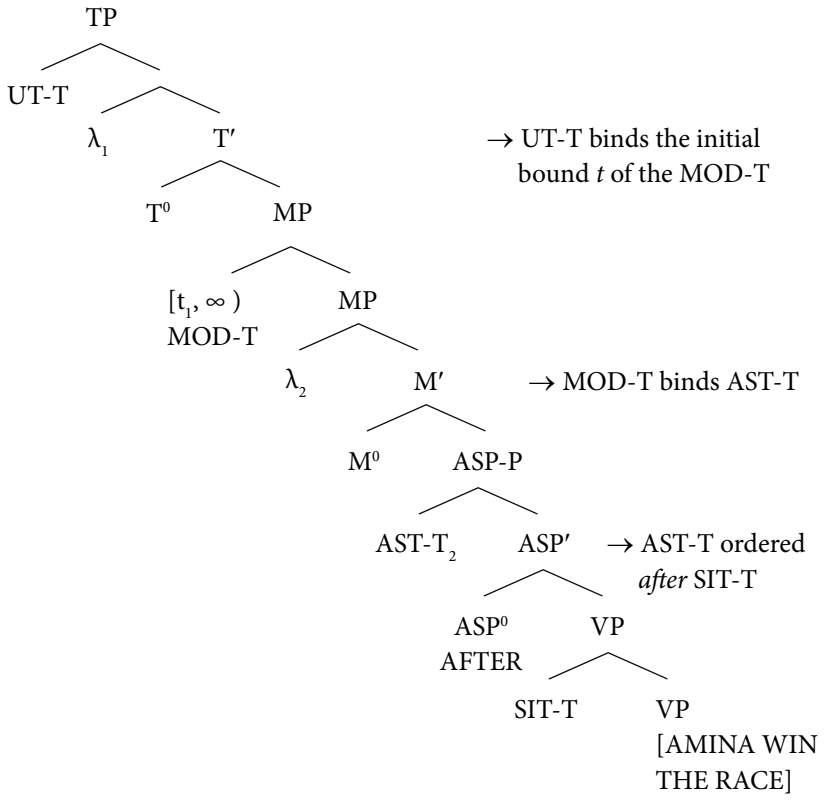
b.



In (26a), the time argument in the specifier of TP, the UT-T, binds the initial bound *t* of the MOD-T. The MOD-T thus denotes an open ended interval starting at UT-T and extending indefinitely into the future, [UT-T, ∞), as illustrated in (26b). Binding of the initial bound of the MOD-T by UT-T yields the temporal construal associated with epistemic modality: the possibility is from the perspective of the present.

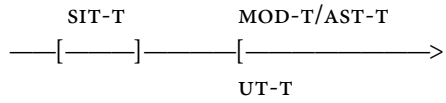
Now, there is no temporal head either under the modal head to order its external argument (the MOD-T) relative to the time argument in its immediate scope (the AST-T). The ordering relation must thus likewise be established via anaphora, as in (27) which is the full temporal phrase structure for (25).

(27) Amina might$_{\varnothing\text{-PAST}}$ have$_{\text{PERFECT}}$ won the race. (*epistemic* construal)



Since the UT-T in (27) binds the initial bound of the MOD-T, the MOD-T picks out an interval starting at UT-T and extending into the future: [UT-T, ∞). The MOD-T in turn binds the AST-T, itself ordered by ASP°/PERFECT$_{\text{HAVE}}$ *after* the SIT-T of the VP. Binding of the topmost time variable inside ASP-P (that is, the AST-T) creates a predicate that takes the MOD-T as its external argument:

(28) MOD-T λ_2 [AFTER (AST-T_2, SIT-T)]

(29)


Since the AST-T is a time that is subsequent to/falls *after* the SIT-T of the VP, binding of the AST-T by the MOD-T ensures that MOD-T itself be an interval *subsequent* to the SIT-T of the VP, as shown in (29). The temporal phrase-structure in (27) thus automatically derives the epistemic construal of English zero-past perfect modals. The time of the possibility holds at UT-T because the MOD-T denotes an interval starting at UT-T and extending without limit into the future ([UT-T, ∞)). The SIT-T of the modal complement is construed as past-shifted relative to the present MOD-T because the MOD-T in (27) is required (via binding) to have the property of being a time that falls after the time of Amina's wining the race.

We now turn to the metaphysical construal of zero-past perfect modals.

5.2 Past perspective about a future in the past situation (metaphysical reading)

We have seen that the epistemic reading of English perfect modals arises when perfect HAVE is embedded under either a present tense or a zero-past modal. We will adopt the proposal in the literature that the ambiguity in the readings of English non-root perfect modals (epistemic *vs.* metaphysical) is a scopal ambiguity: the metaphysical reading arises when the scope of the modal relative to the perfect is *reversed* – that is, when the perfect takes scope over the modal (see Condoravdi 2002, Butler 2004, or Stowell 2005).

Recall, from Section 2.2, Stowell's specific proposal that the metaphysical reading of English perfect modals involves a *past tense* construal of perfect HAVE scoping above the modal. We argued that the crosslinguistic morphosyntax of this reading supports this proposal since the metaphysical construal is available with simple *past-tense* modals in Spanish/French ((12)–(13)).

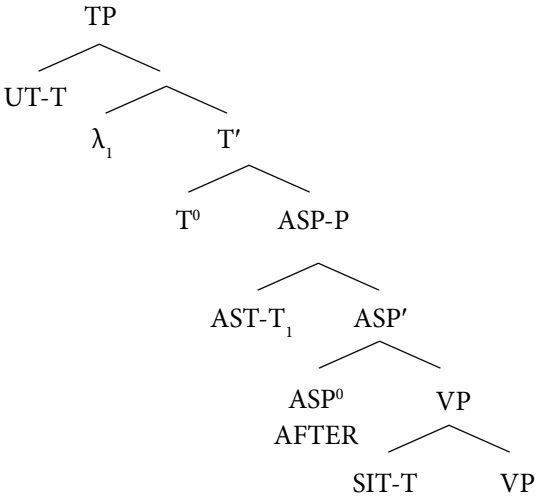
The question for English then is why/how a zero-past perfect can yield the construal of a simple past tense. The hypothesis defended in D&UE that perfect aspect, just like past tense, is the spatiotemporal predicate AFTER (Section 3) provides a straightforward answer to this question: a tenseless perfect will yield the construal of a simple past tense via raising of perfect aspect to tense. This proposal is illustrated with the derivations in (30).

In (30a), perfect ASP° (that is, the spatiotemporal predicate AFTER) orders the AST-T *after* the SIT-T of the VP. Since T° is empty (*zero*-tense), the ordering between its external argument (UT-T) and the time immediately under its scope (AST-T) is

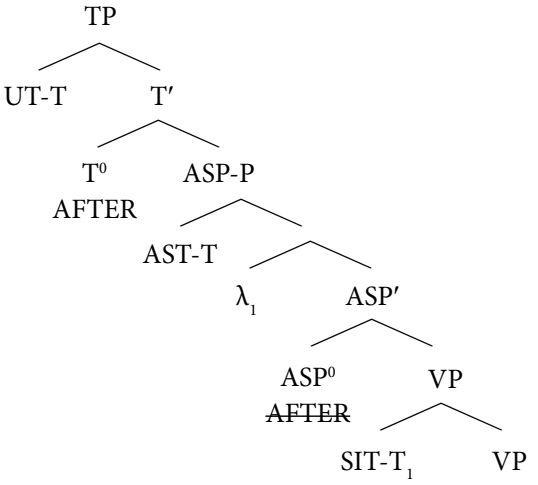
established via anaphora. Binding ensures that the UT-T be itself a time that falls after the SIT-T of the VP. This yields the *present perfect* construal in (30a').

(30) *The ambiguity of the tenseless perfect*

a. *Present perfect construal*



b. *Past tense construal*



a'. SIT-T UT-T/AST-T b'. AST-T/SIT-T UT-T

—[——]——[————]—> ——[————]———|—>

Now, when there is no predicate under T°, there is an alternative derivation to ensure an ordering of the arguments of this temporal head: raising of the temporal

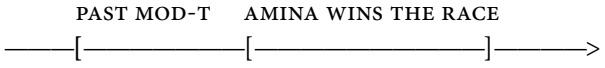
predicate under ASP° to T°. This derivation is given in (30b): perfect generated under ASP° subsequently raises at LF to T°. On the (null) assumption that movement of the temporal head (AFTER) involves copying onto the target position (T°) and deletion of the copy in the original/base position (ASP°), then the copy under ASP° is deleted and only the copy under T° is interpreted. The predicate AFTER is thus interpreted semantically in its landing site as a tense (ordering the UT-T *after* the AST-T). Since there is (no longer) an ordering predicate under ASP° (*zero*-aspect), the ordering relation between the AST-T and the SIT-T of the VP is established via anaphora. Binding ensures that the AST-T be a time at which the situation described by the VP obtains. Raising of ASP° to T° in (30b) thus, ultimately, yields the construal of a simple past tense, as shown in (30b').

Summarizing. The hypothesis that perfect aspect, just like past tense, is the spatiotemporal predicate AFTER predicts that a tenseless perfect can yield either a (present) perfect construal if the perfect head remains in situ under ASP°, or a simple past construal if it raises to (null) T°, at LF.

With this in mind, we now turn to the derivation of the metaphysical reading of zero-past perfect modals in English. Recall that under the metaphysical construal of the *perfect* modal sentence in (31a), the MOD-T is past-shifted relative to UT-T and the SIT-T of the modal complement itself shifts into the future relative to this past time, as illustrated in (31b).

(31) a. Amina might have won the race

b. *Past temporal perspective/metaphysical construal*

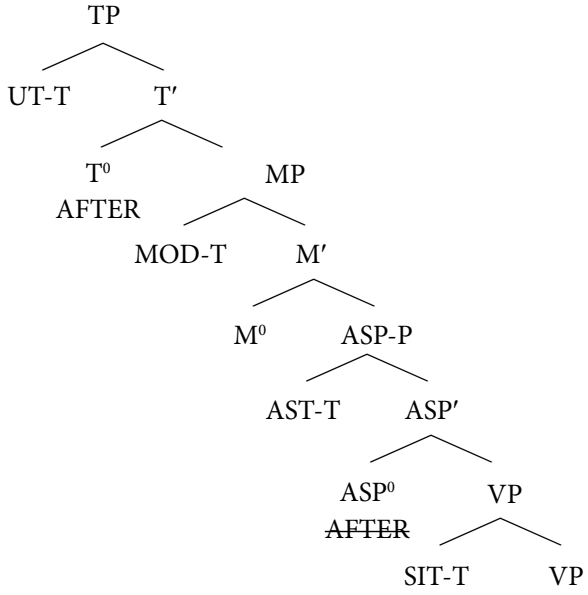


Since past inflection on the modal in (31a) is a *zero*-tense, there will be no spatiotemporal predicate under T° in the temporal phrase structure for (31a). We saw in Section 5.1 that the epistemic construal arises when perfect HAVE remains in situ under ASP° and the MOD-T gets set to UT-T via binding (of its initial bound by UT-T), as shown with the derivation in (26–27) above.

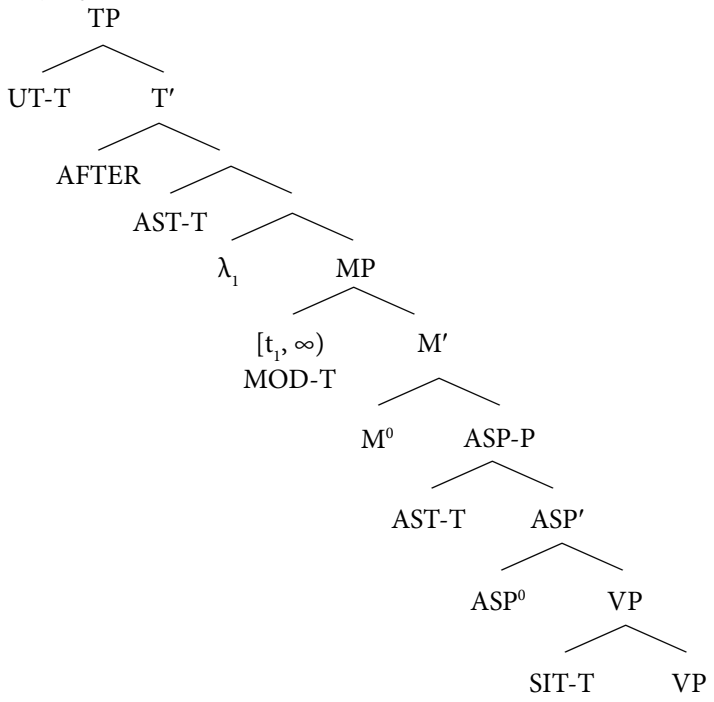
The metaphysical construal of perfect modals will arise when the perfect (that is, the spatiotemporal predicate $\text{AFTER}_{\text{ASPECT}}$) undergoes head movement to T° at LF, and is interpreted in its landing site as a past tense (that is, as the spatiotemporal predicate $\text{AFTER}_{\text{TENSE}}$). Raising of AFTER to T° yields the phrase structure in (32a).

(32) *Scope reversal*

a. *Raising* AFTER *to* T°

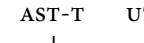


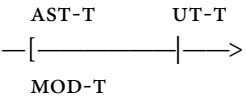
b. *Scoping the* AST-T *over the* MOD-T



The temporal phrase-structure in (32a), however, does not yield an interpretable output. That is, T° orders its external argument (UT-T) after the time argument in its immediate scope – which is now the MOD-T. Since the MOD-T is an open-ended interval extending indefinitely into the future ([UT-T, ∞)), no time can ever be ordered after it. Thus, *unless nothing else happens, the derivation will crash.* There is, however, one way of rescuing the derivation: *scoping* out the (closest) time argument (that is, the AST-T) to a position from where it can bind the MOD-T, as shown in (32b). If, as we contend, time arguments are projected in the syntax as *zeit*-PS, then we expect them to undergo phrasal movement (QR) to higher scope positions, thus *reversing* initial scope relations – just as any regular DP/QP.

Scoping out the AST-T yields the phrase structure in (32b), where the AST-T has been adjoined to MP. T° now orders the time span in its specifier, UT-T, *after* the time span in its immediate scope – that is, after the AST-T, as illustrated in (33a)). Since, moreover, there is no ordering predicate under M°, the ordering relation between the AST-T and the MOD-T is established via binding: the initial subinterval of the MOD-T gets bound by the closest c-commanding time argument – that is, by the AST-T, itself a *past* time. The MOD-T thus shifts into the past, denoting an interval, ([AST-T, ∞)) starting at some *past* time and extending into the future, as shown in (33b).

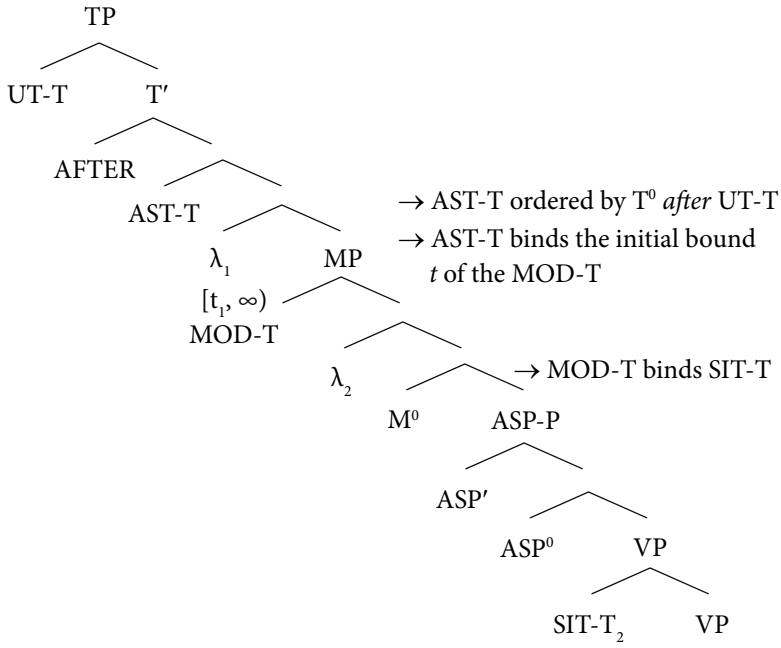
(33) a. 

b. 

At this stage, the three higher time arguments in (32b) – UT-T, AST-T and (the initial bound of) the MOD-T – have all been ordered relative to each other. The MOD-T remains, however, unordered relative to the subordinate SIT-T. Since there is no (longer an) ordering predicate under ASP° in (32b) to order the SIT-T relative to the MOD-T, the ordering relation is once again established via binding: the MOD-T binds the AST-T, as shown in (34b) which gives the full temporal derivation of (34a) on its metaphysical construal.

(34) a. Amina might$_{\varnothing\text{-PAST}}$ have$_{\text{PERF}}$ won the race (*metaphysical* construal)

b.



Binding of the time variable in Spec VP yields a predicate that takes the MOD-T as external argument ((35)). Binding constrains the MOD-T, itself an interval starting at some *past* time and extending into the *future* ([AST-T, ∞)), to be a time at which Amina wins the race, as illustrated in (36).

(35) MOD-T λ_2 [WIN (SIT-T_2, AMINA, THE RACE)]

(36) PAST MOD-T AMINA WINS THE RACE

———[————————[————————————]———>

The derivation in (32–35) thus yields the metaphysical construal of zero-past perfect modals in English: the MOD-T is past-shifted relative to UT-T and the SIT-T of the modal complement is future-shifted relative to this past time.

We close this section by highlighting how the above derivation nicely captures Stowell's generalization that the metaphysical construal of *zero*-past perfect modals in English involves a semantic *past tense* construal of the perfect scoping above the modal. First, note that on our proposal, scope reversal is *enforced* with a true past tense construal of a perfect modal since raising of AFTER$_{\text{ASP}^0}$ to T° in (32a) yields a derivation that can only be rescued by *reversing the scope of the* AST-T *relative to the* MOD-T ((32b)). Moreover, scope reversal automatically entails past-shifting the MOD-T relative to UT-T ((33b)) since, after scope reversal in (32b), the closest (immediately c-commanding) binder for the initial bound of the MOD-T is a past

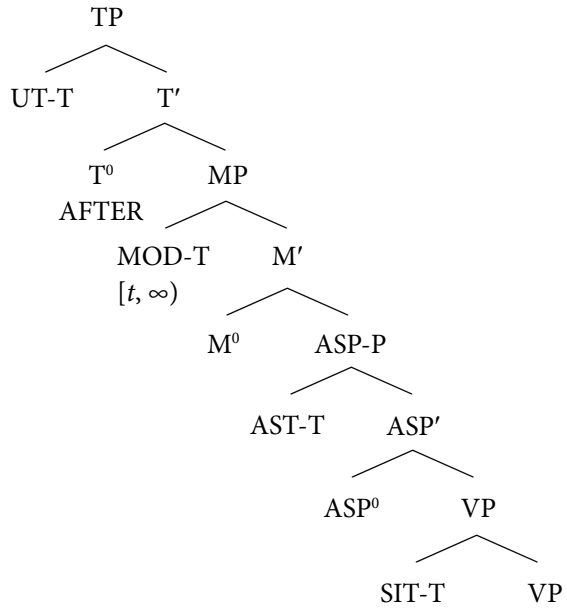
time (the AST-T). Finally, once the perfect (that is, $\text{AFTER}_{\text{ASP}^\circ}$) has raised to T°, there is no longer any temporal head under ASP° to establish an ordering of the SIT-T of the modal complement. This ordering is thus established via binding. Binding of the SIT-T by the closest c-commanding time (now the MOD-T) ensures that the SIT-T is future-shifted relative to the (initial past bound of the) MOD-T ((35–36)).

Recall, finally, that a metaphysical construal is unavailable with *present-tense* modals in all three languages ((14)). Why? Because the trigger for scope reversal of the AST-T relative to the MOD-T is raising of $\text{AFTER}_{\text{ASP}}$ to T° and this option is unavailable with present tense. Thus consider the phrase structure assigned to present perfect modals in (20). Present (that is, the spatiotemporal predicate WITHIN generated under T°) orders its two arguments relative to each other and blocks raising of $\text{PERFECT}_{\text{ASP}^\circ}$ to T°. Since there is no landing site (nor any motivation for) raising of $\text{AFTER}_{\text{ASP}}$ to T°, there is no trigger for scope reversal of the AST-T relative to the MOD-T.

6. Past-Tense modals in Spanish and French: Epistemic vs. metaphysical construals

While in English the past inflection on non-root modals is a zero-past, in Spanish and French it is semantically contentful (Section 2). This means that in the phrase structure for Spanish/French sentences with simple past modals ((6c)–(7)), TP is headed by the predicate of spatiotemporal ordering AFTER, as illustrated in (37).

(37)



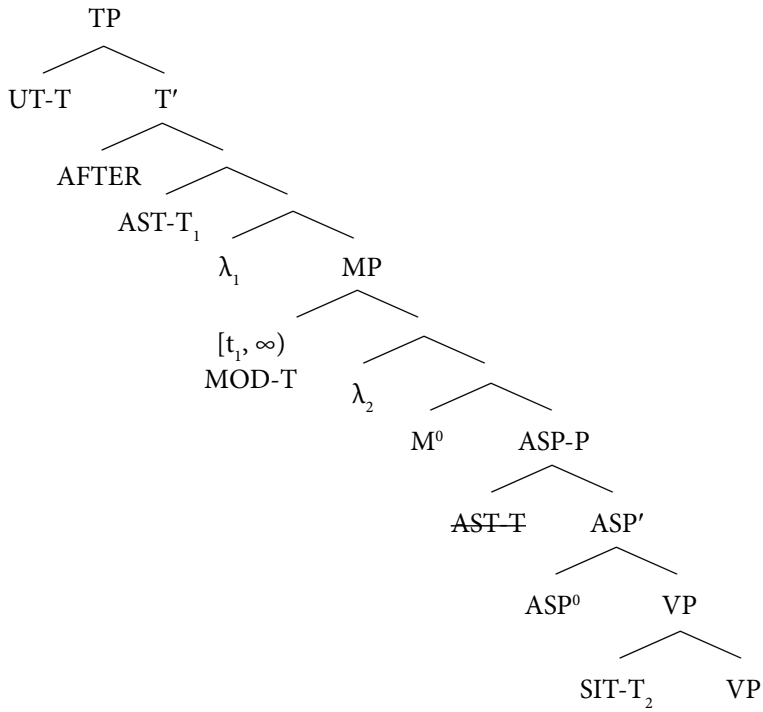
Now, the above phrase-structure yields an uninterpretable temporal output: T° in (37) orders the UT-T after the MOD-T, but since the MOD-T is an open ended interval extending indefinitely into the future, no time can ever be ordered after it. Therefore, once again, *unless nothing else happens, the derivation crashes.*

There are, however, two ways of rescuing the derivation: either scoping out the AST-T over the MOD-T, or lowering the spatiotemporal predicate AFTER to ASP°. The first option (scope reversal of the AST-T relative to the MOD-T) yields the metaphysical construal of simple past tense modals in Spanish/French (Section 6.1), while the second option (lowering AFTER_{T° to ASP°) yields their epistemic construal (Section 6.2).

6.1 The metaphysical reading of past tense modals in French/Spanish

The derivation of the metaphysical construal of past tensed modals is given in (38). The AST-T has scoped over the MOD-T, adjoining to MP.

(38) *Scope reversal of the AST-T relative to the MOD-T*



The derivation then proceeds exactly on a par with the derivation given for the metaphysical construal of English zero-past *perfect* modals in (34). T° in (38) orders the UT-T *after* the time span in its immediate scope, the AST-T, as illustrated in (39a).

The AST-T, now a *past* time, binds the initial interval of the MOD-T. The MOD-T thus denotes an open-ended interval starting at a past time, as illustrated in (39b).

(39) a. AST-T UT-T
——|————|——>
b. AST-T/MOD-T UT-T
——[————————|——>

At this stage, the UT-T has been ordered relative to the AST-T and the AST-T relative to the MOD-T. The MOD-T, however, remains unordered relative to the SIT-T of the VP. Since there is no temporal head in (38) to order the MOD-T relative to the SIT-T, the ordering is established via binding: the MOD-T binds the AST-T ((38)/(40a)). Binding constrains the MOD-T to be a time at which the situation described by the VP obtains, as illustrated in (40b).

(40) a. MOD-T λ_2 [WIN (SIT-T$_2$, MADDI, THE RACE)]

b. PAST MOD-T MADDI WIN THE RACE
——[————————[———————————]——>

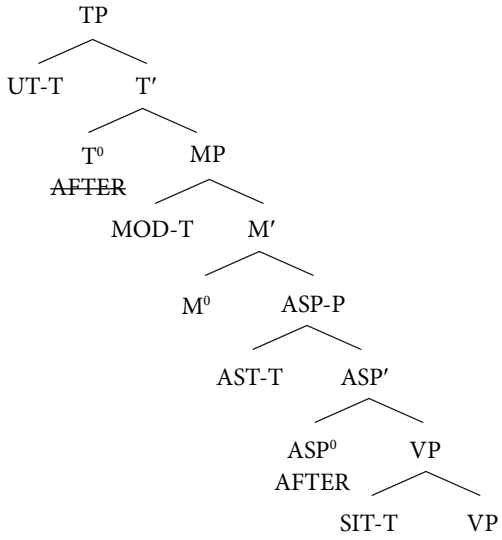
Scope reversal thus rescues the derivation in (37) and derives the metaphysical construal of simple past-tense modals in French/Spanish.

6.2 The epistemic reading of simple past tense modals in French/Spanish

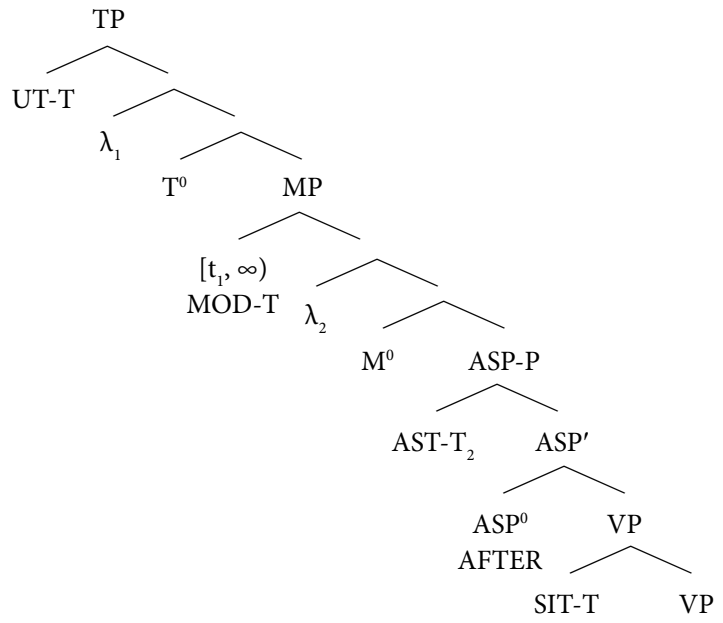
There is however a second option for rescuing the derivation in (37): lowering to ASP° the temporal head AFTER generated under T°, as illustrated in (41a). This alternative derivation will yield the epistemic construal of simple past tense modals.

(41) *Lowering* AFTER$_T{}^0$ to ASP^0

a.

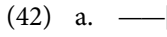


b.

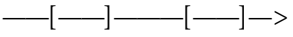


AFTER$_{PAST}$ in (41a) has lowered to ASP°, where it gets interpreted as AFTER$_{PERFECT}$. The copy left by movement (in the base position under T°) is deleted at LF. The derivation then proceeds exactly on a par with the derivation given for the epistemic construal of English zero-*past* modals in (27). Since there is no (longer) a temporal head under T° to order the UT-T relative to the MOD-T, the ordering relation is established via anaphora: the UT-T binds the initial bound of the MOD-T, as shown in (41b). The MOD-thus picks out an open-ended interval, starting at UT-T ((42a)). ASP° in (41) – that is, the spatiotemporal predicate AFTER$_{ASP°}$ – orders the AST-T *after* the SIT-T the VP, as shown in (42b).

(42) a. MOD-T / UT-T



b.



The MOD-T is ordered relative to UT-T and the AST-T relative to the SIT-T. The MOD-T, however, remains unordered relative to the AST-T. Since there is no temporal head under M°, this ordering is established via binding: the MOD-T binds the AST-T, as shown in (41b). Since the AST-T is itself a time that falls *after* the SIT-T of the VP ((42b)), binding in (41b)/(43a) ensures that the MOD-T also have the property of being a time that falls after the SIT-T of the VP, as illustrated in (43b).

(43) a. MOD-T λ_2 [AFTER (AST-T$_2$, SIT-T)]

b. SIT-T MOD-T/AST-T
——[——]———[————————>
UT-T

Lowering of AFTER from T° to ASP° in (41) thus automatically yields the epistemic – present perspective about a past situation – construal of simple past tense modals in Romance.[6,7]

6. Note that in Spanish, perfect HAVE can also combine with a preterit modal as illustrated in (i), which yields both an epistemic and a metaphysical construal (see Bosque & Torrego 1995 and Laca 2005 for discussion):

(i) *Debiste haberlo matado.*
must-PRETERIT.2P have-him killed
"You must/should have killed him."

Although (i) instantiates both past tense and perfect aspect, it is semantically not a past perfect (there is only one relation of anteriority in its meaning). Under the analysis developed here, (i) would thus involve only one occurrence of the spatiotemporal predicate AFTER at LF. Concretely, we could assume that AFTER is generated either under ASP° ($\text{AFTER}_{\text{PERFECT}}$) or under T° ($\text{AFTER}_{\text{PRETERIT}}$). Either raising of ASP° to T° or lowering of T° to ASP° then takes place in the overt syntax, with the copy left by X°-movement spelled-out at PF but erased at LF. A metaphysical construal arises when AFTER (generated as perfect aspect) raises to T° and the copy left under ASP° is erased at LF – see the derivation of the metaphysical construal in (32). An epistemic construal arises when AFTER (generated as a past tense) lowers to ASP° and the copy left under T° is erased at LF – see the derivation of the epistemic in (41).

7. Recall from Footnote 1 that for Condoradvi, the metaphysical construal of past-inflected modals in English is counterfactual. Counterfactuality arises as pragmatic inference from the speaker's choice of a past perspective modal when the modal has a future temporal orientation. On this proposal, we would expect past inflected modals in Spanish/French to trigger a counterfactual implication on their metaphysical construal – irrespective of the choice of viewpoint: perfective *vs.* imperfective. This, however, is not the case: the counterfactual implication is triggered by perfective past, but not by imperfective past as the grammaticality of the continuations in (i) illustrates:

(i) *Zara* ***devait*** *gagner la course, mais elle ne l'a pas gagnée/et elle l'a gagnée.*
Zara must-IMP.PAST win the race but she NEG it-has NEG won/and she it-has won
"Zara should have won the race, but she didn't win it/and she won it."

For reasons of space, we unfortunately ignore here the contribution of (im)perfective aspect to the temporal construal of simple past tense modals in Spanish/French, but see Demirdache & Uribe-Etxebarria (2008c) for an analysis (spelling out the role of (im)perfective aspect in the temporal computation) that explains why the metaphysical construal of perfective (but not imperfective) past modals is counterfactual.

7. Conclusion

We have investigated the morphosyntax of the temporal construals of non-root modal across three languages: English, French and Spanish. We have seen that while the epistemic reading arises in English by combining perfect HAVE with a present/zero-past modal, in French/Spanish, it arises with a variety of tense/aspect combinations: present tense modals combining with HAVE, present perfect modals or simple past modals. In contrast, the morphosyntax of the metaphysical reading is restricted to zero-past perfect modals in English and to past modals in French/Spanish.

We have presented an analysis that seeks to derive the range of possible construals together with the attested variation in the morphosyntax of these construals across languages from the following restrictive set of assumptions:

1. There is uniform temporal phrase-structure for non-root modals where the heads, T°, M°, ASP°, and V°, each introduce a time argument/REF-T projected onto a specifier in the syntax as a *ZeitP*.
2. *ZeitP*s can enter into scopal and anaphoric relations (with semantic binding the default construal of anaphora, Reinhart 1997)
3. Covert syntactic movement – be it XP-movement of a *Zeit-P* (QR of the MOD-T over the AST-t) or X°-movement of a temporal head (raising of $\text{AFTER}_{\text{ASPECT}}$ to T°/lowering of $\text{AFTER}_{\text{TENSE}}$ to ASP°) – alters initial temporal scope relations and takes place as a last resort operation to salvage a temporal derivation that otherwise would crash.

The proposal defended here derives the morphosyntax-semantics interface of non-root modals in French/Spanish *vs.* English, without appealing to dedicated hierarchies of functional projections, but rather from the (null) assumption that time arguments projected in the syntax as temporal DPs or *ZeitP*s can enter into anaphoric and scopal dependencies, just as regular individual denoting DPs can.

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On the realization of LF-Binding in some degree dependencies

Remus Gergel

This paper analyzes degree constructions in Romanian and describes a visibility requirement based on representations at the level of Logical Form. The proposal thus follows the mechanism of LF-binding (Hulk & Verheugd 1994). We transfer this insight to the extraction and binding of degrees, by observing certain correlations between constructions for which a parameter of degree binding has been suggested (Beck, Oda & Sugisaki 2004), and the overt realization of the same key constructions in Romanian. The analysis is developed in terms of last-resort insertion of functional material within the adjectival shell which is bound over at LF.

1. Introduction[1]

Studies within the comparative research paradigm have illustrated that Romanian uses overt morphemes in positions that often remain unexpressed in Western European languages; cf. possessives (Cornilescu 1992), modificational structures (Rubin 2003), or certain number-based expressions (Kayne 2006), to name but a few. The aim of this paper is to discuss in a new light how the degree constructions of the language (see, e.g., Constantinescu 2007, Corver 2000, Grosu 1994, Cornilescu 2009) make use of overt strategies. In this connection, a key role is played by the functional word *de* (originally 'of"). While a syntactically rich line of

1. This work has profited from discussions in Groningen (*Going Romance*), Bamberg (*DGfS*), Chicago (UIC), Göttingen, Georgetown (*GURT*), Gniezno (*PLM*) and Tübingen, the organizers and participants of which are gratefully acknowledged. Special thanks for comments at several stages go to S. Beck, J. Bobaljik, H. Campos, A. Cardinaletti, C. Constantinescu, H. Demirdache, M. den Dikken, S. Hinterwimmer, R. Kayne, L. López, E. Soare, and M. Zimmermann. I thank A. Cornilescu and C. Constantinescu for providing me with their work on Romanian before finishing this paper. I am indebted to the volume editors for some organizational advice and detailed editorial support, and last but not least to two reviewers for valuable remarks, important references, and criticism, which I believe all improved the paper considerably. Any remaining errors are to the fullest degree mine.

inquiry has revealed interesting facts about cognate morphemes across Romance (see, among many others, Azoulay-Vicente 1985, Corver 2000, Den Dikken 2006, Kayne 1994) the current perspective is slightly different, in that we put forward very specific semantic considerations. A note of clarification is in order here. The goal is not to argue that the phenomena at hand are 'more semantic than syntactic' (or vice-versa, for that matter), which we take would be an ill-construed take on the complex problems at hand (see especially Constantinescu 2007 for an interesting contribution weighing up some of the main individual syntactic strands of thought). The idea underlining the present proposal, by capitalizing on the line of research initiated by Beck et al. (2004), is rather to bring in a perhaps less well-trodden perspective on the issues and to make a contribution by pointing out certain correlations between the realization of subcomparatives, degree questions, and other constructions in Romanian, that to the best of our knowledge have not been analyzed in conjunction as such, i.e. with the particular LF-based motivation suggested. It is our hope that this additional perspective may be found beneficial in view of the outstanding problems in this area.

Specifically, following Beck et al. (2004), we crucially lay out our proposal in terms of cross-linguistic variation in degree constructions. The motivation lies in the role played by the possibility of (not) realizing degree-binding cross-linguistically (cf. also the project work reported in Beck et al. 2009 as well as Kennedy 2008 and Shimoyama 2008, among others, for further recent discussions). While we focus on degrees, the basic idea draws, in spirit, on the account given in Hulk & Verheugd (1994: 18), who state that: "Le dénominateur commun à toutes ces constructions est la présence d'une variable, et donc d'un quantificateur, au niveau de FL." ["The common denominator in all these constructions is the presence of a variable and thus of a quantifier at the level of LF." *RG*.] The related generalization that we suggest for degree constructions in this paper has to do empirically with a use of the morpheme *de* in conjunction with gradable adjectives in Romanian. We propose that it is a (largely grammaticalized) functional item that marks degree dependencies overtly. To emphasize the type of dependency on which we focus and to clarify the perspective: the approach is motivated by the interpretive component (Beck et al. 2004, Beck et al. 2009). At the same time, it is structure-sensitive in the following specific sense. We will operate on the basis of tree-structures that are appropriate for interpretation, i.e. on trees at the level of Logical Form.

The article proceeds as follows. In Section 2, we offer a minimal background on degrees. In Section 3, we develop the analysis by introducing a new structure for Romanian gradable adjectives on the basis of Embick (2007) and by arguing for its relevance with regard to the distribution of the intrusive morpheme *de*. In this connection, we discuss in some detail how the morpheme in point is inserted by a last-resort mechanism based on visibility requirements that is sensitive to a

dependency of degree binding. In Section 4, we point out certain potential extensions of the key cases. Section 5 concludes the paper.

2. Background on degree constructions

2.1 Degrees and binding

We assume that alongside individuals, truth values (and possibly other Montagovian types), natural languages may have degrees, i.e. objects like 'six feet', or 'two inches' in their inventory of semantic types. Not all degrees need to have corresponding measure phrases (and much less so cross-linguistically). Measure phrases are just used as a convenient way to illustrate some degrees with overt reflexes. Standardly, degrees serve in particular as logical arguments of gradable adjectives (Beck 2009; Heim 2001; von Stechow 1984, among others). The latter, in turn, are relations between individuals and degrees. A plausible entry for *tall* is, then, the one given in (1).

(1) [[tall]] = λd.λx. x is d-tall

A typically observed property of degrees is their placement on a scale. This allows *inter alia* a compositional interpretation of comparison constructions, but certainly also of further gradable constructions. The comparative morpheme, e.g. the bound *-er* of English, establishes relations between degrees. A line of research going back to von Stechow (1984) views so-called subcomparative structures (cf. (2a) below for an illustration), as relationships between the maximal degrees of two sets, as schematized in (2b–c) below (cf. Beck et al. 2004: 292). Even if they may be stilted for some speakers, subcomparative structures offer a good way of visualizing the elements that participate in the blueprint of comparison constructions (see, e.g., Beck 2009; Heim 2006). It is noteworthy that they are maximally non-elliptical (see Bresnan 1973 and Lechner 2004, among others, for further-going discussion of this issue).

(2) a. *The desk is higher than the door is wide.*
b. [[*-er*]] (λd.the desk is d-high) (λd'.the door is d'-wide)
c. max(λd.the desk is d-high) > max(λd'.the door is d'-wide)

(3) a. [[*-er*]] (D1) (D2) = 1 iff max(D2)>max(D1)
b. Let S be a set ordered by ≤. Then max(S) = ιs[s∈S & ∀s'∈S[s'≤s]]

The lambda-abstract in (2) above creates the desired sets (more precisely, characteristic functions of such sets) after movement of the degree variable. The standard background that we assume is that degree abstraction provides a means to create

sets, out of which then the maxima are selected and compared, as in (3). This has certain positive consequences, such as an explanation of negative island effects in general (e.g. von Stechow 1984). The lambda-abstract is said to bind the variable (of type ⟨d⟩) in the base position. Immediate additional evidence for movement of degree variables can be marshalled from degree questions; cf. (4).

(4) *How tall is Jane*?

We will return to the same relevant constructions in Section 3. Before that, we next briefly consider the cross-linguistic possibilities (and recently observed divergences) regarding the availability of binding configurations for degrees.

2.2 Cross-linguistic variation

The relevant type of binding that creates the sets of degrees mentioned in Section 2.1 above is understood as taking place at the level of logical form, LF (cf. Büring 2005 and Heim & Kratzer 1998 for the possible relationship of semantic binding with the syntax). The question for the present discussion is whether degree-binding is cross-linguistically invariant. There are two major potentials of variation. A first possibility is that there are languages in which the representations based on degree-binding are missing. A second possibility is that there are languages in which degree binding exhibits overt reflexes.

Regarding the first case, there is some recently uncovered evidence for the first point of variation, namely of non-extant degree binding in some languages. Thus, focusing in particular on Japanese, Beck et al. (2004) propose the degree-abstraction parameter, DAP, as reproduced in (5) below.

(5) **DAP**: A language {does/does not} have degree binding in the syntax.

Notice that the DAP is a case of a parameter at the syntax-semantics interface. It is stated structurally, holding on the trees that are the input for the rules of semantic interpretation, namely LFs. (See Beck et al. (2009) for broader applications of the LF-variationist approach to degrees.) The parameterization of degree binding according to the DAP yields a good fit for a series of data in Japanese, which crucially lacks major indicators such as degree questions and subcomparatives. For lack of space here, we refer the interested reader to the primary source, Beck et al. (2004), for further details.[2]

2. It is indeed beyond present scope to offer a detailed discussion of Japanese. Besides the study of Beck et al. (2004) there are additional very recent discussions on the topic. Shimoyama (2008) reduces the core argument of Beck et al. to Kennedy's (2008) reinterpretation of the data, namely to the classical clausal vs. individual comparison. While many interesting points are made along the way, this does not reflect the essence of Beck et al.'s proposal, in my view. That

We now turn to the second potential of variation, the focus this paper, namely whether there are languages which show effects of the process of degree-binding overtly. Overt parallels to the English type of quantifier raising (QR) have, for instance, often been suggested in the pertinent literature in the domain of German(ic) scrambling (see Johnson 2000; Bobaljik & Wurmbrand 2008; among others). As to degree constructions, we will argue that Romanian shows certain effects of degree-binding overtly. But the problem is slightly more intricate than with the research paradigm on QR. At stake is not only the particular position of a quantifier, but rather the visibility of a binding configuration in a language that in general has strategies of overt movement, as we will see. A corollary will be that the low part of the degree-binding chain is typically marked overtly.

Let us notice in this connection the outstanding status of the degree variables introduced by adjectives in the panorama of cross-linguistic variation. The DAP itself does not entail, for example, that Japanese cannot allow abstraction in general over all variables, cf. in particular those that are different from degrees. It is rather the case that the structural properties of the language according to the DAP do not license the binding configuration between the abstract and the necessary lower ⟨d⟩ slot for subcomparative s or degree-questions to be grammaticalized as such (and not just paraphrased or with special meanings). In the case of Japanese, the only option is to have recourse to other means, namely contextual comparison (cf. English 'compared to') or other paraphrases.

Moving on with Romanian, it unsurprisingly has 'compared to' structures too (as well as other paraphrases in particular via nouns). But importantly for the present angle of investigation, there is also a relevant morphosyntactic way-out to instantiate the configurations that are critical for semantic binding with gradable adjectives. While simplex derivations do not allow the relevant constructions, we

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the individual vs. clausal distinction is needed is certainly undeniable (and well-known); see e.g. Hofstetter (2008) and references for discussion. Shimoyama gives interesting arguments for clausal comparatives in Japanese. But reducing the data to this (important) issue misses the point of the DAP. We only point out two problems with Kennedy's interpretation, one theoretical, the other empirical. First, Kennedy maintains that compositionality and the DAP are independent. This may miss the fact that the DAP derives the non-integrated and hence rather discourse-based nature of the standard of comparison in Japanese. Second, the line of argumentation pointing out the distinctions between phrasal and clausal comparatives does not yield the right predictions in many languages. One example mentioned (by Kennedy) is the availability of a phrasal and a clausal comparative in Russian. But this gives a false expectation; it does, for instance, not explain why there are no constructions such as subcomparatives, bona-fide degree questions etc. in Russian. Rather, it seems that finer-grained work going beyond the traditional descriptions is needed in this language as well. A parametric approach to Russian in larger a cross-linguistic context is presented in Beck et al. (2009); cf. Krasikova (2008) for a detailed semantically motivated analysis of the Russian facts.

will show that if the numeration is changed to select certain visible items in the domain extracted from, the configurations are allowed. Thus the proposal that we will defend is that Romanian shows effects of degree binding overtly. This is a possible consequence of the fickle status of degree variables more generally pointed out above. The implementing idea behind the proposal is as follows: the derivation takes an unmarked adjective in the language in general. But as soon as degree abstraction and movement are involved, the derivation can only be realized with overt functional material locally flanking a gradable adjective that is realized in such a derivation.[3] This entails that there are three possible cases: first, if the apporpriate functional material is available within the local shell, then nothing else needs to be done (or said). This will be those cases in which overt functional material is already available in the *a*P abstracted over (e.g., instantiated through *mai*, 'more'). All that seems to be needed is visibility in the base and economy in the relevant base position requires no more than one functional item. Second, if an *a*P is not realized at all, then expectedly the visibility condition within the *a*P is obliterated. For example, this obtains rather naturally with the classical types of comparative deletion, i.e. the cases in which the adjective in the base position is deleted (rather than being repeated[4]). The third case and the crucial one that is at the center of this paper obtains as follows: if an *a*P is realized under binding and movement *and* the functional material is locally missing in the adjectival shell that is to be spelled out, then the morpheme *de* is inserted. In the next section, we clarify in some detail when, where, and how exactly this happen.

3. The analysis

We begin this section by motivating the precise structure to be used. In Sections 3.2 and 3.3, we then show how the key data (namely degree questions and subcomparatives) are accounted for under the current analysis.

3. While the traditional Y or T model of GB does not allow the LF component to impose requirements on the surfacing output, a very large body of research has observed over the years that precisely such requirements are empirically necessitated (see Embick & Noyer 2001; Bobaljik & Wurmbrand 2008 for good overviews of several independent case studies). To be fair, Minimalism could probably allow the interaction to be accommodated in some way, if the interfaces are what drives the syntactic computation, even though this desideratum is only infrequently implemented explicitly.

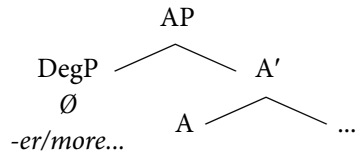
4. This is compatible with a view under which the visibility requirements of the AP/*a*P are given, but being PF reflexes of a grammatical fact, can be obliterated due to the wholesale deletion including the adjective (i.e. a 'repair' strategy via deletion; cf., e.g., Fox & Lasnik 2003 and others.).

3.1 Towards the local structure

We outline the two major approaches used in the research paradigm of degree constructions since the current approach contains features of both approaches.

Bresnan (1973) was one of the first comprehensive studies to deal with the generative syntax-semantics mapping of comparatives and it is often credited with the structure given in (6) below. While Bresnan's study was neither the first one in this spirit (cf. Bresnan 1973: 276) nor the one that suggested the specifier position given in (6) as such (see Jackendoff 1977), it has been particularly influential in the semantic research field of comparison and some version of (6) has indeed frequently been used (cf. von Stechow 1984, Heim 2001, Beck 2009).

(6)



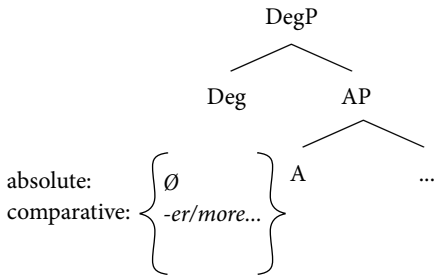
On an approach such as (6), the base position of degree morphology (as well as of measure phrases) is located in the direct vicinity of the adjective, namely in Spec,AP. In the positive form, the position is empty, but in comparatives, *-er* and *more* would be found under it in the base. Compositionally, such elements (i.e. their traces after LF-movement) are of type ⟨d⟩ and saturate the adjective in terms of semantic types.

All things being equal, a potential problem of (6) is, however, that on standard syntactic assumptions the bound *-er* morpheme (which would take the *than*-clause as a complement after movement) will not c-command the adjective. The major bracketing at LF is as shown in (7).

(7) [[*-er* [*than* clause]] [matrix clause]]

Thereby, either head-movement (that is, for the adjective upwards to join *-er*) or lowering (for the morphology down onto the adjective) are theoretically barred. An instance of a stranded affix may then seem to emerge. In view of this impasse, a major alternative structure runs along the following (simplified) lines (cf. Abney 1987: 298ff; Corver 1990; Kennedy 1999: 109ff, among others):

(8) The "functional-head", i.e. classical extended-projection version (cf. Abney 1987)



One apparent advantage is that a familiar syntax emerges with the inflectional part as a functional head in its own right. Importantly, in this configuration, it seems that there *would* be theoretical mechanisms to join the inflectional morpheme *-er* and the lexical head. Lowering or head movement are the classic candidates that immediately come to mind once more, well-known from the relationship between V and Infl (or T etc.). They would be directly implementable in a configuration such as (8), where the degree morphology takes just the AP as a complement and crucially occupies a head position.

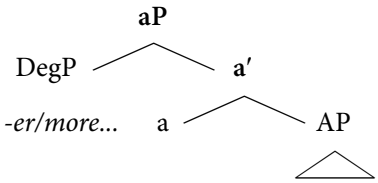
A disadvantage of the approach in (8), however, is that it forfeits some of the possibilities opened up in semantic research including some scopal interactions that have been observed (cf. Beck 2009; Bhatt & Pancheva 2004; Heim 2001; von Stechow 1984; see Embick 2007 for some morphosyntactic inadequacies). [5]

So far, a simple structural generalization that can be drawn about the two approaches inspected is that the Bresnan-type of approach is non-projective, while the Abney-style approach is, in the sense that the result of joining comparative morphology yields a new functional projection (the mother node being the DegP, and not the AP). While it is certainly possible to give reasonable accounts of a fair area of degree constructions on either type of approach, there are also certain differences, as we have partially already seen. The key factors for current purposes that are covered most appropriately on each of the two analyses, respectively, are: (i) the possibility to insert a functional head, which will particularly become relevant here; and, at the same time, (ii) keeping some of the standardly established semantic mechanisms, in particular those that allow morphemes such as *-er* (or *more* etc.) to behave as a quantifier over degrees (and thereby have type ⟨d⟩ in the base position, and a semantic binder-variable dependency in the overall representation).

A useful compromise for such a wish list is the basic given in (9) below, capitalizing on Embick's (2007) structure proposed for independent reasons.

5. Cf. e.g. Kennedy's (1999) implementation, which, despite an impressive coverage, is in fact forced to assume a total lack of scope interaction involving the comparative morpheme.

(9) The 'overkill': *more* in Spec and functional head version (☑ version adopted here):



In particular, the structure in (9) provides a head position under *a* and keeps the comparative morphology in a non-projective position that we will later be able to extract from (Spec,*a*P). Since neither of the previous approaches allows the two desiderata concomitantly, we adopt (9) as our working structure and next show that it makes useful predictions in conjunction with the phenomena in Romanian.

First, current Romanian only has analytic comparatives. The positive and the comparative form of a gradable adjective are illustrated in (10).

(10) a. *Ion e _ inteligent.*
Ion is intelligent

b. *Maria e* ***mai*** *inteligentă (decât Ion).*
Maria is more intelligent.FEM (than Ion)

In such sentences, *mai* 'more' has its base-position in Spec,*a*P – in this regard, much in the spirit of the Bresnan proposal above. The affix-lowering problem as such does not arise in Romanian, with which we are concerned here. (See Embick & Noyer 2001 and Embick 2007 for additional morphological reasons that make a structure like (9) plausible for English as well.)

Before moving on with the problematic cases, let us briefly clarify two issues about the syntax of Romanian. First, the language has both clausal and phrasal comparatives. The phrasal version of 'than', *ca*, is only licit with non-clausal entities as exemplified in (11). It is barred in overtly clausal structures such as the naturally attested example (12), which must have the *decât* version of *than*. The exponent of 'than' that we need to focus on here, then, is the one that allows overtly clausal structures, i.e. *decât*.

(11) *un aliaj artificial mai dur [{* ***ca/decât****} diamantul]*[6]
an alloy artificial more hard than diamond.the
"an artificial alloy that is harder than diamond"

6. Free use is made of naturally attested examples (e.g., adapted after retrieval via *Google* etc.).

(12) *Steaua a fost mai puternică [{* **ca/decât**} a fost AS. Roma].*
Steaua has been more strong than has been AS Rome
"*Steaua* was stronger than *AS Rome* was."

The second preliminary is that the grammar of Romanian certainly has mechanisms of movement. In particular, it has verb movement, as is shown in conjunction with a low subject (cf. Cornilescu 2000) in (13), and (generally obligatory overt) *wh*-movement, (14). (See Comorovski 1996 for multiple *wh*-movement.)

(13) a. *Ea știe.* (low subject + verb movement)
she knows

b. *știe ea.*
knows she

(14) a. *Cine plătește?* (no (matrix) *in-situ* wh-)
who pays

b. **Plătește cine?*
pays who

Given the essentials thus far, Romanian seems to be an unsuspicious language in the sense that it has movement and extraction mechanisms well-known from several other languages. We next inspect the crucial degree constructions.

3.2 Degree questions

Degree questions seem to be lacking *at first sight* in Romanian (under the use of the regular strategies, more on which below). There are three main factors that add up to a puzzle about this prima-facie negative result on degree questions in Romanian. First, Romanian is different in two crucial ways from Japanese. It has both (i) mechanisms of movement visibly operative in its grammar and (ii) some comparative morphemes, as we have said. But, second, the language does not have simplex degree questions (i.e. degree questions obtained by simply merging the relevant items from a numeration and doing the necessary movement operations). This is shown in (15).

(15) a. **Cât Ion e inteligent*?
how Ion is intelligent

b. **Cât inteligent e Ion?*
how intelligent is Ion

c. **Cât e inteligent Ion?*
how is intelligent Ion

d. **Cât Ion inteligent e*?
how Ion intelligent is

e. **Cât inteligent Ion e?*
how intelligent Ion is

f. **Cât e Ion inteligent?*
how is Ion intelligent
All intended to mean: "How intelligent is Ion?"

The third factor that contributes to the dilemma is comparative in nature. While degree questions are not a universal, they are frequent enough from a comparative perspective. For example, they are not always barred either within Romance or in the languages of the Balkan peninsula. Thus, degree questions are allowed in Italian and to some degree in Portuguese, as (16) and (17) illustrate. Furthermore, e.g. Bulgarian (unlike Russian; cf. Krasikova 2008; Beck et al. 2009: Appendix) has bona-fide degree questions.[7]

(16) *Quanto è alto?* (Italian, cf., e.g., Rizzi 1990)
how is tall
"How tall is he?"

(17) *Quão comprido é o armário?* (E. Portuguese, C. Cunha, p.c.)
how long is the cupboard
"How long is the cupboard?"

Empirically, the problem is easily solvable. While simplex degree questions are not licensed, the addition of the morpheme *de* allows degree questions, as illustrated in (18) and (19) below.[8]

7. Hungarian or German that belong neither to the Romance family nor to the Balkan *Sprachbund* but had long contact with (varieties of) Romanian also allow degree questions.

8. Recall Romanian does not allow simplex questions, i.e. questions without additional support. I agree with a reviewer noting that Romanian *has* degree questions after all (see also main text), but who objects to the presentation. While the puzzle may seem trivial and alternative formulations are certainly possible, I would like to argue that the perspective is still useful (and may hence be tolerated). Let us add here that such distinctions have not only proved admissible formulations, they have in fact proved critical for grasping certain structural issues. For instance, head-dependencies to I or C in English do *not* obtain, unless, crucially, *do* is inserted (cf. Embick & Noyer 2001 among many others). Although the problem could be phrased in several different ways, such a perspective becomes particularly useful when comparing, say, French with English and their classically noted *differences* with respect to the existence of certain dependencies in the domain of head movement, even if both languages certainly have a way to bring the affix and the verbal stem together, after all. It is common parlance to say that one language has and the other lacks such dependencies. Similarly here, the LF degree-dependency appears to be blocked, unless the morpheme *de* is inserted.

(18) *Cât e* ***de*** *inteligent Ion?*
how is DE intelligent Ion
"How intelligent is Ion?"

(19) *Cât* ***de*** *inteligent e Ion?*
how DE intelligent is Ion
"How intelligent is Ion?"

We assume here, following Grosu (1994), among others, that (19) is the pied-piped version of (18), an alternation that the language largely allows (unlike e.g. English).[9] The main question for the present argumentation is: why should a type of functional material be attached to the gradable adjective, the *wh*-word being required anyway. An idea that lends itself to consideration is that functional material is needed to rescue the derivation. On the basis of the DAP, the correlation obtaining is precisely that the rescue strategy is triggered when we have abstraction and movement out of the base in a degree construction. Therefore, we propose that *de* marks the degree dependency.

The logical form we then propose is as in (20) (where we mark the index of abstraction with the numeral in the standard notation; Heim & Kratzer 1998).

(20) [*Cât* 1 *e* [$_{aP}$ _ **(de)* [$_{AP}$ *înalt*]]]?
how is DE tall

What we can observe in (20) is that when the edge of the *a*P is extracted from, the morpheme *de* is the PF-realized variant in the head position of the *a*P.

3.3 Subcomparatives

The question whether similar morphology-syntax incongruities as the one witnessed with degree questions exist is imminent. On the Heim/Stechow semantics of comparatives adopted here, there is in fact an even more immediate candidate for binding degree variables in the style of a generalized quantifier over degrees, namely subcomparatives (cf. Beck 2009: Section 2.1.4; Heim 2006: 4; cf. also the critical contexts mentioned in Section 2.1 above). And indeed, we encounter a similar incongruity in this domain in Romanian. Despite the possibility (recall: in most cases necessity) to move *wh*-elements in general, Subcomparatives structures are, again, *at first sight* not licensed at all:

9. We concentrate on the version without pied-piping given the current focus on the LF-structure, which is identical in involving LF-extraction in both cases. For such concerns pied-piping is an orthogonal phenomenon, which can be phrased entirely in terms of the core syntactic operations. For detailed argumentation making this point on pied-piping, see Heck (2008).

(21) **Stîlpul e(ste) mai înalt decât groapa e(ste) adîncă.*
pole.the is more tall than hole.the is deep
"The pole is taller than the hole is deep."

Since what will be invoked once again is a rescue strategy, it is worth noting beforehand that potential "rescue" strategies grammaticalized in other individual Romance languages do not work for Romanian subcomparatives. For example, neither predicate inversion nor (expletive) negation would be applicable to make a subcomparative legitimate:[10]

(22) **Stîlpul e(ste) mai înalt decât adîncă (nu) e(ste) groapa.*
pole.the is more tall than deep (not) is hole.the
"The pole is taller than the hole is deep."

Subcomparative structures in Romanian improve, however, under a different set of conditions, including subject-verb inversion (for which I assume lower subjects here; cf. Cornilescu 2000 for insightful discussion and data bearing on this structural option) and, the ingredient of immediate interest for current purposes, the insertion of the morpheme *de*; cf. (23)–(24) below:

(23) *Maria e mai deşteaptă decât e Zamfira de frumoasă.*
Maria is more clever than is Zamfira DE beautiful
"Maria is cleverer than Zamfira is beautiful." (Grosu 1994)

(24) *Stîlpul e mai înalt decât e groapa de adîncă.*
pole.the is more tall than is pole.the DE deep
"The pole is taller than the hole is deep."

The descriptive observation then is that in degree constructions like degree questions and subcomparatives, i.e. the classical domains of degree-binding and such that they are barred by the DAP in Japanese, *de* is last-resort inserted within the adjectival projection, left-adjacent to the adjective. Let us take up the issue addressed above in more detail, namely the question where exactly *de* is inserted. If we assume insertion under an Abney-style Deg°, in complementary distribution with the null ∅ (cf. Gergel 2009), then the structure might account for the fact that *mai,* 'more', ∅*,* and *de* never co-occur at the same site in Romanian. Notice that *mai* is incompatible with *de* and *de* cannot be inserted for free; cf. (25)–(27).

10. We leave aside paraphrases and e.g. nominalizations or *compared-to* strategies (cf. Beck et al. 2004), as said. For subcomparatives in Spanish, see especially the discussion in Reglero (2007). Cases of subcomparatives with so-called expletive negation can be found in French, where *ne* may be an indicator of clausal comparatives (cf., e.g., Price 1990; Rooryck 2009; von Stechow 1984).

(25) **Radu e* ***mai de*** *inteligent*.
Radu is more DE intelligent

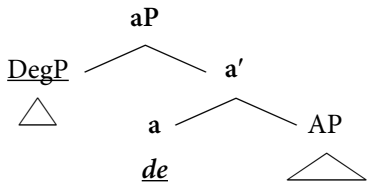
(26) **Radu e* ***de mai*** *inteligent*.
Radu is DE more intelligent

(27) **Radu e* ***de*** *inteligent*.
Radu is DE intelligent

But there are some drawbacks if one gives up the Bresnan structure, as we have said. Furthermore, assuming that *de*, ∅ and *mai* ('more') compete for one position is not enforced by the co-occurrence restrictions. We propose instead the alternative in (28), with the resulting local configuration in (29).

(28) a. The morpheme *de* is inserted under *a*° in degree-based dependencies.[11]
b. It is licensed in a "Spec-Head" relationship with the degree-slot.

(29) Local configuration for *de*-insertion:

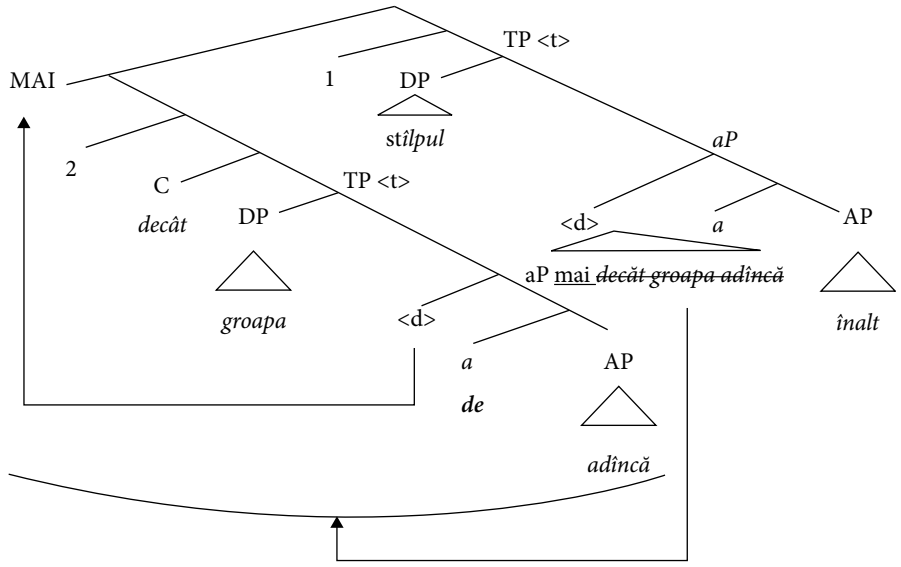


The morpheme *de* thus appears under *a*, whereas *mai*, 'more' is in base position under DegP. The generalization we propose is that an *a*P that has been extracted from will be marked as visible by the use of appropriate functional material either in the specifier or the head position of the *a*P shell. (In addition, movement from A to *a* is possible but nothing hinges on it here.) That means that if functional material is in the Spec,*a*P position, the *a*P is visible, i.e. the visibility condition motivated by the DAP is satisfied. However, if that is not the case, *de* must be inserted. In this connection, the simplest assumption is that economy excludes insertion of both items at the extraction site. This is consistent with the rescue nature of *de*-insertion given that rescue strategies typically apply as last-resorts. If *mai* 'more' is inserted in an *a*P, *de* is superfluous; if it is not available, *de* is inserted.

With the local structure given, we now address the global structure in (30) below, which schematizes a subcomparative such as the one seen in (24) above.

11. In the terms of Distributed Morphology, *de* is the contextually appropriate exponent of *a*. The gradability of A is a more general condition that we draw attention to here (cf. the transitivity of V notoriously discussed in connection with *v*, the classical version of a shell projection).

(30) Global structure in subcomparatives (relevant part[12])
[Legend: ***mai*** = PF representation only; MAI = LF only]



The derivation follows the standard methods mentioned in 2.1 (Beck 2009; Heim 2001) as far as the two abstraction steps that parallel QR in the domain of degree binding are concerned. The crucial steps are summarized in (31) below.

(31) Derivational history for (30):
- QR within the *decât* ('than') clause
- QR the entire subordinate; NB: *mai* ('more') itself is PF-stranded here[13]
- extrapose the PF-representation of the subordinate (not shown above)

This much offers an initial motivation starting out from the unusual status of degree binding as an LF dependency. Stipulations about phrasal vs. clausal comparatives (important as they are) are not likely to yield an explanation here. Importantly, the functional status of the morpheme has been an ingredient in the account, but one that was implemented quite differently from previous studies, which observed it in certain areas (e.g., Constantinescu 2007, Corver 2000, or Gergel 2009

12. We schematize the steps that are relevant for interpretation. For example, the copula is omitted (being semantically trivial). At PF, its most natural surfacing representation is adjacent to the DP in the matrix and to *decât* ('than') in the subordinate. Notationally, the numerical indices stand for the usual movement abstracts (Heim & Kratzer 1998).

13. Because of economy. Else it would be, on standard assumptions, (i) moved along, (ii) only to be (PF-)extraposed in a further step, and (iii) re-positioned *in situ* in yet another PF step.

for that matter). Starting from the premise of cross-linguistic variation at LF (e.g. Beck et al. 2009), we suggested to derive the intrusive morpheme from a visibility requirement for degree dependencies stated over logical forms.

4. Extensions and issues

In this section, we describe three main areas in which the analysis can be extended. As a candidate for a first extension, we suggest an idiomatic type of expressions and their emphatic fronting. To this end, consider (32) first.

(32) a. *înalt cât un munte*
tall as a mountain

b. *harnică ca o albină*
hard-working.FEM as a bee

What (32) shows is the base word-order of such (mostly idiomatic) expressions in Romanian. Interestingly, it is possible to move the idiomatic part following the adjective as in (33).

(33) a. *cât un munte *(**de**) înalt*
as a mountain DE tall

b. *ca o albină *(**de**) harnică*
as a bee DE hard-working.FEM

Such examples can be accommodated straightforwardly. Assume that the idiomatic expression just by itself is a means to give a salient set of degrees for which the property of the respective adjective holds. What is important for current purposes is that once the degree expression is moved, the adjective in the base position left behind can only appear with the morpheme *de*.

A second potential extension obtains from a class of so-called norm-related adverbs. On a basic level such adverbs situate the gradable properties they apply to a level above the positive (and thus clearly above the average). Some relevant examples are given in (34) below.

(34) *extrem/ deosebit/ nemaipomenit/... *(**de**) înaltă*[14]
extremely/ unusually/ unheard-of/... DE tall.FEM

While certainly more would be required in a specialized investigation of norm-related constructions (cf., e.g., Krasikova 2008 and Vanderelst 2009), we may

14. *Foarte* 'very' does not trigger *de*-insertion. If it instantiates a POS configuration (von Stechow 2006), there is no movement. This adverb is close in its meaning to the ones in (34).

assume here that the relevant adverbs in Romanian undergo LF movement, thus achieve abstraction over degrees, and hence, once more, require *de*-insertion in Romanian.

For present purposes, a third and immediate extension obtains in sub-equatives, cf. (35) (constructed on the basis of a naturally attested example).

(35) *Queen Mary este la_fel_de lung cât este Empire State*
Queen Mary is as long as is Empire State
Building ***de*** *înaltă.*
Building DE tall.FEM
"*Queen Mary* is as long as the Empire State building is tall."

The derivational steps are identical to the subcomparative of inequality. The occurrence of *de* thus crucially parallels the previous cases based on binding.[15]

5. Conclusions

The paper purports to have done three things. First, to have made certain predictions about the intrusion of a functional item in conjunction with adjectives in Romanian on the basis of a structured semantic representation. Second, to indicate a way to derive the distribution from the (LF-)structure of degree constructions in the language starting from the premises of the DAP and transferring it to a visibility condition in Romanian. Third, the paper confirms the indication available from unrelated languages (recall the situation in Japanese) that the binding

What we may *assume* then is that both movement and non-movement strategies are implemented with such adverbs. This is consistent with the DAP in that only the moved LF displays *de,* even though it is not *additional* evidence for it. While this may not correlate with PF movement, the possibility of having both movement and non-movement at LF is semantically sound. In addition, the non-movement version may be enhanced by the functional character of the adverb *foarte*. A (surface-)syntactic investigation of the matter is indeed non-trivial and goes beyond present scope. For an investigation in terms of morpho-syntactic functional status, see Constantinescu (2007). An initial diachronic analysis in terms of the grammaticalization of functional material is undertaken in Gergel (2010).

15. The occurrence of functional material in the matrix is available here too, even if it is morphologically more intricate than in subcomparatives. We assume here that the expression for *as* in Romanian is morphologically complex and in particular that it encompasses *de* in a grammaticalized fashion (cf. also *decât*, the expression for 'than', itself; cf. Cornilescu 2009). Types of *de* that have arguably been encapsulated morphologically *within* the introducers of different degree words during historical developments are not less interesting but not further sub-analyzed in the present paper, which is concerned with the realization of the structure at LF. They remain an intriguing topic for future research.

process of degree variables can have a special status and in Romanian an overt reflex in its realization.

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Some remarks on the evidential nature of the Romanian presumptive

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The Romanian *presumptive* verbal paradigm (AUX + BE + PRESENT/PAST PARTICIPLE) is puzzling in several respects: (i) it is the only modal/temporal/aspectual construct which allows the present participle; (ii) it can use any of the modal auxiliaries in the language, in order to assemble verbal forms which convey *indirect evidentiality*; (iii) with the past participle, indirect evidential meanings and other modal meanings create syncretism. A problem these characteristics pose is to understand the nature of indirect evidentiality, and its mapping to the morphology. This paper proposes a morpho-semantics analysis of the presumptive; the essential part of the account is that aspectual heads can be interpreted modally, in the domain of worlds (Iatridou 2000, Izvorski 1997). The specific semantics of the participles, as well as the contribution of *be* derive indirect evidentiality, defined as speaker's non-awareness of the eventuality itself.

Keywords: indirect evidentiality, counterfactuality, future, aspect, modality

1. Introduction

Modality notions (concepts related to possibility and necessity) can be organized in the Romanian verbal system into morphological paradigms, known under their traditional "mood" label: the conditional mood, the subjunctive mood, the indicative mood, etc. As opposed to other (main) Romance languages, the Romanian modal inventory also includes the so-called *presumptive* mood. The focus of this paper is a morpho-semantic investigation of this class, which, as shown in Section 1.1, raises numerous questions regarding its precise composition and organization.

1.1 The Romanian presumptive

An interesting fact about the presumptive is its morphological shape: *modal auxiliary + be + present/past participle*. On the one hand, the combination (*modal*) *auxiliary + be + present participle* is not seen anywhere else in modern Romanian.

Table 1. Modal auxiliaries in Romanian

Conditional-Optative Auxiliary (C.O.)	SG: *aș* [1], *ai* [2], *ar* [3] PL: *am* [1], *ați* [2], *ar* [3]	From the verb *have* (avea)
Future 1 auxiliary	SG:*voi* [1], *vei* [2], *va* [3], PL:*vom* [1], *veți* [2], *vor* [3]	From the verb *want* (want)
"Future 2"[1] *auxiliary – Epistemic Inferential*	SG: *oi* [1], *oi* [2], *o* [3], PL: *om* [1], *oți* [2], *or* [3]	From the verb *want* (vrea)
Subjunctive marker	*să* – uninflected	Etymology unclear

On the other hand, the presumptive allows all modal auxiliary (AUX.) forms in the language. This is in sharp contrast to other "moods" which accept only one set of modal AUX./inflectional endings. Romanian contains the following modal AUX. forms (omitting here the indicative AUX.), each carrying the corresponding broad interpretation shown in Table 1.

The C.O., and the two future auxiliaries can be combined with the short infinitive (without the infinitival marker *a*). In this case they obtain the corresponding modal/future non-past/non-perfect interpretation. The subjunctive (SUBJ.), used in various afactuality contexts, has its specific morphology; although the SUBJ. marker is not inflected, the embedded verb does carry idiosyncratic SUBJ. endings.

The auxiliaries above also enter into another paradigm, with the short infinitive *fi* (be) and the past participle (PST.PRT). A perfect modal interpretation is obtained, as seen with the C.O. AUX. in example (1):

1. The *o* modal auxiliary is traditionally described as a *future* marker in Romanian grammars. There are nevertheless some conditions of use that indicate that its semantics is not that of the future. For example, when attached to simple statives (like *be sick* in below), it does not permit forward shifting of the temporal setting, nor future oriented adverbials (as opposed to the *va* future marker). What is obtained instead is an epistemic interpretation about the present:

(i) *O* fi bolnav *mâine.
INFER.3.SG. be sick.M.SG. tomorrow.
"He might be sick (now)."
≠ "He will be sick tomorrow"; ≠ "He might be sick tomorrow."

As discussed by Condoravdi (2001), Stowell (2004), a.o., the impossibility of forward shifting the temporal reference in the context of pure statives is characteristic to many epistemic modals (encoding notions related to reliability, possibility, probability). As the interpretation of this auxiliary in Romanian appears to be epistemic, more specifically *inferential*, the *o* morpheme is labeled in this paper INFERENTIAL (INFER.).

(1) C.O. + BE + PST.PRT. = COUNTERFACTUAL PERFECT
Dacă *aş* *fi* *avut* bani, *aş* *fi*
If C.O.1.SG. be have.PST.PRT. money C.O.1.SG. be
cumpărat o maşină.
buy.PST.PRT. a car.
"If I had had money, I would have bought a car."}

And yet another option for the modal AUX. forms above is to combine with *fi,* and the present participle (ending in *-nd*). Romanian grammars have long observed that in this instance the meaning of the auxiliaries is altered. The interpretation obtained is traditionally labelled *presumptive* (PRESM.). The verb *avea* (have) is illustrated in the presumptive paradigm in (2):

(2) PRESUMPTIVE – FORMAT:

AUX	BE	PRESENT PARTICIPLE (PRS.PRT.) [2]	
Ar	fi	având	"s/he might have, s/he probably has, s/he possibly has"
Va	fi	având	
O	fi	având	
Să	fi	având	

The presumptive meaning is also seen when the AUX. forms combine with *be* and the PST.PRT. Therefore, the perfect structures are ambiguous between a non-presumptive, perfect modal interpretation, and a presumptive reading about the past. For example, when taken out of the context, the perfect with the C.O. AUX. (in 3) can be interpreted either as a perfect counterfactual (CI.), or as a presumptive about the past:

(3) Ar fi avut.
C.O.3.SG. be have.PST.PRT.
1. = "S/he would have had".
2. = "S/he probably had, s/he presumably had, s/he possibly had."

Specific morphology seen with the present form, as well as the syncretism of the past/perfect constructs have raised many questions about the PRESM. paradigm. This paper proposes a morpho-semantic analysis for this class, focussing on three basic aspects:

i. What is the semantic organization of the presumptive?
ii. How many presumptive paradigms are realized in Romanian?
iii. How are the morphological pieces mapped to the specific presumptive meaning?

2. Etymologically, the *-nd* morphology is related to the Latin gerund(ive), and sometimes referred to as the *gerund*; nonetheless, its actual status in modern Romanian has been under much debate. A detailed investigation of the *-nd* forms is beyond the scope of this paper; but in order to make a sharper distinction between this form and the past participle, the label *present participle* will be preserved here for convenience. See Edelstein (1972) for a detailed description of this construct.

It is proposed in this paper that the answer resides in a decomposition of indirect evidentiality, following the model introduced by Comrie (1976), and more recently Izvorski (1997), and Iatridou (2000). The basic intuition is that the IE meaning signals that the speaker is not aware of the core eventuality itself, but gets to know about it via its results, consequences, abstract representation. Languages can have various morphological strategies for conveying IE semantics. As discussed in Izvorski (1997), the present perfect is a common means, via its interpretation in the modal (possible world) domain. Romanian does not have a present perfect form; instead, it uses a perfect of result morpheme (the past participle), and the auxiliary *be*; The latter is analyzed in his paper as spelling out the selection of the worlds which are mapped to the speaker's deictic center. This account correlates with previous findings (Avram and Hill 2007) which attribute to this morpheme an *irrealis* feature.

The discussion in this paper is contained in five sections. Section 2 presents the PRESM. variants. Section 3 addresses the issue of the syncretism with the perfect/past forms, and demonstrates that indirect evidential interpretations are not "contextual extensions" of other modals. Using this observation, Section 4 develops the morpho-semantic analysis of the PRESM. Section 5 has the conclusion.

2. The presumptive – a strategy for indirect evidentiality

This section has a two-fold purpose; as Romanian is not a traditional field for the description of evidentiality (but see, however, the brief remarks made in Friedman 2004, or Squartini 2005), one of the goals is to further introduce this notion as a necessary tool in the analysis of the verbal system of the language. Then examples will be provided which demonstrate that the various PRESM. forms convey distinct IE subtypes.

Groundbreaking studies by Boas (1911), and Jakobson (1957) have revealed that human language contains various devices by which reference can be made to the source upon which a speaker's statement is based. These devices are part of the category named *evidentiality*, which has been subject to intense investigation recently (Chung and Timberlake 1985, Chafe and Nichols 1986, De Haan 1999, Johanson and Utas 2000, Dendale and Tasmowski 2001, Squartini 2001, Rooryck 2001, Faller 2002, Aikhenvald 2004, Speas 2008, a.o.). When making a statement, it could be the case that the speaker has personally witnessed an eventuality (*direct evidentiality*); but it is also possible for someone to simply report, or to make inferences about an event, which was not directly witnessed (*indirect evidentiality – IE*). Recent theoretical and empirical findings have illustrated that human

languages make extensive use of this category, which is also mapped to various types of morphology.

The conditions of use of the presumptive indicate that in Romanian this "mood" is the grammatical strategy for conveying IE. A common meaning component of all the presumptive AUX. constructs is to entail that the speaker did not have direct access to the eventuality presented. Nevertheless, there is a distinction in the type of indirect source, and this is signalled by the different uses of the auxiliaries. The following subsections illustrate the IE semantics of each of the four constructs of the PRESM.

2.1 Conditional-based morphology

A detailed examination of the forms constructed with the conditional morpheme shows that they are felicitous when reinforced by "verba dicendi", as in examples (4) and (5):

(4) (Se spune că) *ar fi având*
SE say.INDIC.PRES.3.SG. that C.O. = IE.3.SG. be have.PRS.PRT.
mulți bani *ieri.
many money yesterday.
a. "(They say that) it is said that s/he has lots of money."
b. Intended counterfactual reading – impossible: ≠ "S/he would have lots of money, if...."

(5) (Se spune că) *ar fi avut*
SE say.INDIC.PRES.3.SG. that C.O. = IE.3.SG. be have.PST.PRT.
mulți bani (ieri).
much money (yesterday).
a. "(They say that) it is said that s/he had lots of money"

Two other observations can be made about the evidential forms in (4) and (5). The aspectual contribution of the participles appears to be that of temporally setting the eventuality embedded under the evidential – the PRES.PRT. supports an evidential claim about the present, (4) while the PST.PRT. is felicitous in statements about the past (5). Secondly, the italicized form in (4) presents an apparent morphology-semantics mismatch; although it contains the conditional AUX., it never allows a counterfactual/optative interpretation (see 4b). The main contribution of the C.O.-based construct is rather to signal the idea of *hearsay*; this is the inherent meaning of the modal itself, and not deriving from the presence of the verbum dicendi (as a preliminary look at the translation of (4a) might suggest). An

indication that this is indeed the case is that the hearsay evidential can also be used without an introducing *verbum dicendi*[3] (see also example 24).

2.2 Inferential-based morphology

The hearsay interpretation is not possible with the other PRESM. forms. For example, the INFER. AUX. is not felicitous with hearsay morphology (as in 6). Its function is rather that of an inferential evidential; it encodes reasoning/inferences based on indirect evidence (as in the approximate translation of 7). Also, the information source meaning can be collapsed with interpretations related to the speaker's epistemic evaluation (non-vouchability, non-confirmativity) of the proposition. The INFER. + PRES.PRT. is only possible when referring to the present (7):

(6) ≠Cică *o* *fi* *având* mulți bani.
They say INFER.3.SG. be have. PRES.PRT. much money.
Intended: "They say that it is said that s/he has lots of money."

(7) A. Nu văd pisica pe nicăieri.
Not see. cat on anywhere.
"I do not see the cat anywhere."

B. *O* *fi* *dormind* pe undeva *ieri.
INFER.3.SG. be sleep. PRES. PRT. on somewhere yesterday.
≈ "It might be sleeping somewhere (I cannot vouch for this)."

2.3 Future-based morphology

The literary-future constructs, although decaying in modern Romanian, also indicate a further IE subtype. Speakers who do accept[4] sentences like (8) have the intuition that the statement is based on "more probable" evidence. A hearsay interpretation, as well as a future meaning (8b,c), are also impossible (8d):

(8) Milionarii *vor* *fi* *având* mulți bani.
Milionnaire.PL. FUT = IE.3.PL. be have.PRES.PRT. much money.

3. Moreover, when hearsay indirect evidentials are examined cross-linguistically, what one can notice is that they are frequently reinforced by *verba dicendi*. This fact has been illustrated for various languages (see Sauerland and Schenner 2007 for an analysis of embedded evidentials in Bulgarian, or the general discussion in Aikhenvald 2004). Romanian therefore conforms to a common pattern of hearsay evidentials.

4. The majority of native speakers consulted have mentioned that the future with present participle construct has a regional a or archaic flavor.

a. "Millionaires probably have lots of money (I do not vouch for this, but it is highly probable that the statement is true.)"
b. ≠"Millionaires will have lots of money." (*with a future reading*)
c. ≠ "Millionaires will probably have lots of money."
d. ≠ "There is hearsay that millionaires have lots of money."

2.4 Subjunctive-based morphology

The evidential function of the SUBJ. with PRES.PRT. is the most obscure; this form is also decaying in modern Romanian. It appears to be reserved for inferential readings in interrogative contexts, and does not accept hearsay interpretations[5]:

(9) *Să fi existând/existat* astfel de oameni?
SUBJ. =IE. be exist.PRES.PRT/exis. PST.PRT. such of people.
a. ≈ "It is possible to infer that such people exist/existed?"
b. ≠ "Is there hearsay that such people exist/existed?"

In Romanian, therefore, IE meanings are assembled from auxiliaries which construct various other modal notions (as illustrated at the beginning of Section 1). Moreover, as in other Romance languages, for example, the perfect modal constructs accept both an evidential interpretation, and a non-evidential modal reading. Section 3 evaluates various syntactic and pragmatic tests, which indicate that perfect non-evidential modals on the one hand, and perfect evidentials on the other hand are subject to distinct grammatical conditions. This, observation implies that indirect evidentials do have perfect/past forms. But this also, begs the crucial question of what type of building blocks are necessary for the construction of IE (issue addressed in Section 4).

3. Indirect evidentials vs. other modals

To resume, the contexts examined in Section 2 have illustrated the following: (i) PRES.PRT. forms construct indirect evidential meanings, and are non-ambiguous;

5. That the SUBJ. + PRES.PRT. construct has a distinct nature than what is called the SUBJ. mood (SUBJ. + INFIN.) in modern Romanian is demonstrated by the existence of examples like (i), in which only the SUBJ. mood is possible, not but the SUBJ. + PRES.PRT. form:

(i) Nu poate/nu vrea/e imposibil/e greu
Not can/not want/is impossible/is difficult
*să fi dormind /să doarmă.
SUBJ. be sleep.PRES.PRT. /SUBJ. sleep.3. SUBJ.SG.
"He cannot/does not want to/it is impossible/difficult for him to/sleep".

as such, the COND. morpheme does not allow a counterfactual interpretation in that context (see example 4), and the FUT. AUX. does not accept a meaning related to temporal posteriority (see example 8); (ii) the SUBJ. + PRES.PRT. is not possible in canonical subjunctive contexts (Footnote 5); (iii). past (perfect) participle forms, on the other hand, are ambiguous between an IE meaning and another modal interpretation. This last point is best illustrated in the case of C.O. as shown in example (3). Similarly the example in (10), which contains the FUT. auxiliary and the PST.PRT, allows an anterior future reading and an indirect evidential (inferential) interpretation about the past:

(10) FUTURE + BE + PAST PARTICIPLE
Va fi terminat de scris.
FUT.3.SG. be finish. PST.PRT. OF. writing.
1 = FUTURE ANTERIOR/PERFECT READING
"S/he will have finished writing" (possible continuation – tomorrow at 5 pm)
2 = INDIRECT EVIDENTIAL READING –INFERENTIAL
≈"Apparently/presumably, s/he finished writing" (possible continuation – yesterday).

Because of the existence of ambiguous sentences of the format in (3) and (10), the presumptive paradigm is generally attributed only present tense forms. It is also common to find works where the exact nature of this paradigm is left unaddressed (Squartini 2005). There are also contributions that, after the investigation of some tests (usually adverbial interactions), recognize the necessity of adding the past constructs to the presumptive class; but the idea is that PRESM. meanings are some types of "extensions", derived from the other modal meanings (Dimitriu 1979), which are considered basic. This section will evaluate various diagnostics which demonstrate that evidential forms are not simple "extensions" of the homonymous constructs; instead, they are subject to distinct syntactic, pragmatic, and semantic constraints. The general picture appears to be one in which two distinct meanings are mapped to the same overt morphology.

This finding is important in that it demonstrates that not all types of "extensions" have the same status. More specifically, it is sometimes claimed that the PRESM. can also obtain "mirative" (surprise, unexpectedness) readings. But mirative uses respect the same types of grammatical conditions as evidentials; specific lexical choices, in determined contexts, are rather responsible for triggering them. Mirative uses will not be further investigated in this paper; instead three classes of tests will be examined which show that evidential forms are subject to specific constraints. These tests make reference to: 3.1 adverbial interactions, 3.2 subject placement, 3.3 pragmatic specifications.

3.1 Adverbial interactions

This first diagnostic focuses on an interesting characteristic of perfect counterfactuals. In spite of the fact that in many languages they are constructed with overt *past tense* morphology (Comrie 1976, Palmer 1986, Iatridou 2000, Ippolito 2002), they allow future-oriented adverbials. Examine example (11) below, which contains a pluperfect and a future adverbial in the antecedent:

(11) ENGLISH- PERFECT COUNTERFACTUAL WITH FUTURE ADVERBIAL
If he **had come** *tomorrow*, we would not have left yesterday.

Although Romanian counterfactuality might not be constructed with past tense (but via a dedicated modal AUX.), in the perfect the same type of interaction is seen:

(12) ROMANIAN-PERFECT COUNTERFACTUAL WITH FUTURE ADVERBIAL
Dacă **ar** **fi** **venit** *mâine*, nu am
If C.O.3.SG. be come.PST.PRT. tomorrow not have.1.PL.
mai fi plecat ieri.
more be leave PST.PRT. yesterday.
'If s/he had come tomorrow, we would not have left yesterday.'

This co-occurrence is not possible with the evidential reading; when a FUT. adverbial is forced, the hearsay interpretation disappears. The only possible temporal specification of the adverbial in this case is *past* (13):

(13) ROMANIAN-PST. EVID. INTERPRETATION; NO FUT. ADVERBIALS
(Cică) *ar* *fi* *avut* bani *mâine/ieri.
(They say) C.O.3.SG = EVID. be have. PST.PRT. money tomorrow/yesterday.
Intended reading with the future adverbial: *"(They say that) it is said that he might have had money tomorrow."
Reading with the past adverbial:
"(They say that) There is hearsay that he had money yesterday."

Similar interactions with temporal adverbials show that the FUT.PRF. also has different conditions of use than the past evidential constructed with the FUT. morpheme. The former accepts a future oriented adverbial (14), while the latter allows only past oriented adverbials (15)[6]:

6. There is an important distinction between these two sentences above. For example, the FUT. PRF. can be used in a context like the following – assume that there is an inspection taking place in an office tomorrow. Then the manager of that office can utter today the sentence in (14), meaning by it that according to what is requested, tomorrow at 5 pm the situation will be such that the employees will have finished editing the documents (and if this does not happen, the employees might be fired). This context does not presuppose making inferences, or assumptions

(14) ROMANIAN – FUT.PRF. INTERPRETATION; FUT. ADVERBS ALLOWED
Vor fi terminat de redactat documentele
FUT.3.PL. be finish.PST.PRT. SUP. editing document.PL.the
(până) mâine la ora 5.
by tomorrow at hour 5.
"They will have finished editing the documents tomorrow at 5."

(15) ROMANIAN – PAST EVIDENTIAL INTERPRETATION; ONLY PAST ADVERBIALS ALLOWED
Vor fi terminat de redactat documentele
FUT.3.PL. be finish.PST.PRT. SUP. editing document.PL.the
*mâine /ieri la ora 5.
*tomorrow /yesterday at hour 5.
Intended indirect evidential reading: "According to the information available, they probably finished editing the documents yesterday/*tomorrow (but I cannot endorse this information)."

3.2 Subject placement

In non-topicalized/non-focussed configurations, evidential constructs require the subject to be placed post-verbally:

(16) POST-VERBAL SUBJECTS IN EVIDENTIALS
(Cică) ar fi furat *hoțul* banii.
(They say that) C.O.3.SG.=IE. be steal.PST.PRT. thief money.
"(They say that) it is said that the thief stole the money."
*Se spune că *hoțul* ar fi furat banii. (unless the subject is topicalized/focussed).

PRF. counterfactuals/FUT. PERF. are not subject to this constraint; sentence (17) illustrates this with a PRF. counterfactual context:

(17) PERFECT COUNTERFACTUAL: PREVERBAL SUBJECTS ALLOWED
Hoțul ar fi furat banii, dacă ar fi
Thief.the C.O.3.SG. be steal.PST.PRT. money if C.O.3.SG. be
avut ocazia.
have.PST.PRT. chance.
"The thief would have stolen the money, if he had had the chance."

about the future. This type of reading is not permitted by the indirect evidential, which requires access to a source of information, and encodes inferences/assumptions made on the basis of the evidence available.

3.3 Conversational implicature vs. presupposition

Following the arguments examined in Anderson (1951), it is generally assumed that counterfactuality arises as a *conversational implicature*, and it is not asserted. The most well known argument is that counterfactuality can be cancelled without producing a contradiction:

(18) If the patient had the measles, he would have exactly the symptoms it has now. We conclude therefore that he patient has the measles.

Moreover, the falsity of the antecedent can be asserted without producing a contradiction (Stalnaker 1975):

(19) If the butler had done it, we would have found blood on the kitchen knife. The knife was clean; therefore, the butler did not do it.

The examples above are relevant in that they demonstrate that the counterfactual component (operator) can be cancelled. In Romanian (at least), indirect evidentials are also modal structures, in which an indirect evidential operator quantifies over a proposition: IE φ. But, as opposed to counterfactuals, the IE part cannot be cancelled, or contradicted (see also Izvorski 1997 for present perfect IE languages). As such, in example (20), what is negated is not the existence of indirect evidence, but the proposition itself:

(20) ROMANIAN
a. Pisica n-o fi dormind.
Cat.the not-INFER.3.SG. be sleep.PRES.PRT.
= "The cat is not sleeping (I infer)."
≠ "I do not infer that the cat is sleeping."

b. (Cică) nu ar fi avut
(They say) not C.O. = IE.3. be have.PST.PRT.
nici un prieten.
none a friend.
= "It is said that s/he//they did not have any friends."
≠ "It is not said that s/he//they had friends."

Trying to assert the falsity of an IE statement yields the same result; in (21), the proposition embedded under the evidential is contradicted, and not the contribution of the operator. The same behaviour is exhibited by all indirect evidentials in Romanian:

(21) ROMANIAN

A. Ar fi mâncat toate păjiturile.
C.O=HRS.3.SG. be eat. PST.PRT. all cakes.PL.the.
"S/he ate all the cakes (it is said)."

B. Nu e adevărat.
Not is true.
= "It is not true that s/he ate all the cakes."
≠ "It is not true that it is said that she ate all the cakes."

The behaviour under negation and contradiction tests has lead various scholars (Izvorski 1997, McCready 2007) to propose that the (indirect) evidential component functions as a *presupposition*. For the purposes of this paper, the contrast between the counterfactual and the indirect evidential use is significant, as it indicates that the two interpretations have distinct natures. But it is also true that the *presupposition* analysis of IE is not uncontroversial. Nevertheless, a detailed discussion about the presuppositional nature requires an extensive investigation of other forms in Romanian that might carry IE semantics; and as these forms go beyond the scope of this paper, the precise account will be left open at this point.

4. Structure of indirect evidentials

To review, the discussion in the Section 2 above has illustrated the following: (i) PRES.PRT. constructs always encode an IE meaning; (ii) the AUX. + be + PST.PRT. structures also carry evidential semantics, and are subject to specific grammatical restrictions, as compared to their homophonous counterparts; (iii) COND. AUX. + be + PRES.PRT. does not allow a counterfactual interpretation; (iv) FUT.AUX. + be + PRES.PRT. does not obtain a future meaning. Given these restrictions, what is the relationship between form and meaning in the Romanian IE paradigm? What pieces construct the indirect evidential meaning?

In this section, a morpho-semantic account of indirect evidentiality will be proposed, following the implementations in Iatridou (2000), and Izvorski (1997). But before doing so, there are some possible analysis paths which have to be eliminated from the start.

One of them refers to the assumption of an accidental homophony between the past evidentials and their phonetically identical modals. That such an option has to be dismissed is motivated by a simple cross-linguistic examination; many languages use conditional morphology for constructing both counterfactuals and hearsay evidentials (the Romance family being one); moreover, the relationship between indirect evidentiality and epistemic modality is so closely tight in a great

number of languages, that sometimes it proves quite difficult to tease them apart (see recent debates on whether evidentiality is a subtype of epistemic modality, or the other way around, or whether the two are independent categories).

A second point is related strictly to the form of the present hearsay evidential. As said above, this construct uses the conditional AUX., but does not accept CF. meanings; as expected, it cannot be used in the antecedent (or the consequent) of a PRES. CF. sentence (22 a, b), which permits only the C.O. + infinitive morphology (23):

(22) ROMANIAN C.O. + PRES.PRT: CF. MEANING NOT PERMITTED
(Cică) *ar* *fi* *având* mulți bani.
(They say that) C.O. = IE.3.SG. be have.PRES.PRT. much money.
a. "(They say that) it is said that s/he has lots of money."
b. Intended counterfactual reading – impossible: *"S/he would have lots of money, if.."

(23) ROMANIAN C.O. + PRES.PRT: CF. MEANING NOT PERMITTED
a. *Dacă ar fi având bani, ar cumpăra o casă.
If C.O. 3.SG. be have.PRES.PRT. money C.O. buy.INF. a house.
INTENDED READING: "If s/he had money, s/he would buy a house."

One could also assume that sentences similar to (23) are ill formed, as IE forms cannot be embedded under *if*; but in Romanian, IES can in fact be embedded under *if*, giving rise to an 'acknowledgment' interpretation'[7]:

(24) Dacă *ar* *fi* *având* așa de mulți bani
If C.O. = IE.3.SG. be have.PRES.PRT. so of much money
(precum se spune), atunci este foarte bogat.
(as REFL. say.3.INDIC.SG.) then is very rich.M.SG.
'If he has so much money (as it is said), then he is very rich.'

(25) Dacă *o* *fi* *dormind*, atunci să nu
If INFER.= IE.3.SG. be sleep.GER. then SUBJ. not
îl deranjăm.
CL.3.M.SG. disturb.1.SUBJ.PL.
'If he is sleeping (as we infer), then let's not disturb him.'

And yet another possibility that has to be dismissed is that the PRES.PRT. itself might carry a type of aspectual specification which is not a possible ingredient of counterfactuality. As said in Section 2, there are no other verbal forms in modern Romanian that have the PRES.PRT. in their composition. But the PRES.PRT. is

7. The only possible interpretation in these sentences seems to be the one in which the conditional operator scopes under the IE operator.

possible as an adjunct, and in such environments appears to carry *imperfective* aspectual meaning. In sentence (26) there is no entailment that John actually finished crossing the street:

(26) L-am văzut pe Ion *traversând* strada.
CL.3.M.SG-have see.PST.PRT. ACC. John cross.PRES.PRT. street.
"I saw John (while he was) crossing the street."

Assuming, simplistically, that the gerund spells-out imperfective (IMPF.) aspect, one could entertain the idea that counterfactuality (in Romanian) cannot be constructed with the *imperfective* aspect. But *imperfective* forms are indeed possible in counterfactuals. For example, the so called *imperfect* (imperfective past) is one of the means of constructing perfect counterfactuals in Romanian (and in Romance):

(27) Dacă *ar fi avut* bani,
If C.O.3. be have.PST.PRT. money,
cumpăra o casă.
buy.IMPF. a house.
"If s/he had had money, s/he would have bought a house".

Nonetheless, in both the present IE, and the imperfect with counterfactual semantics, the imperfective aspectual marker is not necessarily interpreted imperfectively. In (27) the reading obtained in the consequent is not the s/he would have been in the process of buying a house. The normal interpretation could be in fact perfective, just like in canonical IE. What these examples indicate, therefore, is that the present perfect does not use its imperfective feature in evidential contexts.

After the possibilities above are eliminated, two important facts about the indirect evidential are still to be carefully examined: (i) as the AUXS. used by IE are employed in other structures, it cannot be postulated that only the AUX. themselves give rise the IE interpretations; the presumptive structures also contain some aspectual heads that make a contribution to the modal interpretation. The challenge is in pointing out that contribution; (ii) the IE, as opposed to the other modals, does not appear to allow temporal shifting towards the future. What specifically is responsible for this behaviour? Section 4.2 contains the details of an analysis which can provide an answer to these questions.

4.1 Decomposing indirect evidentials

Two contributions which address the problem of the connection between (mismatched) morphology and semantics in the modal domain are Izvorski (1997), and Iatridou (2000). Their basic idea is that aspectual heads can have not

only a temporal interpretation, but also a modal interpretation; therefore, aspectual heads can be interpreted as making reference to worlds. This paper further employs this intuition in order to further explain the contribution of the aspectual morphology seen in the presumptive.

One important fact is the difference between the PRES. PRT. and PST.PRT.; only the latter is specified with an aspectual feature [+perfect]. Assuming a canonical approach to aspectuality, *perfect* maps properties of events to properties of times "true of times that follow the events" (Kratzer 1998). In the past forms (which are constructed in Romanian with the PRES. PERF.), the particular IE meaning is contributed by the "resultant-state" type of perfect, which gives as an output the state of the event having culminated. The evidential interpretation arises because what is mapped to the speaker's deictic center is only the result component. That is, to follow the classic decomposition of IE (namely Izvorski 1997), what the speakers are aware of are only the results of an eventuality, and not the eventuality itself.

This analysis assume that the Romanian past presumptive (indirect evidential) constructs have a similar structure as their semantically corresponding forms in languages that use the present perfect for this purpose. As an illustration, examine the example below from Bulgarian which contains a present perfect form, and acquire indirect evidential interpretations:

(28) BULGARIAN PRESENT PERFECT AS AN IE (Izvorski 1997, ex. 1 a)
Az sâm došâl.
I be-1SG.PRES. come.PST.PRT
"I have come" (Present Perfect) and/or
"I apparently came" (Indirect evidential)

Izvorki (1997) has analyzed the IE interpretation as resulting from a reinterpretation of the present perfect in the modal domain. Similarly to what is proposed in this paper for Romanian, Izvorki (1997) assumes that the contribution of the perfect resides in specifying the "consequent state (CS) of a past eventuality (*e*) holding at a given time interval *t*, i.e *hold (CS (e), t), and ¬ hold (e,t)*", while the present tense indicates that the "consequent state holds at the time of utterance". The epistemic interpretation of these temporal relations is the following: *hold (e,t)* indicates that a proposition *p* is known in a set of possible worlds. The set of worlds accessible to the speaker are those worlds in which the proposition *p'* holds, which makes reference to the *consequence/results of p*. This is how the inference that the core eventuality does not hold at the speaker's deictic center is obtained. And this inference derives the IE semantics.

The proposal is that, at an underlying level, Romanian and the IE present perfect languages are similar. But how can the morphological distinctions be explained? In Romanian one can see the modal AUX. + be + PST.PRT, while the

languages Izvorki (1997) describes use the present perfect. This paper proposes that what characterizes IE is the entailment that the speaker is not aware of the core eventuality. Languages vary in how they morphologically spell-out this crucial feature. Present perfect is a preferred strategy because it can link to the speaker's deictic center only the culminating point/the result of an eventuality, and not the eventuality itself. As opposed to languages like Bulgarian, Turkish, etc., Romanian does not have a present perfect (in the indicative paradigm). The past tense (*perfect compus*), constructed with the auxiliary *have* and the past participle, represents a strategy for making reference to the past, but does not pass canonical tests of present perfects. As throughout the Romance domain, it can be used with specific temporal adverbials which set up the reference time to a time prior to the moment of speech (feature which present perfects do not allow):

(29) ROMANIAN PERFECT COMPUS
A *mâncat/dormit* ieri.
Have.3.SG. eat.PST.PRT./sleep.PST.PRT. yesterday.
"S/he slept/ate yesterday".

Using a Reichenbachian framework, the role of the Romanian *perfect compus* is to assert that the Time of Situation (TSit), which overlaps with the Topic Time (TT), is in the past relative to the Time of Utterance (TU)[8].

The IE, on the contrary, requires a different setting of temporal relations. Following Izvorski (1997), the inference that the consequent state, and not the core eventuality holds at the moment of speech (speaker's deictic center), can be explained in a Reichenbachian framework by assuming that the Topic Time (the interval for which the assertion is made) overlaps with the TU (Time of Utterance), while the Situation Time (the interval where the eventuality actually holds) precedes the TT. Therefore, TSit$\not\subset$ TT, and TT$\subseteq$TU. The present component of the present perfect in Bulgarian, Turkish, etc. is crucial as it indicates that the culminating point/results of an eventuality hold at TT. The proposal of this paper is that although Romanian does not have a (canonical) present perfect, it contains the necessary pieces for constructing IE. This is where the auxiliary *be* comes into play.

8. As such, in an example like (i), the only interpretation possible in Romanian is that the characteristic state of the book being in Russian does NOT extend into the moment of speech. What (i) conveys is that the state of the book being in Russian does not hold anymore:

(i) (Era o carte pe masă). Cartea *a* *fost*
Be. IMPF. a book on table. Book.the have.3.SG. be.PST.PRT.
în limba rusă.
in language Russian.
"There was a book on the table. The book was in Russian (and the book is not (in Russian) not anymore))."

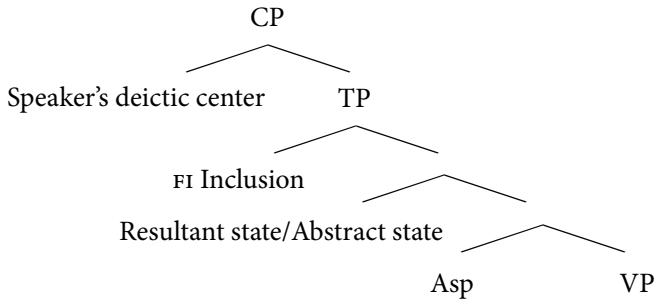
The parallel with the *perfect compus* constructs is very useful in explaining the exact contribution of *fi*. The perfect aspectual head of the *perfect compus* might encode the result/culminating point of a past eventuality, but this past construct does not have the means of linking this specification to the present. What it asserts is that the culminating point/result holds prior to the moment of speech. In the presumptive, the role of *be* is to precisely signal inclusion of the culmination point to the speaker's deictic center (the present). And another difference from present perfect languages is that in Romanian the modal base/ordering source might be spelled out overtly by the modal auxiliaries.

Assuming the analysis proposed above, what is the precise evidential contribution of the PRS.PRT.? The "present tense" inference obtained with this type of morphology indicates that the PRS.PRT. has a [–Perfect] feature. The same conclusion results from an investigation of contexts in which the present perfect is used as an adjunct. In example (26) above, the only interpretation possible is that eventuality the PRS.PRT. makes reference to is simultaneous/ongoing with respect to the interpretation of the main predicate. We have also seen above that its imperfective character does not appear to be what is constructing IE, as PRS.PRT. forms are not interpreted imperfectively in evidential constructs. The proposal in this paper is that the contribution of the PRS.PRT. is in abstracting over the characteristic properties of an eventuality. This contribution is similar to its function in oneiric, imaginary, non-actuality contexts, as indicated by examples like (30):

(30) L-ai visat *scriind*.
CLT.3.SG.M.-have.2.SG. dream.PST.PRT. write.GER.
LIT. "You dreamt him writing".
"You dreamt of him writing".

The precise proposal is that in the present evidentials what is linked to the speaker's deictic center is the "abstract contour of the eventuality", the output of the PRS.PRT. And the function of *fi* is the same as in the perfect form.

(31)



In summary, I proposed in this section that the speaker's non-awareness of the core eventuality is what triggers IE interpretations. Various languages have various morphological devices for conveying this type of semantics. I have made a connection to present perfect as IE languages; following Izvoski's analysis (1997), I have shown that although Romanian does not contain a present perfect form in its indicative inventory, it can nevertheless assemble the necessary pieces to convey the same indirect evidential meaning. A crucial role is played by the auxiliary *fi*, which spells out the inclusion of either a perfect's resulting stage or of an "abstract state" to the speaker's deictic center.

5. Conclusion

This paper has examined one modal paradigm in the Romanian verbal system, namely the *presumptive*. This class can make use of all the modal auxiliaries in the language in order to convey indirect evidential semantics. The main question addressed refers to how this specific reading is mapped to the morphology. By making a parallel with languages that use the present perfect as an indirect evidential (Izvorski 1997), it has been shown that the aspectual heads of the presumptive structures can be interpreted in the domain or worlds, to indicate that the core eventuality does not hold at the speaker's deictic center. What is mapped to the speaker's deictic center is either the result (with the past participle), or the "abstract image" (with the present participle) of an eventuality. This is how the indirect evidential semantics is obtained.

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Toward a syntactic reinterpretation of Harris & Halle (2005)

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Harris & Halle (2005) present a carefully worked out analysis of certain non-standard Spanish phenomena involving pronominal clitics and the verbal plural morpheme *-n*. At issue are plural imperatives in combination with one or more object clitics. In this paper, I suggest that Harris & Halle's primarily morphological approach to these phenomena should be replaced by a more syntactic approach. The latter seems more revealing and more likely to tie in to other aspects of Spanish grammar (and to aspects of the grammar of other languages/dialects).

1. Harris & Halle's approach

Harris & Halle (2005, henceforth H&H) present a carefully worked out analysis of certain non-standard Spanish phenomena involving pronominal clitics and the verbal plural morpheme *-n*. In this paper, I will suggest, in agreement with Manzini & Savoia (2004), that their primarily morphological approach to these phenomena should be replaced by a more syntactic approach.

At issue for the most part are plural imperatives in combination with one or more object clitics. The Spanish plural imperatives in question, though second person in interpretation, are third person plural in form and in particular have the third person plural *-n* found in several verbal paradigms.[1] An example of such an imperative with a lexical DP object is:

(1) *Vendan el libro.*
sell *-n* the book

If the object is a pronominal clitic such as *lo*, the standard form is:

1. This recalls in part German in general having third person plural for second person polite, as well as Italian in general having third person (feminine) singular for second person singular polite.

(2) *Véndanlo.*
sell *-n* it

The object clitic follows the verb and its associated agreement morphology, as is generally true in Romance in affirmative imperatives.

In addition to (2), there is a non-standard possibility of having:

(3) *Véndanlon.*
sell *-n* it *-n*

in which the third person plural agreement morpheme *-n* appears twice. In both (2) and (3) this *-n* reflects agreement with the silent plural subject of the imperative. In the standard version (2), this *-n* immediately follows the verbal form *vén-da-*, in a familiar way. In the non-standard version (3), *-n* appears in addition following the object clitic, somewhat unexpectedly. H&H use for (3) the term 'reduplication'.

H&H use the term 'metathesis' to refer to another type of non-standard Spanish plural imperative, as in:

(4) *Véndalon.*
sell it *-n*

in which the *-n* in question appears following the object clitic, as it does in (3), but does not also appear following the verbal form itself.[2]

H&H's choice of terminology reflects their proposed analysis, in which the syntax is taken to produce the order of morphemes seen in (2), with just one *-n*. A morphological operation of partial reduplication then produces (3), in which *-n* is 'reduplicated'. A related morphological operation of metathesis, also starting from (2), produces (4), having the effect of switching the relative order of *-n* and *lo*.

H&H's proposal, elaborated within the D(istributed) M(orphology) framework (v. Halle & Marantz (1993)), has the property of creating a redundancy between morphology and syntax, insofar as having a morphological operation of metathesis able to change the relative order of *-n* and clitic (to produce (4)) amounts to having morpheme order regulated by both morphological and syntactic operations.[3]

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2. Note that in both (3) and (4) each morpheme is pronounced in regular fashion, without any morphophonological quirks. This appears to be true of all the relevant examples.

3. Metathesis seems akin to permutation, as in early generative syntax; for some recent discussion, see Lasnik et al. (2000).
On redundancy within DM, cf. also Manzini & Savoia (2004), with which the present proposal has much in common.

Similarly, having a morphological operation of reduplication that is not syntactic (and that is modeled on phonology) may turn out to be redundant with respect to syntactic copy constructions such as those involving two copies of the same object clitic, as found in various Romance dialects:

(5) (*) *Juan lo quiere hacerlo.*
Juan it wants to.do it

In standard Spanish this kind of example is not possible, but counterparts of it are possible in some Spanish, Catalan and Italian dialects.[4] (The appearance of more than one *-n* in examples like (3) may also be close, or closer, to (13)/(60) below.)

In addition to redundancy, H&H's proposal faces a problem with respect to restrictiveness. If metathesis can apply to (2) to produce (4) by inverting the order of *-n* and object clitic, why could metathesis not apply to (2) and disrupt the syntax in a different way, by inverting other pairs, incorrectly producing, for example?:

(6) **Véndnalo.*[5]

Although *venda* is composed of root *vend-* plus theme vowel *-a-*, metathesizing this -a- with -n is not possible.[6]

Nor is:

(7) **Avéndnlo.*

which would have been the result of metathesizing *-a-* with *vend* itself. H&H's formalism (which I am not reproducing here) would also, as far as I can see, allow

4. See Kayne (1989, (text to) note 34); also now Cattaneo (2009).

5. This example has, relative to Spanish, an unusual sequence of consonants, but the same facts hold even when the imperative stem is vowel-final. Thus alongside the well-formed:

(i) *Léanlo.*
read *-n* it

there is no:

(ii) **Lénalo.*

and similarly for:

(iii) **Alénlo.*

(iv) **Lénloa.*

(v) **Léloan.*

(vi) **Léanalo.*

(vii) **Léloanlo.*

(viii) **Anléanlo.*

6. On these theme vowels, see Massuet (2000).

there to exist a rule of metathesis switching the relative order of *-a-* with the pair in *-nlo*, incorrectly yielding:

(8) **Véndnloa.*

as well as one switching the relative order of the object clitic and the pair in *-an-*, incorrectly yielding:

(9) **Véndloan.*

A similar set of questions arises for their reduplication operation. If reduplication can, starting from (2), produce (3), why could it not also, starting from (2), produce:[7]

(10) **Véndanalo.*

via reduplication of *-a-*, or:

(11) **Véndloanlo.*

via reduplication of *lo*, or:

(12) **Anvéndanlo.*

via reduplication of *-an-*, etc.?

H&H go astray, I think, for several reasons. One is that they did not take into account the partial similarity between (3) and multiple agreement of the sort seen in Italian in:

(13) *Maria è stata lodata.*
Maria is been praised
"Maria has been praised."

in which two past participles, *stata* and *lodata*, agree with the same subject (the suffixal *-a* here is feminine singular, with no reflex of person). Another is that they probably didn't think that the syntax could see inflectional morphemes like *-n* (here they are on common ground with some syntacticians). A third possible reason is that they (again like certain syntacticians) probably thought that there is a clear boundary between syntax and morphology such that the relations between (2) and (3) and (4) had to fall on the morphological side of things.

An alternative view is that the operations and principles involved in what is usually called word-formation are, especially when it comes to inflectional

7. It may be relevant that H&H's proposed reduplication operation here is nonlocal, in the sense that the two *-n* in examples like (3) are not adjacent to each other. The status of the kind of reduplication that is local in the sense of adjacency I leave an open question.

morphemes like verbal plural *-n*, essentially the same as those involved in syntax. Morphemes are combined (by Merge) and ordered in essentially the same way that phrases are combined and ordered.[8,9] (Some DM work takes a position close to this one, but without completely disavowing morphology-specific operations such as 'fission'.)

That sub-word-level phenomena and phrasal phenomena are cut from one and the same cloth had already been suggested by Greenberg's (1966) Universal 27:

(14) *Universal 27*: Exclusively suffixing languages are postpositional. Exclusively prefixing languages are prepositional.

If Greenberg is correct here, the order of affix and stem/root must be regulated in a way close to (and strongly interacting with) the way in which the order of adposition and associated phrase is regulated.[10]

H&H 202 note that the metathesis and reduplication operations they propose must respect morpheme boundaries. Consider the non-standard:

(15) *Denlen* *eso.*
give- *n* him/her *-n* that

which is essentially like the reduplication example (3), although here the clitic *le* that is non-standardly followed by *-n* is dative rather than accusative. Close to (15) but parallel rather to the metathesis example (4), is:

(16) *Delen* *eso.*
give him/her *-n* that

H&H show that if bimorphemic *den* in (15) (*de* + *n*) is replaced by (singular) monomorphemic *ten*:

(17) *Tenle* *eso.*
hold him/her that
"Hold that for him/her."

then reduplication is impossible:

(18) **Tenlen eso.*

Similarly there is no counterpart to (16):

8. In a way that respects antisymmetry, if Kayne (1994) is correct.

9. See especially Koopman & Szabolcsi (2000) and Julien (2002), both of which question the relevance to syntax of the notion 'word' (cf. also Baker (1988), Manzini & Savoia (2002; 2007) and Myers (1987)).

10. On adposition order, see Kayne (2003, sect. 4).

(19) **Telen eso.*

since in *ten*, the final *-n* is part of the root.

H&H's claim that morpheme boundaries must be respected here is certainly correct. Yet it seems to me that, since their formalism is based on a phonological one (intended to cover cases of reduplication that they consider not to respect morpheme boundaries), they have no real account of (18) or (19), i.e. their formalism could have accomodated (18) or (19) had Spanish allowed them.

Similarly, H&H 202 note a sharp contrast having to do with:[11]

(20) *Háganlo mejor.*
do *-n* it better

(21) *Hagan lo mejor.*
do *-n* the best [thing]

When *lo* is an object clitic, as in the standard (20), some non-standard Spanish allows reduplication, with *-n* appearing twice, as in:

(22) *Háganlon mejor.*

as well as metathesis (in their terms), with *-n* appearing only once, following the clitic:

(23) *Hágalon mejor*.

On the other hand, when *lo* is a definite article, as in (21), non-standard Spanish allows neither reduplication:

(24) **Hagan lon mejor.*

nor metathesis:

(25) **Haga lon mejor.*

Again, though, as far as I can see, their formalism does not lead one to expect this difference between clitic and definite article to hold.

A syntactic perspective on these facts will lead to a more straightforward account. examples (18) and (19) are impossible because the plural *-n* at issue does not appear at all in a singular imperative like (17). examples (24) and (25) are (as will become clearer below) impossible because definite articles (in particular those that are part of a larger overt DP) do not move to higher positions in the

11. For a somewhat similar contrast, see De Vogelaer et al.'s (2001, (12)) discussion.

syntax with the freedom of object clitics, and cannot raise out of DP in a way that would have them precede the *-n* of plural subject agreement.[12]

2. Subdistinctions among clitics

H&H's morphological approach to non-standard Spanish (3), (4), (15), (16), (22) and (23) also misses (because it sees morphology as more separate from syntax than it in fact is) a generalization having to do with subdistinctions among object clitics. H&H 210 observe for (4) (and they suspect the same holds for (3)) that there are dialect differences with respect to the question of precisely which clitics are allowed to participate in ((3) or) (4).[13] They display their results as follows, for the object clitics *se, me, le, lo, la*:

(26) a. se
b. se, me
c. se, me, le
d. se, me, le, lo, la

The top line refers to the most prevalent type of dialect, which allows only *se* to precede plural *-n*. The bottom line refers to the least prevalent type (which allows all the listed clitics to precede *-n*). Put another way, *se* is the clitic that across dialects most readily allows (3) or (4), i.e. *se* is the object clitic that most readily appears preceding plural *-n*.

A non-standard example like (3), but with *se* is (from H&H 205):

(27) *Sírvansen.*
serve *-n* REFL *-n*
"Serve yourselves."

alongside the standard:

(28) *Sírvanse.*
serve *-n* REFL

The object clitic that next most readily allows non-standard (3) or (4), cross-dialectally, is *me*, as in (again from H&H 205):

(29) *Sírvanmen.*
serve *-n* me *-n*

12. This is so even if Uriagereka (1996a; 1996b) is more correct on Galician than Otero (1996).

13. Postma (1993, 5) points out that Judeo-Spanish has the *se* case.

corresponding to the standard:

(30) *Sírvanme.*
serve *-n* me

Least readily able to precede *-n*, cross-dialectally, are the accusative clitics *lo* and *la*,[14] as in (3) itself, repeated here:

(31) *Véndanlon.*
sell *-n* it *-n*

Put another way, although (31) is found in some varieties of non-standard Spanish, it is found in only a subset of those that allow (29), which in turn is found in only a subset of those that allow (27).

Why should object clitics show differential behavior in this fashion? H&H's framework provides no answer. The array in (26) is, however, familiar. It recalls the order of Spanish object clitics when they cooccur with each other, as discussed within a generative framework going back most prominently to Perlmutter's (1971) work.[15] The clitic *se* is the one that normally occurs first in a sequence of object clitics. The accusative clitics occur last in a clitic sequence.

Thus there is a correlation between the order of Spanish object clitics and their relative ability in non-standard dialects to precede plural *-n*. The earlier an object clitic occurs in a sequence of object clitics in Spanish, the more readily it can, across dialects, be followed by this *-n*.

The present, more syntactic perspective that I am pursuing can account for this correlation to a substantially greater extent than H&H's morphological approach, as I will now attempt to show. In so doing, I will need to broach at least two further questions of syntax. One concerns the constituent structure of clitic sequences. (Does a sequence of pronominal clitics form a constituent, or not?) The second concerns the status of plural *-n*. Let me begin with the first.

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14. Plural clitics are prohibited from preceding *-n* for reasons that may be phonological, as suggested in H&H's Footnote 14. Alternatively, there might be a link to the prohibition against plural *-s* in English deverbal OV compounds:

(i) an avid magazine(*s)-reader

and/or to the *se...los* and *no...los* phenomena discussed in H&H, Section 3.
The ability of third person accusative clitics to precede plural *-n* in some varieties of Spanish contrasts with the generalization proposed by Manzini & Savoia (2004) on the basis of Italian and Albanian dialects. Possibly, the third person character of *-n* itself is what allows a third person accusative to raise past it.

15. The limited divergence from this dominant clitic order discussed by Ordóñez (2002) is not directly relevant here since it is found only preverbally, while the H&H cases involve only postverbal clitics.

3. Clitic sequences

The array in (26) can be (partially) recast in the following terms:

(32) The object clitic *se* precedes *-n* more readily (cross-dialectally) than the other object clitics.

(33) The accusative object clitics *lo* and *la* precede *-n* less readily (cross-dialectally) than the other object clitics.

The claim that I will continue to develop is that these two generalizations in turn correlate directly with the fact that Spanish clitic order, as discussed by Perlmutter (1971), has *se* first and *lo/la* last.

This correlation between clitic order and the ability of a clitic to precede *-n* will turn out to rest in part on the constituent structure status of clitic sequences. The key question is whether a sequence of object clitics does or does not form a constituent.

A basic consideration is that there are a number of clear cases in which object clitics can visibly be 'split' (i.e. in which they clearly do not form a constituent), despite originating in the same simple sentence. A French example given by Martinon (1927, 302) is:[16]

(34) *Voilà ce qui l' en a fait se souvenir.*
here.is that which him thereof has made REFL to.remember
"Here's what made him remember it."

In this example, both the reflexive clitic *se* and the pronominal clitic *en* ('thereof') originate within the infinitive clause. Only the latter raises up to precede the causative verb *fait*, however. The former remains low, directly preceding the infinitive. Clearly, in such examples, *en* and *se* do not form a constituent.

Chenal (1986, 398, 399) contains two examples of split clitics in a Franco-Provençal auxiliary-participle construction:

(35) *T' an-të prèdzà-nen?*
you.DAT-have they spoken thereof
"Have they spoken to you of it?"

16. In this example, *en* comes to precede *se*, which is never possible in a simple sentence:

(i) *Jean s'en souvient.*
Jean REFL thereof remembers
"Jean remembers it."

(ii) **Jean en se souvient.*

For relevant discussion, see Kayne (1975, Chapter 6).

(36) *T'an-të deut-lo?*
you.DAT-have they said it
"Have they said it to you?"

In both of these, the dative clitic *t'* is raised to the left of the auxiliary *an* ('have'), while the other object clitic (*nen* or *lo*) stays lower down, in a position past which the embedded past participle raises.[17] Again, it is clear that *t'* and *nen* or *lo* do not form a constituent in these examples.

Although contemporary French allows split clitics in causatives, as in (34), it does not otherwise allow them, e.g.:

(37) *Jean veut te les montrer.*
Jean wants you.DAT them to.show
"Jean wants to show them to you."

In this infinitival example, the clitics are not visibly split, nor can they be:

(38) **Jean te veut les montrer.*

(39) **Jean les veut te montrer.*

However, examples of split clitics with non-causative infinitives from seventeenth century French have been brought together by de Kok (1985, 594), and there are also modern dialect examples.[18] (Contemporary French itself does not allow these if only because it does not allow clitic climbing with infinitives at all (outside of causatives).)

When two (or more) clitics are split as in (34)–(36) or in seventeenth century French or in dialect counterparts of (38) or (39), those clitics obviously do not form a constituent.

On the other hand, when two object clitics are adjacent, as in (37), the correct constituent structure is less immediate. In the spirit of Kayne (1994, sect. 4.3), Zanuttini (1997, 21), Stjepanović (1998), Terzi (1999), Manzini & Savoia (2002), Ordóñez (2002) and Săvescu-Ciucivara (2007; 2009), however, let me adopt:

17. Similar examples have been attested for the nearby dialects studied by R. Harris (1969). See in addition Bürgi (1998) on what she calls 'distribution répartitive'; the fact that her Vaudois French is more restrictive than the dialect described in Reymond & Bossard (1979) with respect to the question of which clitic can go higher remains to be understood.

18. Cf. the preceding footnote and the references cited in Kayne (1989, note 34). It needs to be ascertained whether any of the Occitan languages fall into this class.
For some discussion of restrictions that limit the range of cases in which clitics can be visibly split (including in Spanish), see Kayne (1991, sect. 1.3).
On split clitics, v. also Franks & King (2000, 243, 247, 334).

(40) There are instances of adjacent clitics that are split (i.e. that fail to form a constituent).

Everybody would agree that there are some such instances, e.g. in the Italian example:

(41) *Farlo mi farebbe piacere.*
to.do it me would.do pleasure
"It would give me pleasure to do it."

where the clitic *lo* is embedded within the subject infinitive and the clitic *mi* is part of the matrix. *Lo* and *mi* in this example are adjacent, but clearly do not form a constituent.

In (37), on the other hand, both clitics are within the embedded infinitival sentence, and similarly for:

(42) *Me les montrer serait une bonne idée.*
me them to.show would.be a good idea
"To show me them would be a good idea."

All seven of the authors just cited take there to be at least some cases like (37) or (42) in which (two) adjacent clitics do not in fact form a constituent, and similarly for simple finite sentences with two (or more) clitics, such as:

(43) *Jean te les montrera demain.*
Jean you them will.show tomorrow

In this kind of finite example, too, there are some cases in which there is reason to believe that the two clitics are split.

Of the authors just mentioned, Manzini & Savoia (2002) take the strongest position to the effect that all clitics are split, i.e. that sequences of clitics never form a constituent. Possibly, that is too strong position to take (but possibly not).[19] For the purposes of this paper, the following intermediate position will be sufficient:

(44) Any pair of clitics that can cooccur can potentially be split.

(With a key question of course then being what the conditions are under which this can happen.) Take, for example, the pair *te lo* or *me lo*, as in simple Spanish sentences like:

(45) *Juan te lo da.*
Juan you it gives

19. Cf. Cardinaletti (2008a) and Cattaneo (2009, Chapter 3) for recent arguments in favor of the existence of some instances of clitic clusters.

(46) *Juan me lo da.*

According to (44), *te* and *lo* (or *me* and *lo*) in such examples might or might not be split. The case in which they are not (if such cases exist), i.e. in which they form a constituent (to the exclusion of the verb), would probably not be relevant to what follows.[20] Consider, then, the case in which they are split.

Let us set aside the (remote) possibility that *te* or *me* in such split clitic sentences forms a constituent with the subject *Juan* to the exclusion of everything else. If that is correct, then, by antisymmetry, *te* or *me*, since it precedes *lo*, must asymmetrically c-command *lo* in (45)/(46).[21] This fits sentences like (35) and (36) in Franco-Provençal, too, as well as sentences in those Italian dialects that allow preverbal *te/me* and *lo* to be separated by a negative morpheme, as in the Cairese (Ligurian/Piedmontese, NW Italy) example:[22]

(47) *U me n le da 'nenta.*
he me NEG it gives not

A key step toward understanding the Spanish facts brought to light by H&H is, I think, to see the similarity between sentences such as (47) and examples of theirs (H&H 206) that contain two object clitics, e.g.:

(48) *Dénmenlo.*
give *-n* me *-n* it

and in which the two object clitics are separated by an instance of plural *-n*. A related example also given by H&H 206 is:

(49) *Démenlo.*
give me *-n* it

again with plural *-n* separating the two clitics. (The absence in (49) of the first of the two *-n* morphemes present in (48) is not relevant here.)

In both (48) and (49), the clitic *me* precedes a plural *-n* that the other clitic *lo* follows. This is very much like what we see in (47), modulo the difference between the plural morpheme *-n* in (48) and (49) and the negative morpheme *n* in (47). In all of (47)–(49), as in the discussion of ((45) and) (46), I take *me* to asymmetrically c-command *lo* or *le*.

20. If *te lo/me lo* can be a constituent, questions will arise as to the internal structure of that constituent.

21. Or, conceivably, a remnant phrase containing *te* or *me* but no other pronounced material.

22. Example from Parry (1997) as discussed by Zanuttini (1997, 20), that I have slightly altered to bring out the individual morphemes more clearly.

There is of course, in addition to the plural vs. negative morpheme one, a second difference between (47) and (48)/(49), namely that in the latter pair, the (imperative) verb precedes the two clitics (and the intervening *-n*), while in (47) the (non-imperative) verb follows the two clitics (and the intervening negative morpheme). In the spirit of the tradition illustrated by Emonds (1978), Pollock (1989) and others, I take this second difference to be due to a difference in verb movement that can be factored out, leaving us with an even more straightforward parallelism between (47) and (48)/(49).

The difference in verb movement here is itself a familiar one, insofar as there is a substantial tradition that takes Romance imperative verbs to move particularly high.[23] I draw from this the conclusion that (48) and (49) are to be understood as having a derivation that prior to imperative verb movement contains a stage like:

(50) *me -n lo de(n)*

in which *me* asymmetrically c-commands *lo*, just as in (47) *me* asymmetrically c-commands *le*.

A further natural conclusion is that in (50) and (48)/(49) the *-n* separating the two clitics asymmetrically c-commands the second clitic *lo* and that that *-n* is in turn asymmetrically c-commanded by the first clitic *me* (which is most likely in a specifier position higher than the position of *-n*).[24]

This further conclusion leads to consideration of a more specific parallelism between (47) and (48)–(50). In the Ligurian/Piedmontese dialects in question, accusative third person clitics can never precede negation (Zanuttini (1997, 18)), in contrast to first and second person and reflexive clitics. This strongly recalls those varieties of Spanish characterized by line (b) of (26) above and in which *se* and *me* can precede plural *-n*, but in which accusative third person clitics cannot precede plural *-n*.[25]

This Ligurian/Piedmontese fact and the parallel Spanish facts for the relevant dialects lend themselves to the following interpretation, much as in Zanuttini (1997, 21). In these languages/dialects, first and second person and reflexive clitics move higher than accusative third person clitics.

This difference in landing site has two strongly linked effects. The first effect is seen in H&H's (26), which shows how first and second person and reflexive clitics

23. Cf. Zanuttini (1997, 129) and references cited there.

24. Possibly, *me* is left-adjoined to *-n*, but that seems appreciably less likely; see (most of) the seven references cited earlier.

25. Second person *te* does not appear at all in (26) due to an irrelevant Condition B/overlapping reference effect that bars a second singular object from occurring with a plural imperative – cf. H&H 211.

come to precede (i.e. raise to a position higher than) plural *-n* more readily than accusative third person clitics, and is simultaneously seen in the Ligurian/Piedmontese facts that are parallel to (26), with negation 'standing in for' plural *-n*, such that first and second person and reflexive clitics can raise to a higher position than negation in a way that accusative third person clitics cannot.

The second effect is the very fact that in both the Ligurian/Piedmontese dialects at issue and in Spanish, even in the absence of negation or of this plural *-n*, first and second person and reflexive clitics invariably precede accusative third person clitics when the two types cooccur.[26]

As far as I can see, the unification of effects given in the previous paragraphs in terms of landing site differences is not expressible at all from the perspective of H&H's analysis.

As usual, there remain further questions to be answered from the present perspective. How, for example, is one to understand the difference between those varieties of Spanish characterized by (26a,b), which do not allow accusative third person clitics to precede *-n*, and those characterized by (26d), which do? Whether one should think in terms of a higher possible landing site for accusative third person clitics in the (26d)-type dialects, or alternatively in terms of a lower position in those dialects for *-n* itself is unclear and I will leave the question open.

H&H's (26) shows an additional division within Spanish object clitics that I have not yet touched on. Third person dative *le* can precede *-n* more readily than accusative third person clitics can, but less readily than reflexive *se* can. Within Spanish it is difficult to pursue the contrast between third person dative and third person accusative, since the two types of clitics never cooccur.[27] Let me very briefly pursue, rather, the difference between *le* and *se*. Here, too, there is a sharp correlation with ordinary clitic order in Spanish (i.e. even in the absence of *-n*), in that when *se* and *le* cooccur, *se* always precedes *le*. As before, I conclude that the landing site of *se* is higher than the landing site of *le* (probably in all Spanish) and that in some dialects of Spanish this difference in landing site is visibly reflected in the fact that *se* can precede *-n*, but *le* cannot.[28]

26. A point made by Zanuttini (1997, 21) for Italian.

27. For recent relevant discussion, see Manzini & Savoia (2002).

28. Ordóñez (2002, 214) notes that even those varieties of Spanish in which *me se* is a possible order, *le se* remains impossible. (He also notes that any Romance language/dialect that has (the equivalent of) *le se* also has (the equivalent of) *me se* and *te se*.)

4. The status of plural *-n*

H&H 205 point out that the *-n* morpheme that appears following object clitics in various dialects in positive imperatives, as in the examples discussed, never appears in negative imperatives. A pair of standard Spanish positive and negative imperatives, with *-n* directly following V, is:

(51) *Háganlo.*
do *-n* it

(52) *No lo hagan.*
NEG it do *-n*

The positive one of these has a non-standard counterpart with post-clitic *-n*, as seen earlier in (22), essentially repeated here:

(53) *Háganlon.*
do *-n* it *-n*

The negative one does not:

(54) **No lon hagan.*
NEG it *-n* do *-n*

The key difference appears to reside in the postverbal position of the clitic in positive imperatives, as opposed to its preverbal position in negative imperatives. Put another (and better) way, the postclitic *-n* in question is itself allowed to appear postverbally in some dialects, as in (53), but in no dialect is it allowed to appear preverbally, as shown by the general impossibility of (54).

This way of looking at things is supported by the fact that postclitic *-n* never appears preverbally in non-imperatives, either:

(55) *Lo(*n) hacen.*
it (*-n*) they.do *-n*

The question now is why this postclitic *-n* is limited to occurring postverbally, across dialects of Spanish.

To a certain extent, the answer appears to be straightforward. In standard Spanish, this plural agreement *-n* is always postverbal:

(56) *Los chicos hablan inglés*
the kids speak *-n* English

(57) **Los chicos nhabla inglés.*

Another way of putting it is that this *-n* has the familiar property that we call being a verbal suffix. Somewhat more precisely put, *-n* requires that a (nearby, tensed) verb move up to its (immediate) left. This might be via head-adjunction, or it might, thinking especially of Koopman (2005) on Korean *tul*, be via (remnant) phrasal movement, which I will take to be the case (though what follows might be recastable in head-movement terms).

To say that the *-n* in question is a verbal suffix, and not just a suffix expressing plurality, is to think in part of the fact that *-n* never appears as a plural morpheme with adjectives or nouns:

(58) *cinco chicos/*chicon inteligentes/*inteligenten*
five kids intelligent

To say, more specifically, that *-n* induces verb (phrase) movement is in effect to say that the verb need not (contrary to the usual sense of the term 'suffix') appear to the immediate left of *-n*, insofar as the verb (phrase) might in some cases be able to move even further to the left. That is in fact exactly what happens, I think, in examples like (53). We reach, at a certain stage of the derivation:

(52) *lo -n hagan*

There are two instances of *-n*. The lower one has already induced movement of the verb *haga* to its (immediate) left. The higher *-n* is merged subsequently and the object clitic, in the relevant dialects and depending on the choice of clitic, moves past it, yielding (59).[29] As shown by the impossibility of (54) and (55) with post-clitic *-n*, a derivation that stopped at (59) would not yield an acceptable sentence. The reason is that in (59) the higher *-n* has not yet been properly licensed, i.e. it has not yet induced verb (phrase) movement. When verb (phrase) movement does apply to (59), the higher *-n* has met its requirements and the resulting sentence (53) is acceptable.[30]

29. If moving past the higher *-n* is akin to non-causative, non-participle clitic climbing, then the expectation is that no French dialect will be able to match those Spanish dialects having an object clitic followed by *-n*. Ultimately, one will need to bring into the picture colloquial French sentences like:

(i) *Donne-moi-z'en.*
give me *z* thereof

on which, see Rooryck (1992) and Laenzlinger (1998, sect. 3.1.1).

30. Possibly, *hagan* moves first to the left of the higher *-n* and subsequently, after the clitic moves to the left of *hagan*, *hagan* moves further to the left of the clitic.

Note that each *-n* is merged as an independent morpheme in the ordinary syntax; no morphemes are combined in any pre-syntactic fashion.

It should be noted in passing that this analysis of Spanish plural *-n* successfully distinguishes it from Ligurian/Piedmontese negative *n*, which can, as in (47), follow a preverbal object clitic in a way that Spanish plural *-n* never can. The reason is that this negative *n* never induces or needs to induce verb (phrase) movement.[31]

The two instances of *-n* in (53)/(59) represent two instances of third person plural agreement with the (silent) subject of the imperative. In displaying two instances of the same type of agreement with one subject, (53)/(59) recalls the Italian example (13) mentioned earlier and repeated here:[32]

(60) *Maria è stata lodata.*
Maria is been praised
"Maria has been praised."

in which two past participles agree with one subject. In (60), it is natural to think that the subject *Maria* has moved up stepwise, licensing agreement at each step. The same might also hold of (53)/(59), in which the silent imperative subject might have moved up, licensing the phi-features of *-n* in stepwise fashion. Alternatively, thinking again of Koopman (2005) on Korean, it might be that in (53)/(59) the verb and subject move up together, with the subject licensing each *-n* in turn from its specifier position within the moved verbal consituent. I leave this question, which bears on how many uninterpretable features *-n* has, open.[33]

H&H 206 note the existence in some non-standard Spanish of imperatives with three instances of *-n*:

(61) *Dénmenlon.*
give *-n* me *-n* it *-n*

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31. Leading to the question why negative morphemes are often preverbal in Romance (v. Zanuttini (1997)), while the verbal plural agreement *-n* never is (as far as I know).

32. A striking instance of multiple agreement within DP is found in Italian in:

(i) troppi pochi libri ('too few books')

in which *tropp-* agrees with *libri* despite not being a modifier of it; see Kayne (2002, sect. 1.8) and Corver (2006). For recent discussion of multiple definite articles in Greek and of related Germanic agreement phenomena, see Leu (2008).

33. An open question for the time being is why there is (apparently) no instance of *-n* in imperatives following an adverb:

(i) **Haga rápidamente-n eso!*
do rapidly-*n* that

despite there being instances of (diminutive) agreement following an adverb in Occitan – Camproux (1958, 332); cf. also Koopman (2005, note 17) on Korean.

Pursuing the preceding reasoning, this kind of example can be understood in terms of a derivation involving three (remnant) verb (phrase) movement steps. As in (59), we reach (omitting traces/copies):

(62) *lo n den*

which in turn leads to:

(63) *den lo n*
n den lo n
me n den lo n
den me n lo n

with successive-cyclic-like movement of *de* + *n*. Remaining to be understood is why Spanish has no roll-up movement in imperatives of the sort discovered by Terzi (1999) for Greek. Were Spanish like Greek, the following would be possible in addition to (61):

(64) **Dénlo(n)me(n).*

though to judge by H&H's discussion (64) appears not to be found in any variety of Spanish.

Although the plural *-n* of the various Spanish imperative examples under discussion recalls the *-a* of Italian (60) in showing more than one instance of the same kind of subject agreement in a 'simple' sentence, there is a difference having to do with what H&H call metathesis examples such as (4), repeated here:

(65) *Véndalon.*
sell it *-n*

in which there is a non-standard instance of *-n* following an object clitic, but in which the normal *-n* following the verb itself fails to appear, contrary to:

(66) *Véndanlon.*
sell *-n* it *-n* (=(3))

The Italian example (60) has no counterpart in which one of the *-a* agreement morphemes fails to appear:[34]

(67) **Maria è stat vista.*

(68) **Maria è stata vist.*

34. A question is whether these are to be found in any Romance language/dialect.

Nor, to judge by H&H's discussion, is the absence of *-n* following V in (65) possible in the absence of the *-n* following the object clitic, in these plural imperatives. The following is possible (H&H 195), but only as a singular imperative:

(69) *Véndalo.*
sell it

The impossibility of (69) as a plural imperative is presumably due to the same factor that requires *-n* to appear with a plural subject in:

(70) *Los chicos habla*(n) inglés.*
the kids speak *-n* English

There must be an agreement morpheme in finite and in imperative sentences in Spanish (and third person plural must be spelled out as *-n* in the relevant paradigms).[35] This leaves open, however, the question whether (65) contains two instances of *-n*, one of which is silent, or just one instance of *-n*. In part because allowing a silent counterpart of plural *-n* would probably ultimately make it harder to understand the absence of (67)/(68), and in part because of further data from H&H, I tentatively prefer the latter option, i.e. the idea that (65) contains just one agreement morpheme.[36]

The further data alluded to include:

(71) *Véndamelon.*
sell me it *-n*

with one *-n* following two object clitics. H&H 208 note that such examples are accepted only by speakers who also accept:

(72) *Véndamenlo.*
sell me *-n* it

with one *-n* between two object clitics. From the perspective of the proposals concerning (53) and (61) above, this fact can be understood as follows. Both (71) and (72) contain the non-standard higher *-n* of (59), without containing the ordinary/standard lower one. As discussed after (50), this higher *-n* (which may be akin to

35. If the *-a* in the singular counterpart:

(i) El chico habla inglés. ('the kid speaks English')

is a theme vowel, and not an agreement morpheme, then Spanish must have a silent agreement morpheme in such third person singular sentences – cf. Harris (1969) (vs. Manzini & Savoia (2004)).

36. Possibly, the other option, with a silent plural agreement morpheme, is excluded because agreement morphemes are unable to move (apart from being pied-piped by something else).

the agreement that follows complementizers in some Germanic) can be crossed with differing degrees of facility by different object clitics.[37] The fact that (71) is less widely accepted than (72) is due to the fact that the object clitic *lo* has raised past this high *-n* in the former, but not in the latter (and that cross-dialectally *lo* cannot raise across this *-n* as readily as *me* – cf. the discussion of (26)).[38]

The high subject plural agreement *-n* at issue has so far been seen following an object clitic only in imperatives. In non-imperative finite sentences in Spanish, object clitics always precede the finite verb, which has the effect of prohibiting the appearance of this *-n*, for reasons given in the discussion following (55). Spanish object clitics also (apart from clitic climbing) follow the verb when the verb is an infinitive or a gerund and in fact H&H 213 give examples with a gerund and with an infinitive in which *-n* follows an object clitic:

(73) *Están besándosen.*
they.are kissing se *-n*
"They are kissing each other."

(74) *Quieren vermen.*
they.want to.see me *-n*

They note that cross-dialectally these gerund and infinitive examples with postclitic *-n* do not seem to cluster with the imperative examples of postclitic *-n*. They also note that in these, as opposed to the imperative cases such as (71) and (72), the first *-n* cannot be omitted:

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37. For Germanic complementizer agreement, which cooccurs with verb agreement with the same subject, see, for example, de Vogelaer et al. (2001). It may also be that the high Spanish *-n* under discussion is itself in part akin to Korean *tul*, as analyzed by Koopman (2005).
Brandi & Cordin (1989, 132) have an example from Fiorentino in which what raises across this high *-n(o)* is a subject clitic.

38. Although Spanish object clitics show differential facility in raising past the non-standard high *-n* in question, they do not display any differences, as far as I know, when it comes to raising past a matrix verb in so-called restructuring sentences like:

(i) *Juan me quiere ver.*
Juan me wants to.see

(ii) *Juan lo quiere ver.*
Juan him/it wants to.see

suggesting that it is the high landing site, relative to the normal position of the verb, that matters. Nor are split clitics possible in Spanish restructuring sentences:

(iii) *Juan me lo quiere dar.*
Juan me it wants to.give

(iv) **Juan me quiere darlo.*

For recent discussion of restructuring, see Cinque (2006).

(75) **Está besándosen.*

(76) **Quiere vermen.*

These two differences between the gerund/infinitive cases and the imperative cases suggest that in the former pair, i.e. in (73) and (74), the second *-n* is located within the embedded gerund or infinitive phrase. H&H think not, on the grounds that this second *-n* is impossible if the object clitic is absent (even when the first *-n* is present):

(77) **Están comiendon.*
they.are eating *-n*

(78) **Quieren comer(e)n.*
they.want to.eat *-n*

But this property is arguably shared with the high *-n* of imperatives, for which there is no clear example without a preceding object clitic. In particular, if imperatives could contain a high *-n* with no object clitic preceding it, we would be able to have imperative examples like the following (in which the second *-n* would be the high one):

(79) **Hagann eso!*
do *-n -n* that

A unified account of (77)–(79) might be available if this high *-n* (the second one in each example) requires a (certain kind of) filled specifier.[39]

The conclusion, then, is that those speakers who allow (73) and (74) allow this high *-n* to appear within a non-finite embedding and that that parametric property does not necessarily correlate with that *-n* being able to appear within imperatives. On the other hand, it seems likely that the way in which the object clitic in (73) and (74) comes to precede *-n* tracks the way in which it does in (71) and (72). If so, we expect that (73) and (74) would be acceptable with a third-person accusative object clitic only to a proper subset of those accepting (73) and (74) with *se* or with *me*.[40]

It is not clear from H&H's discussion whether there are any varieties of Spanish that have postclitic person agreement morphemes parallel to the postclitic number morpheme *-n*. If there are not, one would want to understand the reasons. It is

39. Which in turn might follow if Kayne (1998a) was correct to propose that functional heads must always attract something overtly to their Spec, though the contrast between these Spanish facts and the inflected infinitives of Portuguese needs to be looked into further; on the latter, see Raposo (1987).

40. H&H do not say whether this is so or not.

in any event notable that Manzini & Savoia (2004) give Italian dialect (imperative) examples with exactly that, for example, from a Calabrian dialect:

(80) *da -mə- ʻtɛ -llə*
give me *tɛ* it

where the third morpheme is a second person plural morpheme (agreeing with the silent subject of the imperative), in a way that makes (80) look very much like (72), so that the derivation of (80) should probably track that of (61) fairly closely.[41] There is, though, one difference worth mentioning between the derivations suggested by Manzini & Savoia and those favored here (cf. the discussion of (50)), namely that, for them (as for Sportiche (1995)), object clitics are inflectional heads merged in the sentential projection line, whereas I have been taking object clitics to be moved into a high(er) Spec position from an original merge position within the VP.[42]

The question arises whether there are non-agreement functional heads that can split two object clitics in the manner of (72) or (80). To judge for Spanish by a quick Google search, there are quite a number of examples of:[43]

(81) *compráserlo*
buy *se -r* it

(82) *dáserlo*
give *se -r* it

in which the two object clitics *se* and *lo* are separated by the infinitival morpheme *-r*, which in the standard form would precede both clitics, as in:

(83) *comprárselo*

(84) *dárselo*

The existence of these (assuming them not to be a quirk of Google) and similarly of some Italian (Google) counterparts:

(85) *compraglierla*
buy him *-r* it

(86) *daglierla*
give him *-r* it

41. The subject of the imperative might, thinking of English, be PRO rather than pro.

42. If pronominal clitics are nominal, as opposed to verbal, then Manzini & Savoia's position (as well as Sportiche's) is incompatible with Kayne's (2008a) claim that nouns do not project.

43. How to reconcile with Cardinaletti (2008b) these and all the earlier imperative examples of split postverbal clitics needs to be looked into.

alongside the standard:

(87) *comprargliela*

(88) *dargliela*

supports the idea that the infinitival morpheme *-r* is merged independently of the verb, whether it ends up next to it or not, and that in some varieties of Spanish and Italian infinitival *-r* can be merged high and can participate in derivations along the lines of those suggested for plural *-n*.[44]

5. Conclusion

A more syntactic approach to the range of phenomena discussed in this paper (which do not exhaust those discussed in H&H) seems more revealing and more likely to tie in to other aspects of Spanish grammar (and to aspects of the grammar of other languages/dialects) than the more morphological one developed by H&H. In certain respects this is similar to the argument in Kayne (2008b) that a certain instance of apparent morphological syncretism in North Italian object clitics is best reinterpreted in terms of a single clitic that sometimes cooccurs in the syntax with another, silent clitic (and sometimes does not). There is also a point of contact with the argument in Kayne (1998b) against covert/LF movement, insofar as H&H's use of morphological metathesis can also be seen as redundant relative to standard syntactic movement.[45]

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44. On the other hand, a quick Google search does not turn up corresponding non-standard examples with gerunds (in which the gerundive *-ndo* would split two object clitics), recalling the discussion of (6)–(12) above, as well as Manzini & Savoia's (2004) conjecture that no temporal, modal or aspectual morpheme could split two object clitics in this way. Perhaps this suggests that the infinitival *-r* has more in common with agreement morphemes along the dimension of (un)interpretability than these other functional morphemes do.

45. Cf. Chomsky (2008).

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The puzzle of subjunctive tenses*

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Building on previous findings on tense construals and on constraints on modal-temporal configurations, this paper presents a semantic analysis of subjunctive tenses in Spanish which departs from the defective-tense hypothesis. The subjunctive tense system is analysed in a parallel way to the indicative system, and the peculiarities of the imperfect subjunctive are shown to mirror those of the imperfect indicative. Key to the analysis is the notion of 'fake past', a tense anchored to an interval *Tx* distinct from the time of utterance, which can be either temporally or modally bound. The semantic contribution of subjunctive tenses is examined first in root contexts and subsequently in argument clauses. The possibility of temporal disharmony and its limits are interpreted on the basis of Sequence of Tense principles and of temporal restrictions on modal bases.

1. Introduction

Research on mood has been largely dominated by the issues of subjunctive licensing and subjunctive meaning. By contrast, the temporal configurations associated with subjunctive forms have attracted comparatively little interest. This is hardly surprising for languages in which the stock of subjunctive forms is radically impoverished, as is the case in contemporary French. As shown in examples (1a–b), contemporary non-literary French contrasts a non-anterior (simple) and an anterior (compound) form for the subjunctive, and the distribution of these forms is entirely independent from the tense of the matrix predicate in embedding contexts. As shown in examples (2a–c), the whole burden of rescuing deviant temporal-modal configurations, such as 'desires about the past', falls on the (conditional) morphology of the matrix predicate, and has no reflection in the subjunctive forms.

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(1) a. *Il est possible qu'elle parte/ soit partie.*
"It is possible that she leaves/ left."

b. *Il était posible qu'elle parte/soit partie.*
"It was possible that she (should) leave/had left."

(2) a. *Il veut qu'elle parte/*soit partie.*[1]
"He wants her to leave/*have left."

b. *Il a voulu qu'elle parte/*soit partie.*
"He felt the need/decided for her to leave/*to have left."

c. *Il aurait voulu qu'elle parte/soit partie.*
"He'd have preferred for her to leave/to have left."

Italian and the Ibero-Romance languages have a richer stock of subjunctive forms. One of the reasons for the lack of interest in their temporal contribution is arguably the fact that the subjunctive is a dependent mood appearing mainly in Sequence-of-Tense contexts. The success of the *defective-tense* hypothesis advanced by Picallo (1984/1990) certainly bears some responsibility for this lack of interest. Although it has been widely acknowledged that Picallo's correlations only hold for a restricted type of subjunctive contexts, the idea of tense-defectivity has proven particularly resistant, and shows up in different guises in recent work (cf. for instance Giorgi & Pianesi 2000, Giorgi 2006).

This paper attemps to formulate the basic descriptive generalizations concerning the distribution and interpretation of subjunctive tenses in Spanish, both in root and argument clauses. I will argue that specific temporal constraints on subjunctive clauses are not uniform, but depend crucially on the type of context licensing or selecting the subjunctive. This is to be expected against the background of the insight formulated by Quer (2006: 661) in a recent overview article about subjunctives:

(3) subjunctive does not constitute a syntactically uniform object, either cross-linguistically or even within the same language. [...] some allegedly subjunctive-related phenomena show up in a subset of the subjunctive clauses in a language, but not in all of them.

1. In order to simplify the exposition, I will systematically ignore throughout the paper the possibility of future perfect interpretations for perfect forms. These interpretations only arise (a) in the presence of adverbial expressions denoting future intervals or (b) in the presence of future temporal clauses. As one of the reviewers remarks, *Il veut qu'elle soit partie quand il rentrera* 'He wants her to have left by the time he arrives' is a perfectly acceptable French sentence in a future perfect interpretation. In such cases, the anchor for the perfect is the (future) time of the temporal modifier. On the general issue of future perfect interpretations, see Demirdache & Uribe-Etxebarria (2008).

If the subjunctive itself is not a uniform object, we have no reason to expect any uniformity in the constraints on temporal dependencies for subjunctive clauses: it is not the fact of the clause being in the subjunctive mood, but the semantic properties of the context that will largely determine these constraints. I will try to show that the distribution and interpretation of subjunctive tenses follows from the interaction of their temporal contribution with some general principles governing Sequence-of-Tense, on the one hand, and admissible temporal-modal configurations, on the other. This interaction constitutes a powerful probe for a better understanding of the semantics of subjunctive contexts, which are not a uniform semantic class.

The paper is organized as follows. In Section 2, I will compare the tense-aspect system of indicative and subjunctive forms in Spanish. In the analysis I propose, both systems turn out to be more similar than usually assumed. In particular, the peculiarities of the past (imperfect) subjunctive roughly mirror those of the imperfect indicative. I will first illustrate the way the hypothesized system works in root contexts. In such contexts, temporal dependencies cannot be part of the explanation, because there is simply no overt higher tense. In Section 3, I will take up the issue of subjunctive tenses in argument clauses, concentrating on the possibility or impossibility of violations of temporal harmony between the tense of the matrix and the tense of the subjunctive clause. The explanations proposed for the emerging patterns of temporal constraints lead to a refinement of previous classifications of subjunctive contexts, both in the case of future-oriented matrix verbs (i.e. volitionals, directives and causatives) and in the case of configurations giving rise to Double-Access-effects.

2. The tense-aspect system of Spanish

2.1 The indicative paradigm

The analysis I propose for Spanish tense and aspect is based on the neo-Reichenbachian model developed by Demirdache & Uribe-Etxeberria (2007). In this model, Tense is a relation between the time of which a temporal property (occurrence of an event, state) is said to hold and a higher anchor. In matrix contexts, the latter is normally the time of speech (*Utt-T*). The former – the time of assertion (*Ast-T*) – corresponds both to the Reichenbachian Reference Time and to Smith (1991)'s 'interval of visibility'. Possible relations are anteriority (anchor after anchored), inclusion or coincidence, and posteriority (anchor before anchored). These possibilities are replicated for Aspect, which expresses a relation between the time of the event (*Ev-T*) and *Ast-T*. A central feature of the analysis I am developing is the

assumption that some specific tenses do not have *Utt-T* as anchor, but an interval I will label *Tx*. The introduction of this interval is designed to capture the anaphoric and modal properties of tense forms exhibiting imperfect morphology, in particular the fact that some uses of the so-called imperfective past do not express anteriority, but a special coincidence relation with their anchor. The analysis of Spanish indicative tenses is summarized in Table 1. Tenses are illustrated with the 1st Pers. Sing. of the verb *cantar* 'sing', aspects with aspectualized infinitival forms.

Since some aspects of this analysis differ from most current analyses, it is necessary at this point to briefly elaborate on them. Firstly, as I have argued elsewhere, aspect is not expressed by simple tenses in Spanish, with the notable exception of the 'simple perfect', a perfective past tense requiring for *Ast-T* to include *Ev-T* (Laca 2005). No other simple tenses specify the relation between *Ast-T* and *Ev-T*; they are aspectually neutral or underspecified (Smith 1991, Reyle, Rossdeutscher & Kamp 2007; cf. also Schaden 2007:Chapter 3). However, the relationship between *Ev-T* and *Ast-T* is not totally unconstrained in aspectually neutral forms. Possible mappings of a temporal property onto the time of which this property is said to hold are constrained (a) by the temporal structure of the described eventuality, according to a very general pattern which essentially bans progressive-like interpretations of non-homogeneous predicates, which do not hold of subintervals (Demirdache & Uribe-Etxeberria 2007); (b) by polarisation effects due to the existence of aspectually marked competing forms (Laca 2005). The relationship between *Ev-T* and *Ast-T* is explicitly expressed in Spanish by a set of aspectual periphrases exhibiting a characteristic behaviour (Laca 2005). Among them, only

Table 1. Tense and grammatical aspect in Spanish

	After	**Within**	**Before**
Tense	*canté* (SIMPLE PERFECT) Utt-T >Ast-T + Ast-T ⊇EvT *cantaba* (IMPERFECT) Utt-T >Ast-T, ASP ∅	*canto* (PRESENT) Utt-T ○ Ast-T, ASP ∅ *cantaba* (IMPERFECT) Tx ○Ast-T, ASP ∅	*cantaré* (FUTURE) Utt-T < Ast-T, ASP ∅ *cantaría* (CONDITIONAL) Tx < Ast-T, ASP ∅
Aspect	*haber cantado* (have + V_PP) (PERFECT) Ast-T >Ev-T *acabar de cantar* (end + of + V_Inf.) (IMMED. ANTERIORITY) Ast-T >Ev-T	*estar cantando* (LOC-be + V_Ger.) (PROGRESSIVE) Ast-T ⊂ Ev-T	*ir a cantar* (go + to + V_Inf.) (PROSPECTIVE) Ast-T < Ev-T

'compound tenses', i.e. periphrastic combinations formed with *haber* + PP, which carry the main bulk of the expression of secondary anteriority relations, will be considered in this paper.

Secondly, anaphoric or 'bound' tenses are assumed in this analysis not to be anchored to *Utt-T*, but to an interval *Tx* that is identified by a past interval provided by an embedding attitude predicate. This notion of anaphoric tense is very restrictive: in the sense adopted here, an anaphoric tense can only appear in past reported speech or reported attitude contexts. The introduction of *Tx* is designed to provide a uniform interpretation for forms exhibiting imperfect morphology (the imperfect itself when functioning as zero tense or 'present of the past', as well as the pluperfect and the conditional). One of the immediate advantages of the *Tx*-based analysis of anaphoric tenses is that it allows for a straightforward solution to the well known problem posed by perfect conditional configurations (corresponding to *would have* + PP) without assuming a third layer of temporal relations next to Tense and Aspect.

The introduction of *Tx* as the anchor for anaphoric tenses proves also useful in accounting for the fact that such forms consistently develop *irrealis* uses. *Irrealis* is a cover term for the counterfactual interpretations that arise with an anterior or a simultaneous temporal orientation, and for the unlikelihood or future-less-vivid interpretations that arise with a prospective temporal orientation. Such uses are illustrated for the imperfect in (4a–b):

(4) a. SIMULTANEOUS, COUNTERFACTUAL
De haber podido, hoy estaba en la playa.
Of have can.PP today be.IMPF.1SG in the beach
"Given the chance, I would be at the beach today."

b. PROSPECTIVE, FUTURE- LESS-VIVID
De enterarse, seguro que se enojaba.
Of learn sure that REFL get.mad.IMPF.3SG
"If s/he would learn about it, s/he would certainly get mad."

Irrealis uses have been extensively treated by Iatridou (2000), who proposes an analysis of this type of 'past' tenses in terms of an Exclusion Feature on the world/time of speech. Anchoring to *Tx* provides a means of capturing the Exclusion Feature. In anaphoric uses, *Tx* is identified by a past interval introduced by the matrix verb; in *irrealis* uses, it constitutes a 'temporal counterpart' of *Utt-T* in worlds other than the world of evaluation. Central for our purposes in this paper is what appears to be a clear correlation between tenses having 'bound' (anaphoric) interpretations and tenses having *irrealis* interpretations. This correlation is crucial for understanding the imperfect subjunctive, whose range of interpretations will be

shown to be strikingly parallel to that of the imperfect indicative. In the following, both 'bound' and *irrealis* interpretations will be referred to as 'fake pasts'. They are characterized by expressing one anteriority relation less than their 'real past' counterparts. Thus, a 'real past' imperfect expresses one anteriority relation, and a 'real past' pluperfect expresses two. By contrast, a 'fake past' pluperfect expresses only one anteriority relation, and a 'fake past' imperfect none at all.

A possibly unwelcome feature of the present analysis is that the imperfect comes out as ambiguous between two configurations, a *bona fide* past tense and a bound, anaphoric 'present of the past'. This assumption is justified by the ambiguity of imperfects embedded under past tenses.[2] As illustrated in (5a–b), an imperfect embedded under a past tense can have a simultaneous (5a) or an anterior interpretation (5b) with regard to the time of the matrix verb. The first is a 'bound' imperfect, a present of the past, expressing coincidence between *Ast-T* and *Tx*, which is itself identified by the time of the matrix. The second is a 'free' imperfect, a past tense expressing anteriority of *Ast-T* with regard to a higher anchor – which, as is always the case in reported speech and reported thought contexts, is provided by the time of the matrix.

(5) a. *Les dije (que en ese momento) Juan estab a en su*
Them tell.SP.1SG that at that moment Juan be.IMPF in his *oficina.*
office
"I told them that Juan was in his office at that moment."

a'. Tx ○ Ast-T, Tx = Tmatrix

b. *Les dije que (un momento antes) Juan estaba en su*
Them tell.SP.1SG that a moment before Juan be.IMPF in his. *oficina.*
office
"I told them that Juan was in his office some time before."

b'. Tmatrix > Ast-T

As expressed in Table 1, the imperfect is ambiguous between two temporal configurations, a past configuration expressing anteriority and a 'fake past' configuration expressing a particular coincidence relation with regard to a temporal counterpart of *Utt-T*, dubbed here *Tx*. This temporal counterpart corresponds, in

2. The interpretive effects with modal verbs studied in Laca (2008) provide further motivation for this assumption, since the epistemic/counterfactual ambiguity of modals in the imperfect in some non-root configurations is clearly correlated to the hypothesized ambiguity between a present of the past (giving rise to epistemic readings) and a *bona fide* past tense (resulting in counterfactual readings).

temporally bound uses, to the time of a past act of thinking or speaking. In modal, *irrealis* uses, this counterpart does not belong, unlike *Utt-T*, to the actual world history (*w0*). The 'fake past' configuration is nothing but a 'bindable' version of the present tense. As we will see in the following section, these peculiarities are shared by the imperfect subjunctive.

2.2 The subjunctive paradigm

Table 2 shows the temporal contribution I would like to propose for subjunctive forms in Spanish. As indicated by the blanks in the Table, there are two main differences with the indicative: (a) the subjunctive lacks forms specifically indicating posteriority (anchor before anchored), and (b) the subjunctive lacks an aspectually marked simple tense corresponding to the 'simple perfect' (perfective past). The first difference indicates that the subjunctive is organized as a PAST versus NON-PAST temporal system, the second one will be shown to have relevant consequences on the contrast between the imperfect and the (compound) perfect subjunctive.

2.3 Subjunctive tenses in root contexts

The analysis summarized in Table 2 will be first illustrated by the interpretation of subjunctive forms in contexts in which these forms cannot but be temporally free, since the selecting or licensing context carries no tense specification. This is the case of subjunctive forms in root contexts that are either (a) selected by a desiderative adverb (*ojalá* "hopefully"), (b) licensed by an adverb of epistemic uncertainty

Table 2. Subjunctive tenses in Spanish

	After	**Within**	**Before**
Tense	——	*cante* (PRESENT) Utt-T ○ Ast-T, ASP ∅	_____
	cantara/(IMPERFECT) *cantase* Utt-T >Ast-T, ASP ∅	*cantara*/(IMPERFECT) *cantase* Tx ○ Ast-T, ASP ∅	
+Anterior Aspect (PERFECT)	*hubiera/hubiese cantado* (PLUPERFECT) Utt-T >Ast-T, Ast-T >Ev-T	*haya cantado* (PERFECT) Utt-T ○ Ast-T, Ast-T >Ev-T *hubiera/hubiese cantado* (PLUPERFECT) Tx ○ Ast-T, Ast-T >Ev-T	

(*quizás, tal vez, acaso* "maybe, perhaps"), or (c) licensed by a nominal evaluative-factive expression (as, for instance, *qué pena que* "pity that"). The interpretation of subjunctive tenses differs in these contexts in ways that are predictable from the interaction between the hypothesized temporal contribution of the form and the semantic properties of the context.

Present subjunctives exhibit a pattern of interpretation that is characteristic for aspectually unspecified NON-PAST tenses. In the absence of temporal adverbials, stative predicates are interpreted as simultaneous to *Utt-T* (6a), and telic predicates are forward-shifted with regard to *Utt-T* (6b). As for atelic eventives, they may have both a forward-shifted or a simultaneous, progressive-like interpretation, which is however dispreferred (6c):[3]

(6) a. *Ojalá/Quizás esté en casa.*
hopefully/perhaps be.PR.SBJ.3SG in house
"Hopefully/Perhaps s/he is at home."

b. *Ojalá/Quizás cierren la ventana.*
hopefully/perhaps close.PR.SBJ.3PL the window
"Hopefully/Perhaps they will close the window."

c. *Ojalá/Quizás miren la televisión.*
hopefully/perhaps watch.PR.SBJ.3PL the TV
"Hopefully/Perhaps they will watch TV."
?"Hopefully/Perhaps they are watching TV."

This pattern of temporal-structure driven temporal location, which clearly distinguishes states from telic eventives, is extremely general. It is replicated in indicative present sentences, in the antecedent of conditionals and in infinitives embedded under modals or belief-verbs (cf. Iatridou 2000, Copley 2008a, Laca 2008). Actually, this pattern is but a manifestation of the Present Eventive Constraint, one that is typical for languages lacking a fully grammaticalized progressive.[4] The special coincidence relation with an anchor noted **O** cannot be one of simultaneity in the case of non-homogeneous predicates, since these cannot hold of points in time and do not hold of their own subintervals. For a NON-PAST tense, forward-shifting of *Ast-T*, the time of which the description holds, is the only available option for telic eventives. In the case of states, by contrast, which do hold of points in time and of their own subintervals, simultaneity is the default interpretation. As for atelic eventives, which do not hold of points in time, but do hold of their own subintervals, simultaneity with the anchor gives rise to a progressive-like interpretation.

3. These regularities hold for episodic readings of eventives. In generic or habitual readings, all predicates behave like states, i.e. they give rise to simultaneity as the default interpretation.

4. For different views on the Present Eventive Constraint, see Condoravdi (2001), Copley (2008a).

A progressive-like interpretation for non-specified aspect is only possible in languages lacking a fully grammaticalized progressive form. In Spanish, the progressive is less grammaticalized than in English, so that by contrast with English, such interpretations are possible. At the same time, it is more grammaticalized than, say, in French, so that such interpretations are rather marginal (for a more detailed discussion of the polarization effects of progressives on aspectually non-specified forms, see Laca 2005). Non-progressive interpretations of atelic eventives follow the same mechanism as the interpretation of telic eventives.

Desiderative adverbs and adverbs of epistemic uncertainty constitute modal environments. As such, they are subject to a *diversity constraint* on modal bases (Condoravdi 2001, Werner 2003, Laca 2008): the modal base providing the background for interpretation should contain both worlds of which the expressed proposition holds and worlds of which it does not hold. In the case of forward-shifted interpretations, such as (6b), this requirement is automatically fulfilled by the undeterministic nature of contingent future propositions: since contingent future propositions are not settled at the time of evaluation, the modal base contains both p and $\neg p$ worlds. In the case of simultaneous interpretations, such as (6a), which involve settled facts, the requirement is fulfilled by the epistemic uncertainty of the speaker as to the truth-value of p. Not only the epistemic adverb, but also the desiderative adverb in (6a) conveys uncertainty of the speaker as to the whereabouts of the subject.

By contrast with these modal environments, evaluative-factive contexts presuppose the truth of the expressed proposition: evaluatives apply to settled and known facts. As a consequence, simultaneous interpretations (7a) are not associated with epistemic uncertainty. More importantly, the obligatorily forward-shifted interpretations of telic eventives (7b) acquire the scheduled or planned overtones that are typical for futurate uses of the present indicative in assertive contexts (Kaufmann, Condoravdi and Harizanov 2006, Copley 2008b).

(7) a. *¡Qué pena que esté en casa!*
such pity that be.PR.SBJ.3SG in house
"Such a pity that s/he is at home!"

b. *¡Qué pena que cierren la ventana!*
such pity that close.PR.SBJ.3PL the window
"Such a pity that they should close the window!"

An (episodic) eventive present subjunctive is felt to be inadequate in such contexts if the described event is not amenable to scheduling (8a), in exactly the same way an eventive present indicative is (8b):

(8) a. *#¡Qué suerte que encuentres un trabajo!*
what luck that find.PR.SBJ.2SG a job
#"Such a luck that you find a job!"

b. *#Encuentras un trabajo.*
find.PR.IND.2SG a job
#"You find a job."

The interpretation of *imperfect subjunctives* differs significantly in the three types of context. In my analysis, imperfect subjunctives, like imperfect indicatives, are ambiguous between a 'real past' and a 'fake past' configuration. The latter can only correspond to an *irrealis* in the absence of a higher past tense that could bind *Tx*.

In desiderative contexts, the imperfect subjunctive is predominantly interpreted as a 'fake past' *irrealis*.[5] The same pattern of temporal-structure driven temporal interpretation illustrated in (6a–c) above obtains. Temporal location is parallel, but simultaneity gives now rise to counterfactual readings (9a), and forward-shifting gives rise to future-less-vivid readings (9b):

(9) a. *Ojalá estuviera en casa.*
hopefully be.IMPF.SBJ.3SG in house
"I wish s/he were at home."

b. *Ojalá cerraran la ventana.*
hopefully close.IMPF.SBJ.3.PL the window
"I wish they would close the window."

The interpretation of the imperfect subjunctive is crucially different when the subjunctive is licensed by an adverb of epistemic uncertainty. On account of the semantic-pragmatic incompatibility between the contribution of the adverb, on the one hand, and the implications of *irrealis* interpretations, on the other, an imperfect subjunctive cannot be interpreted as an *irrealis* 'fake past' in such contexts. Adverbs of epistemic uncertainty indicate that the proposition expressed by the sentence is compatible with the beliefs of the speaker (the speaker believes that the world of evaluation is possibly a *p*-world). In *irrealis* interpretations, anchoring to *Tx*, a 'temporal counterpart' of *Utt-T* in worlds different from the world of evaluation, has the effect of excluding the world of evaluation from the domain and gives rise to the implicature that the speaker does not believe the world of evaluation to be a *p*-world. As convincingly shown by Iatridou (2000), *irrealis* 'fake pasts' are

5. The possibility for an imperfect subjunctive to express anteriority, i.e. to function as a 'real past' and not as an *irrealis* 'fake past' in such contexts, is not totally excluded. It is, however, difficult to attest and most speakers I have been able to consult report difficulties in obtaining anteriority readings for examples (9a–b).

incompatible with the belief that the proposition expressed in the clause containing the 'fake past' form is (possibly) true. Thus, the same semantic-pragmatic incompatibility that accounts for the deviant nature of (10) also excludes *irrealis* 'fake past' interpretations of the imperfect subjunctive in such contexts.

(10) # If John came to the party, and I think he will, we would have a great time.

Due to the pragmatic impossibility of *irrealis* interpretations and to the lack of a higher past tense, only the anteriority, 'real past' configuration is available for an imperfect subjunctive licensed by an adverb of epistemic uncertainty. Interestingly enough, the imperfect subjunctive is mainly used with states in such contexts. With eventive predicates, anteriority with regard to *Utt-T* is expressed mainly by the perfect subjunctive. The pattern illustrated in (11a) clearly replicates the imperfect/(simple or compound) perfect alternation in the indicative version (11b):

(11) a. *Tal vez me conociera* [STATE],
perhaps me know.IMPF.SBJ.3SG
tal vez me haya visto [EVENT] *en el club.*
perhaps me have.PR.SBJ.3SG seen in the club

b. *Tal vez me conocía* [STATE],
perhaps me know.IMPF.IND.3SG
tal vez me vio/ ha visto [EVENT] *en el club.*
perhaps me see.SP.3SG/have PR.IND.3SG seen in the club
"Perhaps s/he knew me, perhaps s/he saw/has seen me at the club."

As is to be expected, *irrealis* interpretations are also excluded in evaluative-factive contexts, since these presuppose the truth of the evaluated proposition. In such contexts, however, the imperfect subjunctive is used as a 'real past' for statives and eventives alike, and seems to alternate freely with the perfect subjunctive in the latter case:

(12) a. *¡Qué pena que estuvieras en Madrid!*
what pity that be.IMPF.SBJ.2SG in Madrid
"Pity that you were in Madrid!"

b. *¡Qué pena que llegaras/ hayas llegado*
¡what pity that arrive.IMPF.SBJ.2SG/ have.PR.SBJ.2SG arrived
tarde!
late
"Pity that you arrived late!"

To summarize, the interpretation of subjunctive tenses in root contexts confirms the analysis proposed in Table 2, while showing at the same time the central role of the context.

i. A PAST versus NON-PAST tense system will easily give rise to forward-shifted readings for the NON-PAST forms. Both the present subjunctive and the *irrealis* 'fake past' imperfect subjunctive are NON-PAST, and their temporal interpretation is driven by temporal structure in ways that follow a particular version of the Present Eventive Constraint. Forward-shifted interpretations only show the scheduling effects associated with futurates in evaluative-factive contexts, on account of the settledness requirement of such contexts.
ii. The ambiguity of the imperfect subjunctive between a 'real past', expressing anteriority to *Utt-T*, and a 'fake past', expressing coincidence with *Tx*, manifests itself in root contexts as a contrast between 'past' and '*irrealis*'. For semantic-pragmatic reasons, contexts of epistemic uncertainty and evaluative-factive contexts disallow the latter interpretation. Desiderative contexts, on the other hand, overwhelmingly prefer the *irrealis* interpretation, giving rise to simultaneous (counterfactual) and forward-shifted (future-less-vivid) readings according to the same temporal pattern found in the present subjuntive.
iii. In root contexts, the imperfect subjunctive can be interpreted as simultaneous (9a), posterior (9b) or anterior (12a–b) to *Utt-T*. This ambiguity is compounded in past embedding contexts by the fact that, in such cases, the 'fake past' configuration expressing coincidence with *Tx* may also be interpreted anaphorically, as a 'bound' imperfect. This complexity has led Giorgi & Pianesi (2000) to characterize the Italian imperfect subjunctive as a 'tenseless' form, i.e. "a morphological tense whose contribution to the meaning of the sentence does not correspond to an asserted relation between the event and the relevant anchor [the time of the matrix event in the case of embedded sentences, *Utt-T* in the case of matrix sentences, BL]". In the analysis I propose, this plurality of interpretations is not interpreted as 'tenselessness', but as the result of (a) the ambiguity of the imperfect subjunctive between 'real past' and 'fake past' uses, and (b) the possibility for 'fake past' imperfect subjunctives of exhibiting forward-shifted readings. Actually, the imperfect indicative exhibits the same plurality of interpretations, thus suggesting that the imperfect subjunctive comes by its temporal peculiarities by virtue of the fact that it is an imperfect, not that it is subjunctive.

3. Subjunctive tenses in argument clauses

3.1 Temporal (dis-)harmony and its interpretation

According to the defective tense hypothesis, the tense of the subjunctive is always anaphoric on the tense of the matrix clause. This analysis predicts that no crossed combinations arise, i.e. that only the patterns in (13) are possible:

(13) a. $-\text{PAST}_{\text{matrix}}$ $-\text{PAST}_{\text{subj}}$

b. $+\text{PAST}_{\text{matrix}}$ $+\text{PAST}_{\text{subj}}$

This hypothesis has been challenged by several authors on the grounds that violations of temporal harmony are indeed possible (Suñer & Padilla Rivera 1987/1990, Suñer 1990). The most permissive alternative hypothesis is the one advanced by Quer (1998), according to whom the only relevant tense restriction is the one in (14), which furthermore only applies in the case of intensional subjunctives, i.e. subjunctives selected by volitionals, directives, and causatives:[6]

(14) $^{*}-\text{PAST}_{\text{matrix}}$ $+\text{PAST}_{\text{subj}}$ [for selected, intensional subjunctives]

Quer (1998) advances a semantic explanation for the tense restriction in (14): volitionals, directives, and causatives need to operate on a set of future or non-anterior alternatives, and the temporal configuration in (14) violates this requirement. Although Quer's hypothesis is on the right track, I will try to show that it is at the same time too strong and too weak. More importantly, a detailed examination of tense restrictions provides important clues for a better understanding of the semantics of future-oriented contexts and of Double-Access effects.

Subjunctives in argument clauses constitute Sequence-of-Tense contexts. I will argue that in Spanish, Sequence-of-Tense in subjunctive contexts differs only minimally from the situation in indicative contexts.[7] The principles governing Sequence-of-Tense are the following:

i. the tense of an embedded argument clause is always interpreted with the time of the matrix clause as higher anchor;
ii. some tenses require, furthermore, for the tense of the embedded clause to be interpreted with regard to *Utt-T*, thus giving rise to Double Access Readings -henceforth DAR (cf. Enç 1987, Giorgi & Pianesi 1997, Suñer 1990, Carrasco Gutiérrez 1999);

6. Such contexts are further characterized by (a) categorically excluding the indicative, (b) only allowing local triggering of the subjunctive, which does not extend to deeper embedded CPs, and (c) giving rise to subject obviation effects. For details, see Quer (1998).

7. A caveat as to dialectal variation is necessary at this point. Some American Spanish dialects exhibit a clear weakening of the deictic status of the present subjunctive, which manifests itself in the absence of DAR effects. Such a process –parallel to the one resulting in the loss of the French imperfect subjunctive in Sequence-of-Tense contexts- is well under way in Bolivian, Peruvian and Paraguayan Spanish (see Sessarego 2008a, 2008b). For other American varieties, present subjunctives under matrix past tenses are frequent in intensional, future-oriented contexts (volitionals, causatives and directives), but, as will be discussed below, they are not clearly associated with a loss of DAR-effects.

iii. only tenses that have a 'bindable', anaphoric counterpart, give rise to DAR. As shown in Tables (1) and (2) and recapitulated below for convenience, these are the present and the future, i.e. the deictic tenses that have a counterpart in tenses organized around *Tx*.

(15) a. PRESENT (IND./SUBJ.): Utt-T ○ Ast-T
IMPERFECT (IND./SUBJ.): Tx ○ Ast-T

b. FUTURE (IND.): Utt-T < Ast-T
CONDITIONAL (IND.): Tx < Ast-T

In the analysis proposed above for the temporal contribution of subjunctive tenses, the present and perfect subjunctive are deictic, i.e. they express respectively simultaneity/posteriority and anteriority with regard to *Utt-T*. The imperfect and pluperfect subjunctive are ambiguous between 'real past' and 'fake past' configurations. The former express simple or double anteriority with regard to *Utt-T*, whereas the latter are either *irrealis* or 'bound' (anaphoric). By comparison with 'real pasts', 'fake pasts' have one anteriority relation less, as a result of the fact that they express coincidence of *Ast-T* with *Tx*.

Against this background, configurations violating temporal harmony between the matrix and the subjunctive clause receive a clear interpretation. An imperfect (or pluperfect) subjunctive embedded under a non-past matrix tense will be interpreted as a 'real past' or an 'irrealis', thus exhibiting the two possible interpretations we have discussed for root contexts in the previous section. A present (or perfect) subjunctive embedded under a matrix past will give rise to DAR:

(16) a. $-\text{PAST}_{\text{matrix}}$ $+\text{PAST}_{\text{subj}} \rightarrow$ 'real past' or 'irrealis' effects
b. $+\text{PAST}_{\text{matrix}}$ $-\text{PAST}_{\text{subj}} \rightarrow$ double access readings

In the line of reasoning we are following, the inacceptability of configuration (16a) should follow from the incompatibility of the context with an anteriority or an *irrealis* interpretation, that of (16b) from the fact that the context does not license DAR-effects. We explore these two configurations in the following subsections.

3.2 Intensional subjunctives and future orientation

As stated above, Quer (1998) proposes a semantic explanation for the inacceptability of configuration (16a) in intensional contexts. This explanation, which is based on the future-oriented nature of the selecting context, encounters two potential problems requiring a refinement of the original hypothesis. The first problem involves cases in which the matrix sentence is in the conditional, as exemplified in (17a–d):

(17) a. *Querría que te fueras.*
want.CND.1/3SG that you go.IMPF.SBJ.3SG
"I/s/he'd like you to leave."

b. *Yo prefiriría que te fueras.*
I prefer.CND.3SG that you go.IMPF.SBJ.3SG
"I'd rather you left."

c. *De buena gana le pediría que se fuera.*
of good wish him ask.CND.1/3SG that REFL go.IMPF.SBJ.3SG
"I/s/he'd like to ask him to leave."

d. *De intentarlo, seguro que lograría que se fuera.*
of try.it sure that manage.CND.1/3SG that REFL go.IMPF.SBJ.3SG
"If I/s/he tried, I/s/he would certainly manage to make him/her leave."

A matrix conditional is clearly compatible with embedded past subjunctives. In the descriptive tradition, the conditional is included among the matrix 'past tenses' – probably as a reflection of its temporal uses as 'future of the past'. However, as predicted by the analysis in Table 1, the matrix conditionals in (17a–d) cannot shift *Ast-T* to a moment preceding *Utt-T*, since *Tx* is not bound by a higher past tense. In fact, in contexts like (17a–d), the time of the matrix verb is simultaneous or prospective with regard to *Utt-T*, the conditional being exploited as an *irrealis* in the modal dimension. Including the conditional among the 'past tenses' on the grounds that it licenses a past subjunctive in the embedded clause amounts to a circular way of capturing tense restrictions. This is not to say that the acceptability of (17a–d) invalidates Quer's explanation. The past subjunctive in the embedded clause does not express anteriority, either, but is itself functioning as an *irrealis* 'fake past': it has a prospective orientation with regard to the time of the matrix, as predicted by Table 2 and by the principle of temporal-structure driven interpretation (a 'fake past' expresses coincidence of *Ast-T* with *Tx*, and coincidence receives a forward-shifted interpretation in the case of eventives). In fact, the temporal-modal interpretation of the embedded past subjunctives in (17a–d) is strictly parallel to the future-less-vivid-interpretations in desiderative root contexts.

More problematic for the explanation suggested by Quer is an important asymmetry between so-called volitionals, on the one hand, and directives and causatives, on the other, with regard to compound tenses in the embedded clause. Matrix conditionals reveal that, as shown in (18a–b), volitionals like *want/prefer* admit a pluperfect subjunctive in the embedded clause, whereas directives like *ask* and causatives like *manage* do not (19a–b):

(18) a. *Querría que te hubieras ido.*
want.CND.1/3SG that you have.IMPF.SBJ.2SG gone
"I wish you had left."

b. *Yo preferiría que te hubieras ido.*
I prefer.CND that you have.IMPF.SBJ.2SG gone
"I'd rather you had left."

(19) a. **De buena gana le pediría que se hubiera ido.*
of good wish him ask.CND.1/3SG that REFL have.IMPF.SBJ.3SG gone
*"I would like to ask him to have left."

b. **Seguro que lograría que se hubiera ido.*
sure that manage.CND.1/3SG that REFL have.IMPF.SBJ.3SG gone
*"I/s/he would certainly manage to make him/her have left."

A pluperfect subjunctive in an irrealis 'fake past' interpretation still conveys one anteriority relation with regard to the time of the matrix, as stated in Table 2. What the contrast between (18a–b) and (19a–b) shows is that the requirement of future orientation can be circumvented by counterfactuality in the case of volitionals, but not in the case of directives and causatives. This observation clearly indicates that the basis for future orientation is different in the two cases.

Moreover, some volitionals, but no directives or causatives, are apt to embed a perfect subjunctive, as illustrated in (20a–b), which contrast with (21a–b):[8]

(20) a. *Deseo que hayáis pasado un buen momento.*
hope.PR.1.SG that have.PR.SBJ.2PL passed a good moment
"I hope you (have) had a good time."

b. *Espero que se haya enterado del asunto.*
hope.PR.1.SG that REFL have.PR.SBJ.3SG learned of.the matter.
"I hope s/he (has) learned about this."

(21) a. **Te pido que hayas devuelto los libros.*
you ask.PR.1.SG that have.PR.SBJ.2SG returned the books
*"I ask you to have given back the books."

b. **Siempre logro que hayas devuelto los libros.*
always manage.PR.1SG that have.PR.SBJ.2SG returned the books
*"I always manage to make you have given back the books."

8. As stated in Footnote 1, the possibility of future perfect interpretations is being systematically ignored in order to simplify the exposition.

Although the perfect subjunctive is not a 'past' form, it clearly contributes an anteriority relation, and thus locates the event described in the embedded clause *before* the time of the matrix. Thus, the idea that volitionals only operate on a set of future alternatives is clearly disconfirmed by such temporal configurations.

I would like to suggest that future-orientation in the case of causatives and directives amounts to a [–PRECEDENCE] feature, as proposed by Suñer & Padilla Rivera (1987/1990). This feature is certainly not arbitrary, and it should be motivated by an analysis of the semantics of causation and of the imperative sentences that directives report. By contrast, future orientation in the case of so-called volitionals is derived from the fact that such attitude verbs are subject to the diversity constraint alluded to in Section 2.3. above: they require modal bases containing both worlds in which the embedded proposition is true and worlds in which it is not. Metaphysical alternatives are always available in the future, because contingent future propositions are not settled at the time with regard to which they are future. Past propositions, by contrast, report settled facts, and have therefore no metaphysical alternatives. There are only two ways of obtaining diverse modal bases, i.e. modal bases containing both p and $\neg p$ worlds, when speaking about settled facts. The first one is epistemic uncertainty: if the bearer of the attitude knows that a matter has been settled, but does not know which way it has been settled, the corresponding epistemic modal base contains both p and $\neg p$ worlds. This is the interpretation that applies to examples (20a–b) above. The second way is to widen the domain to include non-realized alternatives, giving rise to counterfactuality. This is the interpretation that applies to (18a–b) above, in which counterfactuality is necessarily signaled by the conditional on the matrix verb.[9]

9. As accurately pointed out by one of the reviewers, the temporal configurations discussed above do not account for the ungrammaticality of examples with a present indicative in the matrix and an imperfect subjunctive in the embedded clause. This holds not only of volitionals (i), as remarked by the reviewer, but also of directives/causatives (ii): a 'fake past' *irrealis* imperfect subjunctive expressing coincidence with *Tx* could fulfill the requirement of future orientation in both cases, so that the ungrammatical status of (i) and (ii) is not predicted by the analysis as it stands.

(i) **Quieren* *que* *sus* *hijos* *cantaran* *ópera.*
want.PR.IND.3PL that their children sing.IMPF.SBJ opera

(ii) **Mandan* *que* *sus* *hijos* *cantaran* *ópera.*
order.PR.IND.3.PL that their children sing.IMPF.SBJ opera

This incompatibility is grounded in the same principles that require a conditional form for matrix verbs embedding counterfactual argument clauses (cf. (18a–b) above): *irrealis* readings in embedded clauses have to be licensed by *irrealis* marking in the matrix. Due to space limitations, this phenomenon of 'modal harmony' cannot be discussed in this paper.

The distribution and interpretation of subjunctive tenses with so-called volitionals roughly parallel the situation described in Section 2.3 for root subjunctives selected by a desiderative adverb (*ojalá* 'hopefully'). We find here the same requirements of epistemic uncertainty or counterfactuality associated to settledness, and the same preference of the imperfect subjunctive for *irrealis* 'fake past' uses over 'real past' uses. However, the verbs intuitively lumped together under the label 'volitionals' do not constitute a semantically homogeneous class, as shown by closer inspection of tense restrictions. It is to be hoped that in-depth exploration of these restrictions will provide important insights into the extremely complex semantics of verbs introducing desire reports (cf. Heim 1992, von Fintel 1999).

To recapitulate the main results of this section, our exploration has shown that future orientation in directives and causatives, on the one hand, and in volitionals, on the other hand, has different sources. Quer's generalization as to the temporal constraint affecting selected, intensional subjunctives, only holds without qualification for directives and causatives.

3.3 Subjunctive contexts and DAR-effects

As predicted by our analysis of subjunctive tenses, the unacceptability of the pattern (16b) above stems from an incompatibility of the context with DAR-effects, i.e. with a temporal interpretation in which the tense of the embedded clause is evaluated with regard to two anchors, the time of the matrix and *Utt-T*. Usually, DAR-effects are described as requiring simultaneity to both anchors, but this is simply a side-effect of the tendency to illustrate DAR-effects with present tense states in the embedded clause (cf. Giorgi & Pianesi 2000). If the tense of the embedded clause is a future, or its predicate an eventive predicate, the time of the event in the embedded clause actually follows both anchors, as shown by the indicative examples (22a–b):

(22) a. *Mario dijo que estará en la fiesta.*
M. say.SP that be.FUT in the party
"Mario said he will be at the party."

b. *Mario dijo que viene a la fiesta.*
M. say.SP that come.PR to the party
"Mario said he is coming to the party."

In their pioneer study of the temporal constraints on subjunctive clauses, Suñer & Padilla Rivera (1987/1990) maintain that the pattern (16b) is possible in a subset of operator-licensed (polarity) subjunctives (verbs of denial, as for instance *negar* "deny"), with emotive-factives (as for instance *lamentar* "regret"), and with directives. By contrast, it is excluded in another subset of operator-licensed subjunctives (verbs

of belief or knowledge, as for instance *dudar* "doubt", *ignorar* "be unaware of") and with volitionals. It is also uniformly excluded in the case of nominal or adjectival predicates taking a subjunctive argument clause (*ser difícil/probable/aconsejable/fantástico/una pena*, etc. "be difficult/likely/advisable/great/a pity").

This distribution seems to confirm a generalization put forward by Giorgi & Pianesi (2000): matrix verbs reporting speech acts (verbs of communicative behaviour) are compatible with DAR, whereas matrix predicates reporting mental attitudes are not. In fact, directives and verbs of denial report speech acts, and emotive-factives with object argument clauses may well be used to report speech acts, as exemplified by (23):

(23) In a resolution adopted today, the board regretted that an acceptable solution has not been found.

Two further observations support this generalization:

a. emotive-factive contexts show a clear split between object argument clauses, which are acceptable in DAR-contexts, and subject argument clauses, which are not. The interpretation as speech act reports is only possible in the former, not in the latter contexts:

(24) a. *Se alegró de que todo marche de acuerdo con el plan.*
REFL rejoice.SP.3SG of that all go.PR.SBJ of accord with the plan
"S/he rejoiced that everything is proceeding in accordance with the plan."

b. ??*Le alegró que todo marche de acuerdo con el plan.*
him rejoice.SP.3SG that all go.PR.SBJ of accord with the plan
"S/he was glad that everything is proceeding in accordance with the plan."

Factive-evaluative nominal predicates, which take subject argument clauses and cannot be interpreted as speech act reports, confirm this pattern:

(25) **Era una vergüenza que algunos abogados se presten a esas maniobras.*
be.IMPF a shame that some lawyers REFL lend.PR.SBJ. to these practices
"It was a shame that some lawyers consent to these practices."

b. a verb like *dudar* "doubt" has actually two uses, the first one as a mental attitude ("have doubts about"), the second one as a speech act verb ("call into question, express doubts about"). As a verb of mental attitude, it is a state verb appearing normally in the imperfect, as a speech act verb, it is an eventive verb appearing normally in the simple perfect (perfective past). In the latter case *dudar* is clearly compatible with DAR –*pace* Suñer & Padilla Rivera (1987/1990), but not in the former:

(26) a. *Maragall dudó de que el teatro pueda acabarse en*
M. doubt.SP of that the theater can.PR.SBJ finish.REFL in
1997.
1997.
"Maragall expressed doubts about the possibility that the theater be completed in 1997."

b. **Maragall dudaba de que el teatro pueda acabarse*
M. doubt.IMPF of that the theater can.PR.SBJ finish.REFL
en 1997.
In 1997
"Maragall didn't believe that the theater can be completed in 1997."

However, the contrast between reported speech and reported mental attitudes is not the only relevant factor. Causatives, which are not taken into account by Suñer & Padilla Rivera (1987/1990), pattern like directives, as shown in (27a–b). And volitionals, contrarily to their assumptions, are actually compatible with DAR, as shown in (28). Since neither causatives nor volitionals report speech acts, it is to be concluded that DAR configurations may be licensed outside reported-speech contexts:

(27) a. *Luego sucedió algo que hizo que el cuadro*
later happened something that make.SP that the painting
sea lo que es.
be.PR.SBJ it that is
"Afterwards, something happened that turned the painting into what it is."

b. *Me recomendaron que la lleve a un psiquiatra.*
me advise.SP.3PL that her take PR.SBJ.1SG to a psychiatrist
"I was advised to take her to a psychiatrist."

(28) *¿Quería Greenpeace que se hable del Banco Mundial...?*
want.IMPF Greenpeace that REFL talk.PR.SBJ of.the Bank World
"Did Greenpeace want for the Whorld Bank to become a central topic...?"

As discussed in the previous section, directives, causatives and volitionals share future-orientation, even though their future orientation has different sources. As a consequence, DAR-effects in such contexts result in temporal configurations that differ from the better studied, double-simultaneity DAR-effects in the context of verbs used to report assertive speech acts. In future-oriented contexts, DAR-effects result in temporal configurations in which the time of the embedded clause follows the time of the matrix. Recall now that the present subjunctive follows the very general pattern according to which stative predicates are simultaneous with *Utt-T* and eventive predicates, particularly telic ones, follow *Utt-T*. This configuration does not require that the described situation hold at two different intervals. In the case of stative predicates, the temporal configuration is straightforward. As schematically represented in (29), the described state follows the time of the matrix and is simultaneous with *Utt-T*:

(29) _____T**matrix**_____Utt-T_____
'made'////////////////////////////////**Ev-TSBJ –clause**
'the painting is what it is'

Telic eventive predicates are predicted to follow both the time of the matrix and *Utt-T*, as schematized in (30). In fact (27b) implies that the recommended course of action has not been taken yet:

(30) _____T**matrix**_____Utt-T_____
'advised' //////////**Ev-TSBJ –clause**
'I take her to see a psychiatrist'

A very relevant complication arises with telic predicates that do not conform to this prediction, inasfar as the event in the present subjunctive clearly precedes *Utt-T* (the article from which example (31) is taken appeared *after* the Torino summit):

(31) *España consiguió que en la cumbre europea de Turín los*
Spain get.SP that in the summit European of Torino the
Países miembros de la UE se comprometan a eliminar el
countries members of the EU REFL commit.PR.SBJ to eliminate the
terrorismo como delito político.
terrorism as crime political
"Spain obtained from EU member states at the Torino summit the commitment to eliminate terrorism as a political crime." (*El Mundo* 31/03/1996)
REAL ACADEMIA ESPAÑOLA: Banco de datos (CREA) [en línea]. Corpus de referencia del español actual. <http://www.rae.es> [30/12/2008]

Examples of this type are not confined to the varieties alluded to in Footnote 7. They are characterized by the fact that they violate DAR in as far as the described

telic event is concerned, but they fulfill DAR for the result state of the telic event. It seems quite likely that these contexts are the source for the weakening of the deictic nature of the present subjunctive, whose final outcome would be a French-like present subjunctive – i.e. a present subjunctive not giving rise to DAR.

To summarize, our results concerning subjunctives in DAR-configurations partially confirm Giorgi & Pianesi's hypothesis, according to which DAR is licensed by reported speech contexts. Emotive-factives and belief verbs allow for violations of temporal harmony and license DAR-effects only when they are interpreted as speech-act verbs. But DAR-patterns also arise in the context of future-oriented matrix verbs, even when they do not report speech acts. In such cases, the situation described in the embedded clause should be simultaneous or prospective with regard to *Utt-T*. A weakening of the DAR-pattern emerges with telic eventive predicates when this requirement is not fulfilled by the event itself, but by its result state.

4. Concluding remarks

In this paper, I have sketched an analysis of the temporal contribution of subjunctive forms that departs from the defective-tense hypothesis and emphasizes the parallels between subjunctive and indicative tenses. I have tried to show that the distribution and interpretation of subjunctive forms appears less puzzling if one takes into account the semantic properties of the selecting or licensing contexts, together with some general principles governing temporal-modal configurations, on the one hand, and Sequence of Tense, on the other. Some descriptive generalizations advanced in the literature have been refined, but the work reported here is still exploratory. I hope to have succeded in showing that, far from being temporally 'void' or entirely determined in their distribution, subjunctive tenses constitute a powerful probe for a deeper understanding of the semantics of the licensing contexts.

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Nounness, gender, class and syntactic structures in Italian nouns

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This work proposes an analysis of Italian nouns. It explores the concept of the "final vowel" and claims that it is an analyzable object which is active in the formation of nouns in the language. The paper suggests that each "final vowel" is a complex morphophonological object (in the spirit of Kaye, Lowenstamm & Vergnaud 1985, 1990) and that only a syntactic approach to noun formation (Halle & Marantz 1993) can fully account for the distribution of such morphophonological complexes. On a more general level, the analysis depicted explains the behavior and the formation of non-derived simple nouns in Italian.

1. Introduction[1]

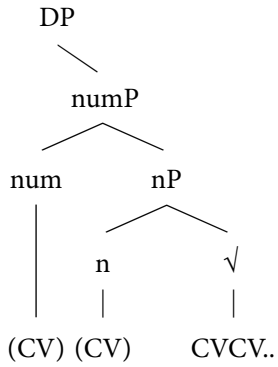
Italian nouns are an interesting challenge for morphological theory because of two particular aspects: (1) the vocalic alternation between singular and plural and (2) the presence of clearly different vocalic patterns relying singular to plural (*o-i*, *a-e*, *e-i*, etc..). Both phenomena contrast with the general behavior of Romance Languages where (1) plural marker is generally consonantal (/s/in Spanish, Portuguese, Catalan, etc..) and (2) no prediction can be made on the form of final syllable on nouns. In the theoretical perspective of Distributed Morphology (Halle & Marantz 1993, 1994; Halle 2000; Marantz 1997, 2001 and 2007; Harley & Noyer 1999; Embick & Noyer 2006 among the most relevant ones), the morphological complexity of a given language is expressed by the increasing number of functional projections. The question is now whether Italian has complex nominal structures or simple ones of the type $[n\ [\sqrt{}]]_{nP}$.

To show how nouns are built in Italian, I propose an account that stems from the general framework of Distributed Morphology as interpreted in two important

1. I benefited from discussions with Paolo Acquaviva, Anna Cardinaletti, Noam Faust, Jean Lowenstamm, Isabel Oltra-Massuet and Philippe Ségéral and I thank all of them.

articles: Piggott & Newell (2006) and Lowenstamm (2008). The general idea is that Phonology can interact directly with syntactic nodes and that phonological strings are formed by Syntax: in this light, I can generalize Lowenstamm's (1996) hypothesis that a templatic tier formed by CV units is found in the representation of each word. I assume the following default representation for a noun:

(1) Structure of a noun (cf. Lowenstamm 2008)



2. The data, the "final vowel" and a general hypothesis

A general and well-known feature of Italian nouns is that they must all end in a vowel. Loanwords are generally an exception to this phenomenon.[2] Moreover, an important fact is that this final vowel on nouns is generally unstressed. A crucial point must be mentioned here: if the final vowel is stressed then (1) all the five vowels in the phonological system of the language are allowed to be in that position, and (2) the noun is invariable in number marking. Put in another way: an oxyton noun is invariable in Italian. I show an example for each possible stressed final vowel (underlined) in (2):

(2) Oxyton nouns (invariable)

a.	[ʧit.ta̲]	"town"
b.	[kaf.fe̲]	"coffee"
c.	[sup.pli̲]	"fried rice"
d.	[o.blo̲]	"porthole"
e.	[vir.tu̲]	"virtue"

2. Some examples of loanwords are: *film* 'movie', *sponsor* 'sponsor', *pullman* 'bus', *computer* 'computer', etc..

On the other hand, if the final vowel is not stressed, then (1) the set of possible vowels appearing in this position is restricted, and (2) the noun is never invariable as far as number is concerned.[3] The table below shows these data:

(3) Italian variable nouns

[A]	sg.			[B]	pl.		gender
a.	*lupo*	"wolf"	M		*lupi*	"wolves"	M
b.	*rosa*	"rose"	F		*rose*	"roses"	F
c.	*poeta*	"poet"	M		*poeti*	"poets"	M
d.	*ala*	"wing"	F		*ali*	"wings"	F
e.	*cane*	"dog"	M		*cani*	"dogs"	M
f.	*nave*	"ship"	F		*navi*	"ships"	F

In this work, I focus on the final vowels appearing in (3) (henceforth V_{fin}). Two interesting restrictions on the realization of V_{fin} can be detected first, [u] never appears alone in this position. In addition, V_{fin} is never the same in [A] and [B]. This second point is crucial for the development of the argument.

An important question arises in the light of these observations: what is the role of V_{fin}?

A first hypothesis would suggest that V_{fin} enforces a phonological well-formedness requirement to the effect that no noun remains consonant-final. But this is clearly and logically false, for the following two reasons. First, if V_{fin} were an epenthetic vowel, we would expect only one and not four different ones. In a given environment, an epenthetic vowel is always the same, e.g. [i] or [e] but never both of them. Secondly, some final-hiatus words exist:[4]

(4) V.V# words
a. [ma.re.a] 'tide' b. [nu.cle.o] 'nucleus' c. [bo.a] 'float'

There would not be any need of V_{fin} after a root ending in a vowel as the ones in (4) if V_{fin} were epenthetic. We must drop this explanation and explore another one.

I claim that V_{fin} is the phonological exponent of one or more syntactic terminals, in the sense of Embick and Noyer (2006). The goal of this work is to show that V_{fin} is necessary for a root to become a well formed noun.[5] Final vowels in Italian

3. There are few exceptions to this general rule, but the majority of this kind of words are Greek loans, such as *analisi* (sg. and pl.) 'analysis', *crisi* (sg. and pl.) 'crisis' and so on.

4. The Italian native lexicon has some final-diphthong words, too which may be interpreted as ending in a slot of a high vowel followed by a non-high one giving rise to a final diphthong, such as *individuo* "individual" and *scempio* "havoc"

5. Note that the roots in (3) are not well formed nouns unless spelled out with the right V_{fin}: **lup*, **ros*, **poet*, etc... The same applies for roots in (4) as **mare*, **nucle*, etc...

are considered in the literature as simplex gender and/or class markers (cf. Acquaviva 2008a, 2008b; Alexiadou 2004; Ferrari 2005 and Thornton 2001, among the most relevant ones) but they've never been viewed as analyzable items. I propose that these V_{fin}'s are in fact analyzable objects on both phonological and morpho-syntactic levels.

3. The analysis

The analysis proceeds as follows: in the first part (3.1), I analyze the nature of V_{fin}, adopting a phonological view. In the second part (3.2), I propose a structure for V_{fin} and an explanation for its behavior.

3.1 Significant complex vowels

Observe the following inventory of V_{fin} in the singular and in the plural, respectively:

(5) V_{fin} inventory

a. Singular

e o

a

b. Plural

i

e

A general lowering phenomenon is recognized by traditional linguistics to be responsible for the absence of high vowels in unstressed syllables in Italian (cf. Rohlfs 1966:5–12; 51–64; 178–189 among others).[6]

Consider now the theory of Elements (Kaye, Lowenstamm & Vergnaud 1985, 1990) (henceforth KLV), which decomposes mid vowels into primary phonological elements. The general idea in this theory is that the parameters governing the combination of three basic vocalic Elements (/A/, /I/ and /U/) generate all the possible vowel systems. For the Italian unstressed vocalic inventory, this gives the following results:

(6) Italian vowels

a. [a] =/A/ b. [i] =/I/ c. [u] =/U/

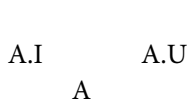
d. [e] =/I.A/ e. [o] =/U.A/

6. The situation is quite complex: final [u] were generally short vowels and therefore they were lowered whereas final [i] were generally long ones and thus they did not undergo lowering (cf. Rohlfs 1966:5–189 for an exhaustive survey on vocalism in Italian).

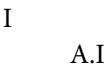
I recast the data presented in (5) in the light of the decomposition of each V_{fin} shown in (6):

(7) Decomposed V_{fin}'s

a. Singular



b. Plural



Two facts are strikingly evident in (7): the Element /A/ is always present in the singular while Element /I/ is always present in the plural. Moreover, /A/ and /I/ can appear alone or in combination in one given V_{fin}, while /U/ can never appear alone. As a consequence, I propose to interpret /A/ and / I/ as the markers of the singular and the plural, respectively:[7]

(8) Number markers (henceforth NbM)
   a. /A/ marks the singular (henceforth /A_{sg}/).
   b. /I/ marks the plural (henceforth /I_{pl}/).

If V_{fin} is a complex vowel as shown in (7), what is the role of the other Element appearing in it? I propose to reorganize the data as shown below:

(9) V_{fin} paradigm

	sg.	gender	examples	pl.	gender	examples
a.	$A_{sg}.\boldsymbol{U}$	M	*lupo*	$I_{pl}.\boldsymbol{U}$	M	*lupi*
b.	$A_{sg}.\boldsymbol{A}$	F	*rosa*	$I_{pl}.\boldsymbol{A}$	F	*rose*
c.	$A_{sg}.ø$	M/(F)	*poeta, (ala)*	$I_{pl}.ø$	M/(F)	*poeti, (ali)*
d.	$A_{sg}.\boldsymbol{I}$	M/F	*cane*, *nave*	$I_{pl}.\boldsymbol{I}$	M/F	*cani*, *navi*

First, note that the language particular aspect of Italian nouns is that number must always be introduced in the structure, contrarily to the general assumption that a singular noun has a simpler structure than a plural one, in a system based on two numbers.

Secondly, the plural *lupi* 'wolves' (9.a) deserves special attention. According to KLV's theory of elements, a central tenet of five-vowel systems is the ban on the combination of the Elements U and I, a combination which would yield a front rounded [y]. When, as in the case of *lupi* 'wolves', the morphology derives such a

7. The idea that Italian has two number markers has been explored by Passino (2008), too. In her analysis, though, this decomposition is not implemented within a syntactic approach to word formation.

combination, it surfaces as a simplified [i]. I propose that only /I/ surfaces because of its plural marking specification (Lowenstamm P.C. and Passino 2008).[8]

Finally, consider that besides the inflectional material (/A_{sg}/ and /I_{pl}/), each V_{fin} contains one of the following additional Elements: ***U***, ***A***, ***I*** and **ø** (zero). I assume that each root selects one of these basic Elements or none (the zero option, cf. (9.c)).

As a consequence, I claim that Italian has the following four groups of roots:[9]

(10) Groups of roots
a. ***A***-roots b. ***U***-roots c. ***I***-roots d. **ø**-roots

It is impossible to predict whether a given root will select ***A*** or ***I***, for example. This association is lexical, even if in the next section I will show that there is a tiny degree of predictability if we consider gender. I call these lexical vowels Root Elements (henceforth RE): an analysis of these items is proposed in Section 3.2.

To summarize, V_{fin} can be identified by the following algorithm:

(11) V_{fin} = NbM {A_{sg}, I_{pl}} + RE {***A***, ***I***, ***U***, zero}

An intermediary conclusion can now be stated: understanding V_{fin} requires its decomposition. The two components of V_{fin} have different natures: one is morphological (NbM) whilst the other one is lexical (RE). In the following section, I will claim that Italian noun structures are syntactic.[10]

8. Another argument can be taken from Greek borrowings to Latin: words such as Gr. *αναλυσις* have systematically been transliterated as *analysis* where ⟨y⟩ was pronounced [i] as no front rounded vowels existed in Latin. A reviewer has turned my attention to Valdman (1973) where the author discusses French-based Haitian Creole. In this language, /y/ seems to be reinterpreted as [i] or [u]. First of all, Valdman says that in the early stage of the Creole, the borrowings used [u] whereas in contemporary language, only [i] surfaces; notice that the theory of Elements only claims that five vowel languages cannot have front rounded vowels, but it does not say which Element will win the competition. As far as Italian is concerned, I claim that only [i] can surface, which does not exclude the possibility that in an early stage of Haitian Creole, [u] has surfaced, too.

9. Guerssel & Lowenstamm (1993) propose a similar account for verbal roots in Classical Arabic. In their work, each measure I verb has a lexical vocalization for V2. For example, given the following past forms: *kataba* "he wrote", *kabura* "he grew", *labisa* "he wore" and *ħamala* "he carried", each root has a lexical V2 which is either /a/ or /u/ or /i/ or zero. The Italian case looks very similar in this respect. See Ségéral (1995) for a detailed and extended application of the theory of apophony.

10. An anonymous reviewer has pointed out that a crucial element in the algorithm (11) is the gender feature [±f], hence its nature is not determined only phonologically. I claim this explicitly in the next section when I argue for a syntactical formation of V_{fin}'s.

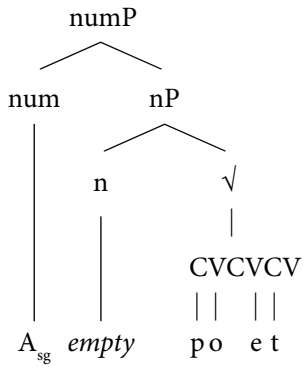
3.2 Syntactic structures in Italian nouns

3.2.1 *The default structure and $V_{fin}P$*

Building on the literature (Bendjaballah & Haiden 2008, Embick & Noyer 2001, Lowenstamm 2008 and Piggott & Newell 2006) and considering the data, the primary analysis above leads me to claim that each root merges with one of the RE's and the nP thus formed is selected by the *num* head. Let me begin with the simplest occurrence of V_{fin} namely when RE = ø (cf. (9c)).[11] This case corresponds to *poeta*-type nouns (cf. (3c)); its structure is shown in what follows:

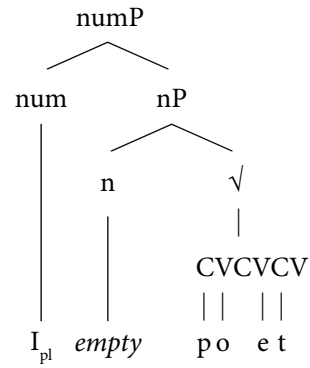
(12) *Poeta*-type

a. V_{fin} = [a], M, pl



Output: poet + A_{sg} = [poeta]

b. V_{fin} = [i], M, pl



poet + I_{pl} = [poeti]

In (12), the head *n* provides no special information. Assuming that it is *n* that is responsible for information about gender, we expect such cases to be of the default gender, namely masculine. The possibility that *n* carries a [+f] specification is, however, not ruled out. Indeed, although most *poeta*-type nouns are masculine, there are also two feminine nouns in this group: *ala* "wing" and *arma* "weapon" (cf. (3d)).

Before turning to cases in which RE = ***A***, ***U*** or ***I***, a detour into adjectival morphology will prove useful evidence for my claims. Consider the adjectival paradigms as shown below:

11. It is clear that if V_{fin} = NbM {A_{sg}, I_{pl}} + RE {***A***, ***U***, ***I***, zero}, as per the hypothesis laid out in (11), the simplest occurrence of V_{fin} is the one in which RE is phonologically zero.

(13) Adjectival paradigms

	sg.		gender	pl.		gender
a.	*bell<u>o</u>*	"beautiful"	M	*bell<u>i</u>*	"beautiful"	M
b.	*bell<u>a</u>*	"beautiful"	F	*bell<u>e</u>*	"beautiful"	F
c.	*facil<u>e</u>*	"easy"	M/F	*facile*	"easy"	M/F

Three vocalic patterns are easily recognized in (13):

(14) Adjectival vocalic patterns
a. [o]-[i] (M) b. [a]-[e] (F) c. [e]-[i] (M/F)

For a given adjectival root, if it fits into the pattern (14a), the corresponding feminine is always in group (14b). On the other hand, as the example in (13) shows, a given adjectival root fitting the [e]-[i] vocalism cannot have a feminine in group (14b): **facila*, F "easy".

Acquaviva (2008b) notes that there is a hierarchy on vocalic patterns in terms of variety: nouns have the richest inventory (*o-i*, *a-e*, *e-i*, *a-i*, *o-a*, etc..), followed by adjectives (cf. (14)) and then determiners. Nevertheless, what seems to be important for agreement is a restricted inventory of vocalic patterns. Consider the following examples:

(15) Agreement in noun phrase
a. *l<u>o</u>/quell<u>o</u> stanc<u>o</u> gatt<u>o</u> bianc<u>o</u>*
the/that-M.SG tired-M.SG cat-M.SG white-M.PL
"The/that tired white male cat"
b. *l<u>a</u>/quell<u>a</u> studios<u>a</u> francese*
the/those-F.SG scholar-F.SG French-SG
"The/those French female scholar"
c. *l<u>e</u>/quell<u>e</u> studios<u>e</u> francesi*
the/those-F.PL scholar-F.PL French-PL
"The/those French female scholar"
d. *il/quest<u>o</u> poet<u>a</u> tedesc<u>o</u>*
the/this-M.SG poet-SG German-M.SG
"The/this German poet"

The agreement vowel on adjectives follows the pattern in (13) regardless of the V_{fin} pattern of the noun.[12] For example, in (15b), nominal V_{fin} [a] represents a singular

12. As for the agreement vowel on the determiner, it has three forms for masculine: [lo], [il] and [l]. For each singular, there is a corresponding plural form. The puzzle is completely phonological as shown in Larsen (1998). An important question is still unanswered: why does Italian allow a zero agreement marker for M in the case of the article (that is the default case) but not

feminine but given the adjective *francese* 'French', the corresponding agreement vowel for singular is [e] for both feminine and masculine: it depends on the class which is selected by the root.

Consider now the RE's and the following observations: (1) *lupo*-type nouns (cf. 3a) are all masculine;[13] (2) *rosa*-type nouns (cf. 3b) are all feminine and (3) *cane* and *nave* types (3e and 3f) don't allow any prediction for gender. In the previous section I claimed that each root bears a lexical RE. I now propose that Italian roots that select a non null RE are organized into two classes, as illustrated below:

(16) Italian roots and RE's:

	√	RE	gen.	class	V_{fin} (sg./pl.)		
a.	*lup*	***U***	M	1	[o]	[i]	"wolf"
b.	*ros*	***A***	F	1	[a]	[e]	"rose"
c.	*can*	***I***	M	2	[e]	[i]	"dog"
d.	*nav*	***I***	F	2	[e]	[i]	"boat"
e.	*poet*	ø	M	default	[a]	[i]	"poet"

A question arises now: which projection introduces the RE's?[14] Is it nP? I follow Lowenstamm (2008) and Kihm (2002) in assuming that the head *n* introduces the gender feature [±f].

As a consequence, I assume that both nP and numP manage that part of morphology that is predictable. In contrast, I postulate that the lexical level must be lower than nP. Once the root selects its class, then the corresponding RE is totally predictable from gender.[15] Recall that, for a given root, the selection of the class is totally unpredictable. To account for this puzzle, I propose the use of a functional

in nouns? An answer is beyond the scope of this paper, but see Cardinaletti & Repetti (2007, 2008) for an interesting phenomenon of this kind in Northern Italian dialects.

13. As far as I know my native language, *mano* "hand" is the only feminine variable noun ending in [o]. I consider it to be an exception. Ferrari (2005) claims that *virago* "virago" and *sinodo* "synod" also follow the pattern [o]-[i] being feminine but I do not. For me *sinodo* is M and *virago* has an invariable plural if F or a regular one *viraghi* if considered M.

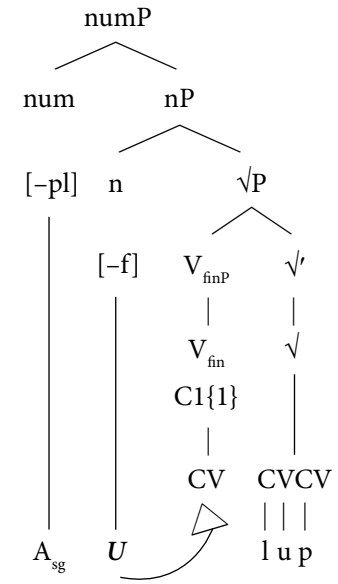
14. Consider RE's from the default class to class 1: they seem to be linked one to the other by the apophonic path ø → i → a → u (Guerssel & Lowenstamm 1993), in the direction of the arrow. It could be interesting to investigate whether this observation entails some kind of predictability about the nouns.

15. The point is that class assignment is lexical and that once the system handles a given root and the class information associated to it, it merges this piece of structure to a *n*. Now, it could be argued that there is a redundancy in the specification of both class and gender, as one could assert that the root lexically selects for either /I/ or nothing: in the first case one would get class 2 nouns (16c and 16d) whereas in the second case class 1 nouns (16a and 16b) would be defined. This solution only seems simpler, as in such a case, one cannot account for default class nouns

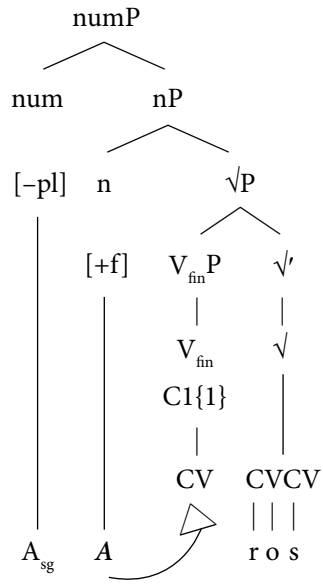
projection $V_{fin}P$,[16] the specifier of the root. The head of the projection, V_{fin}, has the following properties: (1) it introduces a CV syllable; (2) it bears lexical information associated to the root (class 1, 2, etc..) and (3) it undergoes agreement with *n*. The result of the spell out of the agreement operation is one RE. I show the structures for both *lupo* 'wolf' and *rosa* 'rose' in what follows:

(17) Noun structures: class {1}

a. *lupo* 'wolf' M, sg



b. *rosa* 'rose' F, sg



[17]

The arrows indicate the agreement between V_{fin} and *n*. With the pieces of information that the structure gives at the level of √P, the higher part of the structure is totally predictable. The edge of lexicality is √P: if this is indeed the case, then I predict that the meaning is built at this level and that, in the case of a diminutive on the noun (or any other nominal suffix), its position is the same as the one of $V_{fin}P$ allowing for a large number of non-compositional diminutives. I'll return to

(16e), e.g. *poeta* "poet". The only way would be to postulate that such nouns disallow the regular M/F marking by means of an ad hoc Vocabulary Insertion rule.

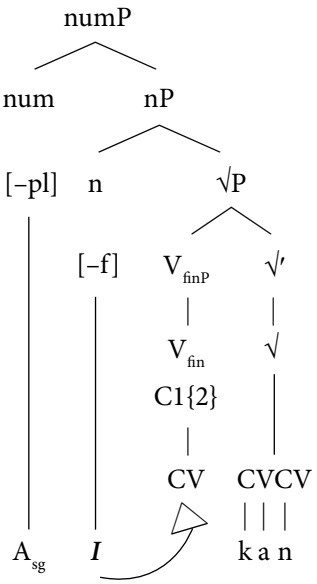
16. This is a provisional label for this projection. In Faust & Lampitelli (2009), Tem(plate)P has been proposed for both Italian and Modern Hebrew. Another possible label is Th(eme)P (cf. Oltra-Massuet 2000 and Oltra-Massuet & Arregi 2005).

17. Note the phonological /s/ becomes [z] in my regional variety. The context of this occurrence is the intervocalic position.

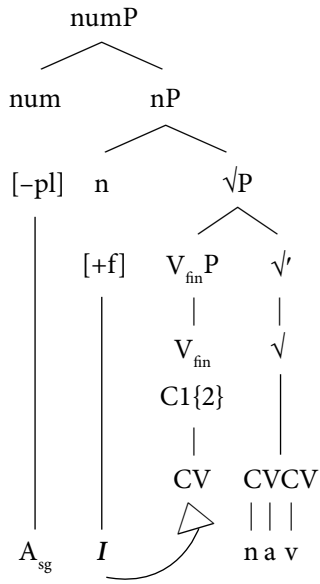
this point below, after having discussed the other nominal structures. As for class {2} nouns, they are built as shown below:

(18) Noun structures: class {2}

a. *cane* 'dog' M, sg



b. *nave* 'boat' F, sg



Output: [kane] [nave]

The mechanism is the same as for Cl{1} nouns. However, as already noticed, V_{fin} is not the same in both classes. In (18) Cl{2} label is always interpreted as the element /I/ and it gives rise to [e] for both genders.

In (17) and (18), I showed the structures for the core nouns in the language. It is now clear that the nature of V_{fin} as stated by the algorithm in (11) is both syntactic and phonological. The difference between the two classes is the label in V_{fin} associated to the root.[18] Beyond √P, form is perfectly predictable and regular.

Due to the lack of space, I will not show the plural structures. Plural nouns are built by changing the value to the feature [pl] ([+pl] instead of [-pl]): by consequence, the spelled-out NbM is /I_{pl}/. For the form of plural *lupi* "wolves", see *supra*, Section 3.1.

18. Another anonymous reviewer has pointed out that in (18b) nothing seems to prevent the root *nav* 'boat' with a V_{fin} = cl {2} to be merged with a [-f]. This is almost the case: the only thing that prevents *nave* 'boat' from being an M noun instead of an F one is that when the root √nav becomes a noun, it triggers a F marking. Cf. Embick and Marantz (2008) for discussion on blocking and gaps in the architecture of words.

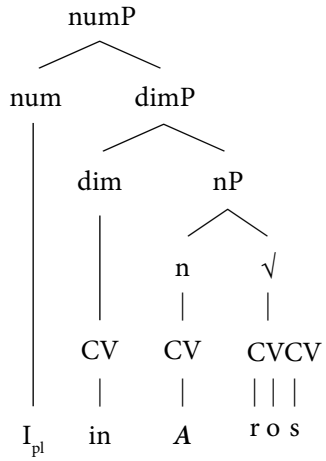
3.2.2 *Additional arguments for $V_{fin}P$: Diminutives and loan words*

I reject the idea that roots are labeled as in Embick & Halle (2005); rather, I follow Marantz (2001), in considering that roots bear no information but their semantics and their phonology without any categorial information.[19] The proposed account including $V_{fin}P$ shows that there is a lexical association between a given root and a given piece of information about the class: as a result, we have √P, instead of simple √.

In this section I put forward two main arguments to dismiss any doubt about the necessary presence of $V_{fin}P$. The first one comes from the representation of diminutives (or augmentatives): I show that by postulating the presence of $V_{fin}P$ we can account for diminutive structures, too. The second argument is found in loanwords, which clearly exhibit no $V_{fin}P$: the only way to account for the difference between loanwords and variable nouns (cf. (3)) is to postulate this projection.

Recall the structure in (12) representing *poeta*-type nouns with the ingredients to build *lupo*-type, *rosa*-type or *cane*/*nave*-type nouns: a √, a class label ({1} or {2}) and a gender feature to be introduced by *n*. Now, to build a diminutive, e.g. *rosine* 'little roses', a projection dimP should be introduced into the structure.[20] This is shown in (19):

(19) Wrong diminutive structure



Output: ros + *A* + in + I_{pl} = [*rosaini] or [*roseni]

19. Acquaviva (2008a) too follows the idea that roots are radically underspecified.

20. Whether diminutive projects an independent phrase or not is not the central issue of this work. I assume that it does, following Lowenstamm (2008).

The structure above suggests that dimP cannot be merged between numP and nP because of the wrong output. Moreover, *n* should know which RE to spell-out: in (19) there is no feature or label providing the information to *n*.

The following data help to understand what happens when a diminutive (or an augmentative) suffix is inserted into a noun:

(20) Basic and diminutive forms

	Singular		g.	Plural	g.
a.	Basic	*rosa* "rose"	F	*rosa* "roses"	F
b.	Dim.	*rosina* "little rose"	F	*rosine* "little roses"	F
c.	Basic	*dente* "tooth"	M	*denti* "teeth"	M
d.	Dim.	*dentino* "tooth"	M	*dentini* "teeth"	M
e.	Basic	*poeta* "poet"	M	*poeti* "poeti"	M
f.	Dim	*poetino* "little poet"	M	*poetini* "little poets"	M
g.	Basic	*film* "movie"	M	****filmi***/*film* "movies"	M
h.	Dim	*filmino* "little movie"	M	*filmini* "little movies"	M

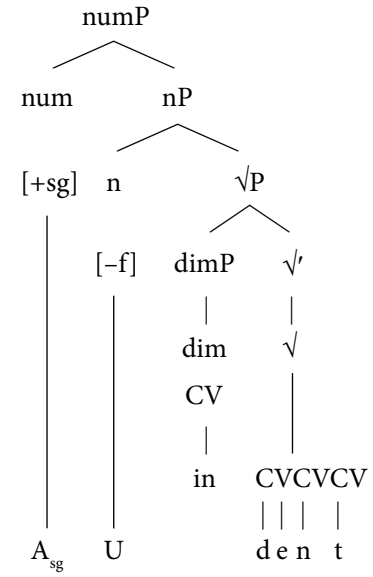
Note that the presence of the diminutive entails the total predictability of the final vowel in the derived nouns:[21] [o] for M and [a] for F in the singular and [i] for M and [e] for F in the plural. This is indeed the case with all the suffixes of this kind (*-etto*, *-accio*, *-ello*, etc.).[22] The final vowel in diminutives replaces any previous V_{fin} spelled-out by the basic noun structure, e.g. in *dente* 'tooth' $V_{fin} = A_{sg} + \boldsymbol{I}$ = [e], but in *dentino* 'little tooth' there is an agreement vowel [o] as the noun is masculine. Note also that **dentine* is totally ungrammatical. I conclude that dimP and V_{fin}P are in complementary distribution and I propose for this reason that they appear in the same place in the nominal syntactic structure:

21. Even the exception *mano* 'hand', F sg. has a regular DIM form *manina* 'little hand', F sg.

22. The augmentative suffix *-one* seems to behave in a different way as in M sg. its final vowel is [e] (but it is otherwise totally regular). I will not treat this case, even though I think that the masculine [o] is contained in the stem [on] (there is a historical reason for this among others).

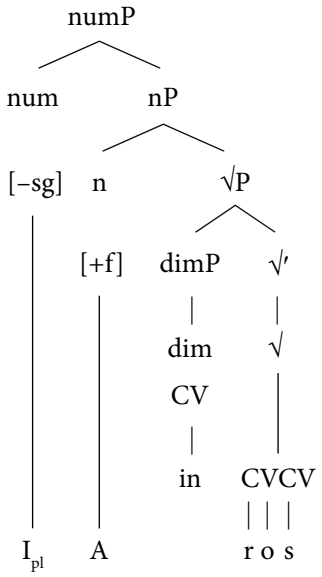
(21) Two diminutive nouns

a. *dentino* "little tooth" M, sg



Output: [dentino]

b. *rosine* "little roses" F, pl



[rozine]

DimP bears a CV unit and *n* looks for the class information in √P: in this case, dimP has no such information. Therefore, *n* creates the agreement vowel U or A, for M and F respectively.[23] The property of the root to select a particular class is not used, as the position is filled by the projection dimP. This proposal has a strong implication about the nature of diminutives in Italian: we expect there to be many non-compositional types of diminutives. This is indeed the case: nouns formed by a nominal root plus a diminutive/augmentative are very common in Italian: *panino* 'sandwich' from *pane* 'bread' + dim; *bancone* 'lunch counter' from *banco* 'desk'; *aquilone* 'kite' from *aquila* 'eagle', etc..

There is also a phonological argument in favor of this view of diminutives. Consider the intervocalic /s/ voicing in Northern Italian varieties:

(22) Intervocalic voicing

a. /kas + a/→ [kaza] "home"
b. /kas + in + a/→ [kazina] "little house"
c. /sentire/→ [sentire] "hear"
d. /ri + sentire/→ [risentire] "feel"

23. I consider that final vowels in diminutives (or augmentatives) suffixes are agreement vowels as the ones in (15). But the question is still open, as it could be argued that diminutives always select class 1. Additional researches should clarify this point.

In (22a) and (22b) voicing occurs in an intervocalic environment; this does not occur in (22d), despite the intervocalic environment. This suggests that the diminutive is merged in the same cycle as the root, i.e. low in the structure.[24] If dimP were higher in the structure, we should expect the form [*kasina] in Northern varieties. On the other hand, in the case of the verb, the item [sentire] has already been spelled-out when a new morphological operation inserts the morpheme [ri].[25]

Take now the case of consonant-final loanwords such as *film* 'movie' (cf. (20)). These words do not take the vocalic plural even if there is clearly an empty V slot on the CV tier. Notice that, phonologically, it is more natural for an Italian native speaker to pronounce **filmi* than *film*.[26] This suggests that there is some structural property that prevents the NbM /I_{pl}/ from associating to the free V slot.

I claim that this structural property which makes *film*-type nouns act unlike *lupo*, *rosa*, *cane* and *nave* is the projection $V_{fin}P$ and the syllable it bears. The CV unit introduced by $V_{fin}P$ is the only possible site for inflectional morphology. This is why *filmino* 'little movie' acts as a regular diminutive: as I claimed above, dimP bears a CV unit which allows the association of agreement vowels as well as NbM's.

It follows naturally from these observations that the status of *poeta*-type nouns shown in (12) is incorrect. These nouns *do* have the projection $V_{fin}P$ which introduces the CV unit and nothing else. In (23), I show the structures for *poeta* and *film*:

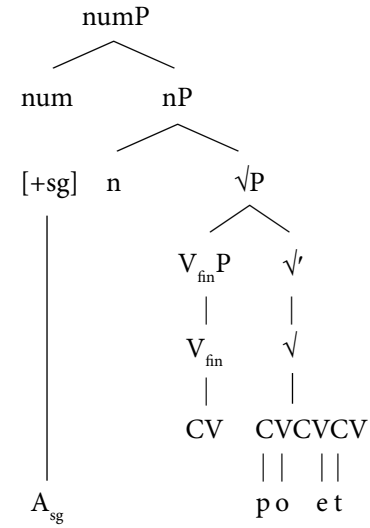
24. What I call here 'cycle' is a 'domain' in Kaye's (1995) terms.

25. Kaye (1995:301–318) proposes a theory of phonological derivation in Government Phonology which could explain the data in (22) by arguing that (22b) is a non-analytic derivation whereas (22d) is an analytic one (with internal phonological domains). My proposal goes in the same direction, and offers a syntactic reason for phonological domains. Cf. also Di Sciullo (2005:75–97) for the analysis of verbs such as *risentire* in Italian.

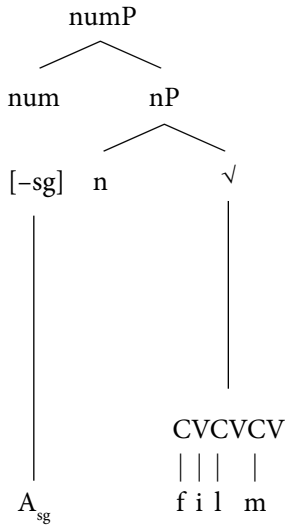
26. In some regional varieties, an epenthetic [e] appears: the dialect of Rome has [firme] with the typical rhoticism. In other varieties, an epenthetic schwa can also appear, as in Neapolitan [filmə].

(23) Basic structures: empty CV and no CV

a. *poeta* "poet" M, sg



b. *film* "movie" M, sg



Output: [poeta] [film]

/A_{sg}/ cannot be associated with the free V slot in the structure of *film* as the only possible site for inflectional morphology is the CV unit introduced by either $V_{fin}P$ or dimP, and neither is present in (23b). The configuration in (23) explains the differences between *poeta* and *film* regarding the property of displaying NbM's. The free V slots in √ have the same phonological status in both (23a) and (23b): a purely phonological approach cannot account for the difference in the behavior of the two roots.

My hypothesis implies that any noun (basic or complex) having some number and/or gender morphology must have a low projection introducing at least a CV unit.

4. Towards a classification of Italian (nominal) roots

The main goal of this work was to discover the ingredients that a speaker of Italian needs in order to construct a noun in this language: I showed that a noun is formed by a root, an RE and an NbM. The quality of an RE depends on the presence of the projection $V_{fin}P$ associated to the root. I further distinguished between lexical pieces of information and predictable ones (as NbM's). Then, in Section 3.2.2, I proposed that the projection introducing the diminutive – dimP – occupies the same position as $V_{fin}P$, and the two are in complementary distribution (cf. (20)).

In the light of this proposal, I claim that these two projections – V_{fin}P and dimP – represent a more general property of nouns, a sort of classificatory device as in languages displaying nominal classes. Further research should clarify this claim, and explain why this level between nP and √ must be included in the structure (cf. Lampitelli (In progress)). Moreover, notice that Italian verbs also carry RE's:[27]

(24) Italian verbs

	conj.		infinitives	Pres.3Sg	Pres.3Pl	Past part.
a.	I	*salt̲are*	*salt̲a*	*salt̲ano*	*salt̲ato*	"to jump"
b.	II	*god̲ere*	*god̲e*	*god̲ono*	*god̲uto*	"to joy"
c.	III	*parti̲re*	*part̲e*	*part̲ono*	*parti̲to*	"to leave"

The underlined vowel is associated with each conjugation; it is not predictable whether a given root appears with [a] or [e], for example. On the other hand, within the conjugation, the vowel changes are totally predictable depending on Mood, Tense and Person. Because of space reasons, I will not go deeper into this topic; this short deviation is meant to show that in Italian there is an additional projection between *any* category-defining head and √.

5. Conclusions

This paper introduced two notions that accounted for the behavior of Italian nouns: the first one is V_{fin}, a complex item formed by two Elements, an RE and an NbM; the second one is the projection V_{fin}P, which introduces an inflectional CV site and the RE associated with the specific root. I have showed that a simple phonological account does not explain all the regularities having to do with V_{fin}: only a syntactic approach to noun formation enables us to account for the different status of final free V slots in *film* and *poeta*.

More specifically, I have identified the structural origins of the external site of inflectional morphology: this position is provided by an independent projection V_{fin}P. This can have further theoretical implications about noun formation and noun structures in non related languages.

I conclude showing the general organization of V_{fin}P in nouns:

27. In traditional Indo-European linguistics it is assumed that roots select the so called 'thematic vowel' giving rise to the 'theme'. Latin and Romance languages, in particular, clearly show this vowel which is totally unpredictable. See Benveniste (1984) for an interesting theory on word formation.

(25) Nouns with $V_{fin}P$

	Type	sg.		gen.	pl.		gen.
a.	default	$A_{sg}.ø$	M		$I_{pl}.ø$	M	*poeta*
b.	class 1	$A_{sg}.\boldsymbol{U}$	M		$I_{pl}.\boldsymbol{U}$	M	*lupo*
c.		$A_{sg}.\boldsymbol{A}$	F		$I_{pl}.\boldsymbol{A}$	F	*rosa*
d.	class 2	$A_{sg}.\boldsymbol{I}$	M/F		$I_{pl}.\boldsymbol{I}$	M/F	*cane*, *nave*

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States and temporal interpretation in Capeverdean

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One known puzzle in Creole systems is that temporal interpretation seems to be constrained by stativity (Bickerton 1974). For decades, the relevant division has been, roughly: bare stative verbs mean present, bare nonstatives mean past. In Capeverdean, a Portuguese-based Creole, we do indeed have: *N sabe risposta* "I know the answer", *N kume pexe* "I ate fish". The above generalization, however, is inaccurate: most Capeverdean statives pattern with nonstatives in this respect. Crucially, also *sabe* "know" may pattern with nonstatives, challenging further this traditional view. In this paper I argue that the distinct temporal readings above can only be explained via the internal structure of events. A Become subevent (Dowty 1979) accounts for *N sabe risposta* – "I got to know the answer", with its consequent state (Moens & Steedman 1988) being "[now] I know." In contrast, there is no consequent state as "I eat fish" for "I ate fish" (cf. "I've eaten.").[1]

Keywords: Capeverdean Creole, stativity, temporal morphology, event structure

1. Introduction

In Capeverdean, a Portuguese-based Creole language, the strategy for building temporal interpretations is said to be constrained by stativity (Bickerton 1974). There are, however, some challenges to this perspective, namely that most Capeverdean statives pattern with nonstatives. This study shows that the crucial element at stake (possibly also in other Creoles) is the fact that *sabe* "know" or *konxe* "be

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familiar with" are not basic statives. They may be interpreted as eventive (culmination: "get to know") or reveal an internal structure (Become subevent (Dowty 1979) plus consequent state (Moens & Steedman 1988)), in which case they are taken as derived states. This paper is organized as follows: Section 2 describes the puzzle; Section 3 organizes verbs and morphemes; Section 4 discusses the semantics of each morpheme; Section 5 explains the current proposal on *sabe* and *konxe*.

2. The empirical puzzle

In the next subsections, distinct Capeverdean temporal interpretations will be described. In 2.1 the traditional description is presented; in 2.2 some relevant empirical complications are added that will make clear the inevitability of rethinking the notion of stativity and its relevance as a basic property of some lexical verbs. In 2.3 previous approaches are summarized.

2.1 Simple statements

From the following non-overtly marked forms, we may indeed conjecture that there is a contrast between *sabe* (1) and *konxe* (2), on the one hand, and eventive predicates like *kume* (3), on the other hand. Note that Capeverdean has no overt agreement morphology (for person or number).

(1) *N sabe risposta* [present]
1SG know answer
"I know the answer."

(2) *N konxe Lisboa.* [present]
1SG know Lisboa
"I know [am familiar with] Lisboa."

(3) *N kume pexe.* [past]
1SG eat fish
"I ate fish."/* "I eat fish."

Under the traditional perspective, the description can be extended to the combinations of these verbs with three overt temporal morphemes available. Among the alleged contrasts when no further context is provided, we observe: (i) the habitual reading of preverbal *ta* seems blocked with *sabe* and *konxe* (4)–(5), but it is allowed with eventives (6); (ii) postverbal *-ba* marks past with *sabe* and *konxe* (7)–(8), but with eventives it marks past perfect (9); (iii) preverbal progressive *sata* seems prohibited with *sabe* and *konxe* (10)–(11), but allowed with eventives, in present/past (12).

(4) *N **ta** sabe risposta.*
*"I know the answer."

(5) *N **ta** konxe Lisboa.*
*"I am familiar with Lisboa."

(6) *N **ta** kume pexe.*
"I eat fish."

(7) *N sabe**ba** risposta.*
"I knew/used to know the answer."

(8) *N konxe**ba** Lisboa.*
"I was/used to be familiar with Lisboa."

(9) *N kume**ba** pexe.*
"I had eaten fish."/* "I ate fish."

(10) * *N **sata** sabe risposta./* N **sata** sabe**ba** risposta.*
"I am/was knowing the answer."

(11) **N **sata** konxe Lisboa./* N **sata** konxe**ba** Lisboa.*
"I am knowing Lisboa."

(12) *N **sata** kume pexe./N **sata** kume**ba** pexe.*
"I am/was eating fish."

2.2 Some complications

There are, however, two crucial problems for these generalizations. The first (Silva 1985; Suzuki 1994; Baptista 2002; Pratas 2007; Borik & Pratas 2008) is that the above considerations do not hold for other verbs viewed as statives. In fact, according to my informants, non-overtly marked *lenbra* "remember" (13), *ntende* "understand" (14) and *kridita* "believe" (15), among others, pattern with eventives (even in the relevant – stative – reading; this note is important, since these verbs may also enter nonstative predicates, such as *lenbra* meaning "recall").

(13) *N lenbra di kel storia-la.*
1SG remember of DEM story-LOC
"I remembered that story." /* "I remember that story."

(14) *N ntende tudu kuza.*
1SG understand all thing
"I understood everything." /* "I understand everything."

(15) *N kridita na bo.*
1SG believe in 2SG
"I believed in you."/* "I believe in you."

Even more significantly, we have a second problem (also noted in previous works). In certain broader environments, also *sabe* and *konxe* pattern with eventives. In other words, certain predicates that involve these verbs exhibit: a past reading for a non-overtly marked form (16)–(17) and combinations with habitual *ta* (18) or progressive *sata* (19)–(20).[2]

(16) *(Onti) N sabe ma bebe di Lurdes dja nase.*
yesterday 1SG know COMP baby of Lurdes just BE.born
"(Yesterday) I knew that Lurdes' baby was born."

(17) *(Onti) N konxe bo maridu na festa.*
yesterday 1SG know 2SG husband LOC party
"(Yesterday) I met your husband at the party."

(18) *Tudu bes ki N ta purgunta-u, bu* ***ta*** *sabe/konxe risposta.*
all time that 1SG HAB ask-2SG 2SG HAB know answer
"Every time I ask you, you know the answer."

(19) *Gosi ki N* ***sata*** *sabe ma bu txiga.*
now that 1SG PROG know COMP 2SG arrive
"It is (only) now that I'm getting to know that you arrived."

(20) *N sata gosta di aula. N* ***sata*** *konxe algen txeu.*
1SG PROG like of class. 1SG PROG know people many
"I am enjoying the class. I'm meeting many people."

A further analysis of the relevant semantic properties of these verbs is needed, in order to account for the above contrasts. Which property is responsible for the behaviors in (1)–(2) and, on the other hand, in (16)–(20)?

There are two possibilities: (i) stativity itself needs a more precise description (we must find/define some sub-property that is relevant among Capeverdean verbs; perhaps this could be extended to similar problems in other languages, namely Creoles); (ii) stativity is basically innocent here.

In the next subsection, some previous proposals will be reviewed. In different ways, they have confronted the generalization based on stativity.

2.3 Prior approaches

For Baptista (2002), the distinction between verbs that represent a state and those representing an action is shown morpho-syntactically in Capeverdean, in the

2. The following abbreviations are used: HAB: habitual; PROG: progressive; PST: past; TERM: terminative; COMP: complementizer; LOC: locative; REL: relative; DEM: demonstrative; 1SG: first person singular (and so on).

forms that verbs assume for various tenses. In discussing Silva's (1985) groups of verbs (according to properties regarding control and imperatives), the author focuses on whether they behave as nonstatives in their tense interpretation. Hence, it is argued that *kridita* "believe" is not stative; *sabe* "know" is nonstative when it takes morphology typical of eventives. As for morpheme *-ba*, if suffixed to a stative it yields "simple past tense", if suffixed to a nonstative it yields past perfect. The morpheme *ta* means both *realis* (aspect/tense marker for habitual and imperfectivity) and *irrealis* (mood function, for future or conditional, a property first noted in Suzuki (1994)). Two different *ta* are mentioned: this TMA marker and an embedded infinitival marker (e.g. with matrix perception verbs).

Departing from Baptista (2002) and references therein, Pratas (2007) also mentions grades of stativity. It is assumed that a zero morpheme combined with some statives ("inherently atelic") cannot have a perfective reading (Bonhemeyer & Swift 2002). With nonstatives, it cannot have an imperfective reading. Nonstatives are considered as "not inherently atelic", which is different from being "inherently telic". This means that the contribution of the zero morpheme is not simply to maintain the perfectivity traditionally associated with telicity.

In the line of Demirdache & Uribe-Etxebarria (2000), Borik and Pratas (2008) propose that there are two temporal projections that bring up two types of relations: within and after; (i) at T_1, where Reference time 1 (R_1) is introduced, we may obtain *sata* or the zero morpheme (within or after for R_1 and Event time); (ii) at T_2, where R_2 (Speech time) is introduced, we may obtain, or not, the past morpheme *-ba* (after or within for R_2 and R_1). The *sabe*-class verbs are incompatible with T_1 (they merge higher; they do not take zero or *sata*). As for the morpheme *ta*, not included in the two projections described, it heads a projection T_3. This *ta*-projection is incompatible with T_1: hence, verbs project either $T_1 + T_2$, or $T_2 + T_3$.

As we have just seen, none of these approaches has provided a detailed semantic analysis of the predications formed from verbs like like *sabe* and *konxe*. In this study I contend that it is not stativity, as some property of the base, that plays the crucial role here, but rather the fact that these events may have a complex structure (as derived states, they are different from both eventives and stative bases). This will be discussed in 4 and 5. Next section organizes the facts leading to this proposal: verbs are ordered in groups (3.1) and temporal contributions of morphemes are illustrated (3.2).

3. Verbs and morphemes revisited

In order to comprehend this Capeverdean puzzle we need to: list the verbs according to their combinations with the morphemes available (3.1); fully understand the possible temporal contributions of each morpheme (3.2).

3.1 The verbs

A listing of Capeverdean verbs can trace a division between:

– those that necessarily show: past reading for non-overtly marked forms, complex reading for *ta* (habitual/future/conditional), ongoing reading with *sata*; these are in Group 1 (all of them follow Bickerton's prediction for nonstatives; note, however, that not all of them fall under this label);
– and those that *may* show an idiosyncratic behavior, such as a present reading when there is no overt morpheme; these are the verbs in Group 2 (note that Bickerton's general prediction for statives is inaccurate at least for verbs in (b); they seem to follow it in certain contexts, but not in others).

Group 1

a. all eventives: *kore* "run", *txiga* "arrive", *le* "read", *lenbra* "recall", *kridita* "believe", *sabe* "get to know", etc.
b. aspectual auxiliaries: *kumesa* "begin", *para di* "stop", *dexa di* "quit", *fika* "stay", *kontinua* "go on", etc.
c. stative bases: *kridita* "believe", *skisi* "forget", *lenbra* "remember", *spera* "wait"/"expect", *konsigi* "be able", *divinha* "guess", *ntende* "understand", *txera* "smell", *obi* "listen"/"hear", *odja* "see", etc.

Group 2

a. verbs whose bare form (no *ø* at stake here) *is necessarily* interpreted as present (some of these verbs display modal properties): *kre* "want", *gosta* "like", *parse* "seem", *meste* "need", *ten* "have", *tene* "have momentarily", *sta* "be" (stage-level), *e* "be" (individual-level), *pode* "can", *debe* "must".[3]
b. lexical verbs that, when not overtly marked, *may* indeed be interpreted as present, but also as past, if a relevant context is provided: *sabe* "know", *konxe* "be familiar with" (and any other that is yet to be recorded).

In this listing, we observe two significant facts: (i) the relevant property for a division line is *not* the basic stativity of verbs (Group 1 includes statives and nonstatives); (ii) the truly intriguing facts concern Group 2 (b).

3. This is not, however, a homogenous list. Besides the common feature of being interpreted as present when there is no overt morpheme, they have idiosyncrasies of their own; except for *e* "be", they may take *ta* in certain contexts, and some may take progressive *sata*.

3.2 Various combinations

This subsection illustrates the contributions of Capeverdean morphemes. It is supported by the possible combinations of eventive predicates (*kume pexe* "eat fish") with *ø* (zero morpheme), *ta*, *sata*, *-ba*, as illustrated in (21)–(26).

(21) ***ø*** V
N kume pexe na djanta. [terminative]
1SG ø eat fish LOC dinner
"I ate fish at dinner."

(22) ***ta*** V
a. *N **ta** kume pexe tudu dia.* [present habitual]
1SG HAB eat fish every day
"I eat fish every day."
b. *Manha, N **ta** kume pexe na djanta.* [future]
tomorrow 1SG HAB eat fish LOC dinner
"Tomorrow, I will eat fish at dinner."

(23) ***sata*** V
*N **sata** kume pexe.* [present progressive]
1SG PROG eat fish
"I am eating fish."

(24) ***ø*** V-***ba***
*N kume**ba** pexe na djanta y dipos N ba deta.* [past perfect]
1SG ø eat.PST fish LOC dinner and after 1SG go lie
"I had eaten fish at dinner and then I went to bed."

(25) ***ta*** V-***ba***
a. *Un bes, N **ta** kume**ba** pexe tudu dia.* [past habitual]
one time, 1SG HAB eat.PST fish every day
"In the old days, I used to eat fish every day."
b. *Si N podeba, N **ta** kume**ba** pexe tudu dia.* [conditional]
if 1SG can.PST, 1SG HAB eat.PST fish every day
"If I could, I would eat fish every day."

(26) ***sata*** V-***ba***
*Kelora N ka bai pamodi N **sata** kume**ba**.* [past prog]
that time 1SG NEG go because 1SG PROG eat.PST
"At that time I did not go/leave, because I was eating."

In the next section I will discuss the values for the different morphemes and the operations in which they participate.

4. Complex operations

The semantic contributions of some morphemes have been one of the most appreciated objects of study regarding Capeverdean grammar. Here I present my own current analysis of the four morphemes under discussion: in 4.1 we have *sata*, ø and *-ba*; in 4.2 we have the more idiosyncratic *ta*.

4.1 Tense (*-**ba***) and aspect (***sata*** and **ø**)

Uncontroversially, *-ba* marks past; hence, it heads a T projection for tense. Also undisputed is the progressive meaning of *sata*.

Zero – *ø* –, however, has been largely debated: past or perfective, tense or aspect? There are strong reasons to assume that non-overtly marked forms of eventive verbs are in fact marked by *ø*. (21) indeed has a 'simple past' interpretation. But if it were simply that eventive verbs are lexically marked for past (hence, no *ø* would be at stake here), there would be no reason for the verb in (23) not to show a past progressive reading; compare (26), where past progressive is obtained by *sata* V-*ba*. A similar reasoning would hold if we assumed that in (21) there is *ø* functioning as a past marker. It should be able to shift (to past) the tense of any sentence. Thus, it is not clear why progressive in the past needs *-ba*.

The alternative proposal assumed here is that *ø* is a null operator that adds a terminative aspect (viewpoint) to the event in question. The temporal interpretation in (21) – preterit – is merely an effect of this aspectual operation. The assertion made is linked to a reference time. When no overt information is provided this is, by default, utterance time: "[now] I eat.TERM", or "[now] I've eaten."

Note that this does not involve any effects of telicity (*Aktionsart*) on a previous atelic predicate. *Djon ø nada* "[now] Djon has swum" is still an atelic event (process).[4] We know this because: (i) we can apply to it a duration adverbial expression like "for two hours"; (ii) the cumulativeness and homogeneity that is characteristic of atelic events is unchanged – the truth-conditions that hold for the event also hold for subparts of it; hence, "John swam from 9 to 11" entails that "John swam from 9 to 10".[5] What is here introduced by the covert morpheme is an (arbitrary) endpoint; that is, a termination.

4. For the aspectual classes of eventive verbs, I use the correspondents in Moens (1987) to the terms in Vendler (1957): process, culminated process and culmination instead of activity, accomplishment and achievement.

5. This is not the case with telic predicates, of the type "write one letter": "Djon wrote one letter from 9 to 11" does not entail that "Djon wrote one letter from 9 to 10".

Recall that telic predicates, which have a natural endpoint of their own, also need a covert operator for past readings. This has a completion effect: it imposes a completive interpretation on the culmination (Kratzer 2004; Hallman 2009a). Otherwise the predicate would receive a partitive reading. This fact accounts for a well-known crosslinguistic puzzle (part of the Imperfective Paradox). Consider the following pair (Hallman 2009a:30):

(27) a. Osbert crossed the street.
b. Osbert was crossing the street.

As the author states, "the telicity of the underlying verb phrase [...] does not project to the progressive derivative; the progressive makes no commitment to real world developments after the reference time." For this reason, (27b) fails to entail (27a). On the other hand, since "the normal completion of an event guarantees the existence of normal initial subintervals of that event, (27a) entails (27b)."

I argue that a similar operator – a null counterpart to the progressive morpheme – exists in Capeverdean, with the differences that this applies to the base of the verb (not to past) and it also operates on atelic predicates. It adds a termination to atelic predicates and a completion to telic ones (28).

(28) **ø** applied to atelic bases → termination
ø applied to telic bases → completion

These effects (that will, nevertheless, be both indicated as TERM, since they depend on the predicate only, not on the nature of the operator) are visible when we observe the following oddness/impossibility:

(29) ??*Djon ø nada y inda e sata nada.*[6]
Djon TERM swim and still 3SG PROG swim
"Djon swam and he is still swimming."

(30) **Djon ø trabesa strada y inda e sata trabesa-l.*
Djons TERM cross street and still 3SG PROG cross-3SG
"Djon crossed the street and he is still crossing it."

Assuming that this null operator is in complementary distribution with the progressive morpheme, we have the projection where both *ø* and *sata* are inserted: a T projection responsible for aspectual operations.

6. *Djon nada parmanha interu y inda e sata nada* "Djon swam all morning and is still swimming" is good, but here we have two distinct events: "Djon swam all morning" is one closed/bounded event (the morning, an argument of this event, has ended); "Djon is still swimming" is another.

4.2 Modal situations with ***ta***

The most enigmatic of all Capeverdean morphemes is, however, preverbal *ta*: it enters habituals, futures and conditionals (both future and past), and also some embedded infimitives, namely with perception verbs (*N obi mininus* ***ta*** *kanta.* "I heard the children sing") or aspectual auxiliaries (*N kumesa* ***ta*** *kanta* "I started to sing").

4.2.1 *"Aspectual perspective"*

As proposed in Cunha (2007) for Portuguese forms of quantifying over events, a predicate marked for *habituality* expresses a generalization and acquires properties typical of individual-level states. More specifically, the habitual brings an "aspectual perspective" more than it acts as an operator. Thus, the habitual does not change/hide all the aspectual properties of the basic event. This differs, for instance, from *iteration* (another expression of repetition), which has punctual predicates as input and whose outputs are typically processes; consider "cough", "jump" or "knock at the door".

Let us now turn to the referred expression of habitual/generic in Capeverdean, departing from bases with distinct aspectual properties: processes (31)–(32); culminated process (33); culmination (34).

(31) *Djon* ***ta*** *fumaba, mas gosi e ka* ***ta*** *fuma mas.*
"Djon used to smoke, but now he doesn't smoke anymore."

(32) *Tudu manha* ***ta*** *txobi na Lisboa.*
"Every morning it rains in Lisboa."

(33) *Maria* ***ta*** *kore dos kilometru tudu dia dimingu*
"Maria runs two kilometers every Sunday."

(34) *Pursor* ***ta*** *txiga tardi tudu dia.*
"The teacher arrives late every day/always."

If this expression of a property is (partially) similar to states, then it is not surprising that typical states (e.g. *e grandi* "be tall" (individual-level), *sta duente* "be sick" (stage-level)) do never take *ta*. They never take *sata* either; this is so because progressives, too, aspectually pattern with states (this similarity will be explored below).

4.2.2 *Marking the uncertain*

In some contexts, *ta* means future. But other relevant environments for this morpheme are conditionals, which use the same combinations as habituals (past and future). In Pratas (2007), the analysis of Capeverdean conditionals is supported by the proposal in Iatridou (2000) for Modern Greek. Consider a usual 'if *p*, *q*' relation (an antecedent in Portuguese would be subjunctive):

(35) *Si N fika**ba** na Praia un anu, N **ta** papia**ba** kriolu.*
if 1SG stay.PST in Praia one year, 1SG TA speak.PST kriolu
"If I stayed in Praia (city) for a year, I would speak Creole."

This is a Future Less Vivid (FLV) type of conditional, as those in Modern Greek in Iatridou (2000:234). The author presents examples of FLV (36a) and of Future Neutral Vivid (FNV) (36b).

(36) a. *An eperne afto to siropi θa γ1inotan kala.*
if take.PAST.IMP this syrup FUT become.PAST.IMP well
"If he took this syrup he would get better."

b. *An pari afto to siropi θa.*
if take.NONPAST.PER the syrup FUT
γ1ini kala
become.NONPAST.PER well
"If he takes this syrup he will get better."

The sentence in (36b) clearly refers to the future and might be an instruction to a caretaker; (36a) might be so, as well, with the possible difference being on the speaker's side: whereas in (36a) for him/her the most likely is *~p* (the antecedent is not actualized in the real world), in (36b) there is no such belief. Thus, counterfactuality is here not an entailment, but an implicature. It is different from a past counterfactual (PC): cf. English (37a) and (37b,c).

(37) a. If he had taken the syrup, he would have gotten better. (PC)
b. If he took the syrup, he would get better. (FLV)
c. If he takes the syrup, he will get better. (FNV)

Iatridou (2000) contends that the past imperfective in (36a) is *fake tense* (*fake past*) and *fake aspect* (*fake imperfective*), since the event is interpreted perfectively and might occur in the future. Pratas (2007) applies the same line of reasoning to Capeverdean FLV conditionals. Consider (38a).

(38) a. *Si e kore**ba** faxi e **ta** txiga**ba** sedu.* (FLV)
if 3SG run.PST quickly 3SG TA arrive.PST early
"If he ran quickly he would arrive early."

b. *Si e kore faxi e **ta** txiga sedu.* (FNV)
if 3SG run quickly 3SG TA arrive early
"If he runs quickly he will arrive early."

In the consequent clause we have also a *fake aspect* and a *fake tense*: in fact, nothing determines that the time location of the arrival cannot be in the future; as for aspect, it is certainly not a habitual interpretation, it must be episodic. For the arrival

to be possibly (not necessarily) interpreted as habitual, something different should be said in the antecedent:

(39) *Si e* ***ta*** *kore**ba** faxe e* ***ta*** *txiga**ba** sedu.*
if 3SG HAB run.PST quickly 3SG TA arrive.PAST early

The sentence in (39) has the following interpretation: if he had the property of running quickly, he would be able to arrive early (e.g. yesterday/tomorrow/etc., *or* every morning/every Sunday/always/etc.).

As for past counterfactuals (PC), in Capeverdean they have the same expression as FLV's, and its specific meaning is given contextually.[7]

In sum, if we take for granted that conditionals, both in past and future, are forms of referring to possible worlds (also in FNV, as (38b), the consequent is dependent on the actualization of the antecedent), then what we have here is a modal contribution of the morpheme *ta*. This is consistent with what happens in Portuguese, where consequents in FLV and FNV may be (and often are) built with past/present habitual:

(40) a. Se ele tomasse o xarope, ficava melhor. [FLV]
b. Se ele tomar o xarope, fica melhor. [FNV)

All the elements in the above description lead to this proposal: *ta* has a complex function (it is a crosslinguistic fact that distinct constructions may involve similar morphological combinations). This function, in its multiple expressions, seems incompatible with terminative *ø* and progressive *sata*: they are in complementary distribution. Its incompatibility with other state-like constructions (such as *e bunitu* "be beautiful", and also progressives) falls out nicely from the fact that it is the expression of a property and is (partially) similar to states. As for the incompatibility with the terminative morpheme, only a specific preterit reading is available for predications with *ta*, in the form *ta* V-*ba* (the so-called past imperfective).

5. Where *sabe* and *konxe* are not stative bases

Stativity, as a lexical property of certain verbs, is insufficient to account for these facts. This paper traces a division between those Capeverdean verbs whose non-overtly marked form means past (Group 1: all eventives, most stative bases,

7. There are other past counterfactual environments (Pratas 2007), where a *wish* predicate embeds an infinitive and the latter also takes a 'past' morpheme.

(i) *N kre**ba** ser**ba** veterinario, mas N bai pa pursor.*
"I had wanted to have been a veterinarian, but I am a teacher."

aspectual auxiliaries) and those whose non-overtly marked form means present (Group 2: (a) some verbs that show modal properties, and (b) verbs like *sabe*, *konxe*). As we observe here, there are stative predicates in both groups. But one question remains: which is the relevant feature that triggers distinct behaviors regarding temporal morphemes/interpretations?

5.1 A crucial kind of state: consequent states

My proposal is that Capeverdean stative bases in Group 1 (c) are of the type that supports a process-like reading (still a simple internal structure), even if they remain different from processes.[8] On the other hand, there is one kind of states at stake here: the particular *consequent states* (Moens & Steedman 1988) of certain (not all) culminations. The language has, therefore, the following culmination available: *N sabe* "I got to know", or (if we express the binding of its event argument by a default reference time, as has been here assumed) "[now] I have known"). Sometimes, this culmination occurs independently: *sabe* may show a nonstative behavior (e.g., the sentence in (16), *N sabe ma bebe di Lurdes dja nase.* "I've known that Lurdes' baby was born."). But that culmination may also occur as part of a complex event – in other words, it may constitute a subevent of the Become type (Dowty, 1979), on whose consequent state the temporal interpretation is anchored.

In Gehrke & Grillo (2009) there is a related proposal for statives that can undergo passivization: "know", "believe", "own": "*know*-verbs allow a reading where the state denoted by the verb is re-interpreted as a consequent state, a state having come into existence [...]" (p.245)

The mechanics proposed here, however, is somewhat different: instead of adding a Become predication to a stative base, I argue that the base is a telic event (culmination), which, together with its own consequent state, may participate in a complex event structure. Moreover, Capeverdean *kridita* "believe" does not pattern with *sabe*; and as for "own", the only equivalent is *ten* "have", which has modal properties. This particular kind of consequent state – and, thus, the possible anchoring of the temporal interpretation on this stative situation – is the distinctive semantic feature of these Capeverdean events. There are empirical grounds to assume that there is no similar aspectual operation available for other events, not even for those stative bases that, in certain contexts, show an eventive (more

8. Cunha (2004) has proposed for Portuguese a division within the states group: (i) those that can be phased ('estados faseáveis'), and thus support a more process-like reading; (ii) those that cannot be phased ('estados não faseáveis'), entirely showing stative properties. One diagnostics for these states is through the interaction with "start"/"stop" operators: 'estados não faseáveis' are bad with both; 'estados faseáveis' are good with "start", bad with "stop"; basic processes are good with both. These are under study for Capeverdean.

precisely, telic) counterpart, like the "recall" meaning for *lenbra* (instead of "remember"). In these cases, the two entries (stative and nonstative) occur independently. We will see a fine-grained distinction in the next subsection.

5.2 Interaction with point adverbials

We have some means to confirm the particular behavior of those derived states. We may test, for instance, the interaction of *sabe* with point adverbial predicates. Vlach (1981:284) points out for English that the one "defining characteristic of stative sentences is their way of interacting with point adverbials." The author is arguing in favor of a parallel between states and progressives. But this test may also reveal a distinction between, on the one hand, certain (derived) states and, on the other hand, eventives in a non-progressive form (even if these are from Group 1(c)). Consider English:

(41) a. Max was here when I arrived. [state]
b. Max was running when I arrived. [progressive]
c. Max ran when I arrived. [process]

In (41a,b) Max was here/running prior to my arrival; in (41c) Max started running when I arrived. Let us now apply this to these Capeverdean verbs.

(42) a. *Kantu ki bu txiga Mayra ø kore.* [process]
"When you arrived Mayra ran."
b. *Kantu ki bu txiga Mayra sabeba risposta.* [state]
"When you arrived Mayra knew the answer."
c. *Kantu ki bu txiga Mayra lenbraba di kel storia*.
"When you arrived Mayra had recalled that story."

In (42a) Mayra started running at the instant of the arrival (*ø kore* is not a state). In (42b) Mayra already knew the answer prior to the arrival (*sabeba risposta* is a state). In (42c) there is a sort of sequential reading (*lenbraba* is interpreted eventively, a culmination); nothing is said on whether Mayra still remembered the story at the arrival instant. If we do not add past *-ba* to *lenbra*, we still have a terminative reading, and the sequence is reversed (the reading is like (42a)). In any case, this is not a state. This is the point here.

5.3 Temporal results

As for its temporal interpretation, this *sabe* state apparently behaves similarly to other derived states, such as progressive derivatives and also habituals (the latter,

as we have seen, show properties of states, although they do not erase all the aspectual features of the base eventive predicates).

In order to account for this behavior, I will follow the notion Hallman 2009b: 19 that progressives pattern with states because "both types of predicates are true of moments of time, in opposition to eventive predicates, which are true of intervals" (19). This idea is supported by the parallel presented in Vlach (1981) for progressives and states: the progressive saturates the event argument of an event description, deriving a non-eventive expression. Therefore, both progressives and states are licit in the present tense in English (as in Capeverdean), while eventives are not (in a non-habitual reading).

The temporal interpretations available for Capeverdean predicates straightly follow from this perspective. We have "[now] I know" (where "now" is a moment, not an interval) as a logical consequent state of "[now] I've known". On the other hand, for other telic events (culminated processes, culminations) we have consequent states of the type "[now] I've eaten one fish", which never means "[now] I eat one fish". In the same fashion, even the telic situations formed from verbs that are considered stative bases plus the relevant type of arguments do not enter events with a complex internal structure of the sort accessible for *sabe*. This is what we have seen with *lenbra*. But we have also the example of *kridita* "believe": "[now] I believe you" is not a logical consequent state for "[now] I have believed you."

In (43) we observe a sample of different interpretations for each morpheme. All sentences can be shifted to past if postverbal *-ba* is inserted, at a higher temporal projection. In this case, the instant of evaluation would not be "now" (the utterance time) but some given "then" (a reference time anterior to utterance time). Note also that the event in (43c) denotes an event with a complex internal structure: ø applies to its subevent, of the Become type, not to the state on which the temporal interpretation is anchored; this is why it is not represented here.

(43) a. *N ø kume pexe.* "[now] I have eaten fish."
b. *N ø sabe risposta.* "[now] I have known the answer."
c. *N sabe risposta.* "[now] I know the answer."
d. *N sata kume pexe.* "[now] I am eating fish."
e. *N sata sabe mas txeu.* "[now] I am learning more."
f. *N ta kume pexe.* "[now] I have the property of eating fish."
g. *Tudu bes ki pursor ta purgunta-m un kuza N ta sabe risposta.* "[now] I have the property of knowing the answer every time that the professor asks me something."

As a closing note: judging by the sentences in (43) we observe that all of them are true of instants of time. And they are licit in the present tense. This may lead us to

conjecture that all these Capeverdean environments contain, in fact, a sort of stative situations. Note, also, that this is different from Bickerton's generalization.

Finally, resuming the possibilities in Section 2: (i) stativity itself needs a more precise description (we must find/define sub-properties that are relevant for Capeverdean verbs; perhaps this could be extended to similar data in other languages, namely Creoles); (ii) stativity is basically innocent here. As it may be clear at this point, the hypothesis in (i) is correct. I hope to have contributed to the definition of that more precise notion. Some Capeverdean derived states, and not stative bases, are the ones whose non-overtly marked form is interpreted as present. This includes: typical states like *e grande* "be tall" or *sta duente* "be sick"; the ones that enter certain complex event structures (culmination plus consequent state), like *sabe* and *konxe* in some contexts. Also progressives and habituals, whose operators stativize their base predicates, are interpreted as present in the absence of *-ba*.

6. Concluding remarks

stativity, as a semantic property of some basic predicates, does not account for the distinct temporal interpretations of Capeverdean *N sabe risposta* "I know the answer" and *N kume pexe* "I ate fish". Actually, basic stative verbs pattern with eventives in this respect. In this study I propose that Capeverdean stative bases show a process-like behavior, keeping a simple internal structure. On the other hand, they participate, in certain contexts, in predicates that denote typically telic events (culminations). In this last property, they pattern with *sabe* and *konxe* which, given the right context, may also show a culmination reading – in this case them, too, behave as eventives regarding temporal morphology.

The crucial element at stake in the language (possibly also in other Creoles) is the fact that verbs like *sabe* "know" and *konxe* "be familiar with", but not stative bases, may reveal this complex internal structure (a Become subevent – "got to know" – plus a consequent state). For their occurrence as a culmination, we have "[now] I've known" (where the reference time and utterance time coincide). For their occurrences as derived states, and assuming that states are true of instants, we have "[now] I know". Conversely, consequent states for other verbs are not part of any complex event of this type. For "[now] I've eaten one fish", for instance, there is no logical interpretation of the type "[now] I eat one fish".

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Pluractional verbs that grammaticise number through the part-of relation

Lucia M. Tovena

This paper pursues an analysis of verbs like Italian *mordicchiare* (nibble) as event-internal pluractional verbs that denote composite single events where the predicate is distributed on the fragments of one entity, and grammaticise a local form of number through the part-of relation. This opens the possibility of reading number marking in aspectual terms, whereby fragmenting is a form of modification that perturbs the mapping between event and object.

1. Verbal plurality

1.1 Generalities

Verbal plurality, or PLURACTIONALITY (Dressler 1968, Newman 1980, Cusic 1981), is the phenomenon whereby inherent verbal number is encoded on the verb by means of specific morphological devices such as affixation, full or partial reduplication, or gemination. The plural meaning under consideration indicates that the type of event in the denotation of the verb is multiply instantiated in some way, because either it holds at several points in time, or it takes place in several locations, or it holds of several participants or several parts of one participant.[1]

Cusic has proposed that verbal plurality concerns several conceptual levels and has defined a hierarchical arrangement of bounded units in three levels of structure, namely OCCASIONS, EVENTS, and PHASES. Pluralisation is possible at each level, indicating "more than one isomorphic bounded unit of that level" (Cusic 1981: 69). He then reorganises the levels into two main types of pluralities. On the one hand, an EVENT EXTERNAL PLURALITY is constituted by events or occasions and results from distributing an action in time – e.g. frequentative and

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habitual readings – or over participants – e.g. distributive readings of NPs, or over locations. This plurality is also called a case of 'repeated' action. On the other hand, an EVENT INTERNAL PLURALITY is a form of repetition within the boundary of one event. Phases are the relevant units, repetition is primarily distribution over time according to Cusic, and the whole is also called a case of 'repetitive' action. At least in my understanding of his terminological choice, Cusic suggests that events are the main level, the one at which the hierarchy can be entered with a verb and from which the other levels are reached. I share this position.

1.2 Internal pluractionality

Cusic identifies two main types of event-internal plurality, one involving a form of increase, the other a form of decrease. Event-internal pluractional verbs of the decrease type are the main concern of this paper. These verb forms correspond to the class of verbs for which one also finds the term of frequentative in typological and morphological studies.

It is worth making clear that internal pluractionality is concerned with verbs combining with atomic arguments and yet exhibiting a multiplicity component in their meaning. Contra Cusic and Lasersohn (1995), I do not think that distribution over time is a crucial piece of information contributed by these verbs. Describing an event as a nibbling event is not meant to convey information on the temporal non-overlapping of bites as the main contribution, but on their multitude, smallness and indistinguishibility, I contend. When internal pluractional verbs combine with plural arguments, they distribute the requirement of multiplicity over the members of the plural argument.

From the morphological point of view, verbs of the decrease type exploit a variety of word-formation strategies. The cases under study here exploit affixation (or combination with submorphs), as exemplified by Italian *mordicchiare* (nibble), *saltellare* (hop), *piovigginare* (drizzle), French *mordiller* (nibble), *sautiller* (hop), *neigeoter* (snow a little). But this morphological strategy is not consistently exploited even in related languages. For instance, French based creole of Mauritius exploits stem reduplication instead of affixation. Portuguese does not seem to use evaluative affixation productively, for instance *mordiscar* (nibble) is a rare form. In Italian, the original host of productive affixes is currently shrinking to *-i/u/acchi-* (Grandi 2008). Next, English forms like *nibble* and *sparkle* are no longer perceived as derivational. Cusic says that they derive from old iterative affixes *-er* and *-le*, quoting OED, hence they illustrate a form of affixation that differs from the Romance case.

From the semantic point of view, I pursue the idea that decrease event internal pluractional verbs denote composite single events resulting from distributing the predicate on the fragments of a participant (Tovena 2007, Tovena and Kihm 2008).

This proposal makes use of tools developed by (Landman 2000) and is cast in the same framework. In particular, distributivity is understood as a form of plurality, and it is assumed that number information in argument positions is relevant for the event and must be represented explicitly. I have no strong commitment to a neo-Davidsonian rendering, but a semantic representation of this type provides the direct access to thematic relations that is needed in the case at hand.

The remainder of the paper is organised as follows. In Section 2, first, I summarise the semantic analysis of internal pluractionality presented in previous work (Tovena 2007, Tovena and Kihm 2008) and adopted in this paper. Then, I strengthen it by showing that number marking follows the same pattern in event-internal and event-external pluractionality, and I extend it to cover the conative reading frequently available for internal pluractionality verbs. Aspectual considerations are discussed in Section 3. Some issues like telicity and incrementality concern primarily deverbal forms, since aspectual modification is more easily appreciated when comparing derived with simplex verbs that describe events in their 'canonical' form. General points concern the possibility that the fragmented entity is not introduced by an argument, but is just a value on some scale associated with the event, and the non-existence of a constraint of minimal cardinality on the plurality. Section 4 gathers some concluding remarks.

2. A semantic analysis

2.1 Parts and plurality

In previous work (Tovena 2007, Tovena and Kihm 2008), the peculiarities of event internal pluractional verbs have been captured by requiring that their lexical entries specify that the entities denoted are unitary at event level and have complex internal structures. Two specific steps of decomposition enable us to express constraints on the internal structure of the event in an explicit way, but which is not visible above word level. First, the event described by a pluractional verb is viewed as a single event composed of a plurality of phases whose members do not enjoy the status of events. Second, in this single event, at least one participant is decomposed into parts, and phases reflect the application of the predicate to the parts of the participant demoted to a sum. The thematic relation between the event and the individual entity instantiating an argument is computed by adding the subrelations between phases and cells of a cover[2] on the entity. In the entry for the verb *tagliuz-*

2. A cover C of a set A is a set of subsets of A called the cells of C, that satisfies the following constraints. Every member of A belongs to some cell of C and the empty set is not in C.

zare (cut into small pieces) provided in (1), the first line matches the normal case of a transitive verb, and the second line specifies the internal structure of the event.

(1) λx λy λe [(TAGLIUZZARE(e) & Ag(e,y) & Pat(e,x)) < = >
∃e' (*TAGLIUZZAREPart(e') & e = ↑e' & *Ag(e',y) & ^{M}Pat(e',x))]

The second line in (1) states that the event *e* is equivalent to the groupification of an element in the denotation of a plural property of events, to which an agent and a patient are related. A plurality, marked by the operator '*' (Link 1983), is a collection of units of level *n*. The operation of groupification, noted as '↑', gives the collection the status of unit at level *n* + 1. This step of groupification is lexicalised[3], as the verbs of this class do not make phases accessible, see (Tovena and Kihm 2008) for evidence and discussion. Starred predicates in general, denote in a domain that contains singular and plural entities. In the case of internal plurality, something more has to be specified, since we want to make sure that only events with multiple phases are in the denotation of the verb. The need to enforce explicitly the constraint of plurality of phases is confirmed by the loss of semelfactive reading for pluractional verbs whose simplex form admits this reading, see the impossibility of making explicit the 'single event' use (2) and the marginality (or inchoative reading) with a time adverbial indicating a point in time (3).

(2) a. #Daniele ha tossicchiato (un colpo di tosse)
Daniel coughed a single cough

b. #Daniele ha sputacchiato (un singolo sputo)
Daniel spluttered a single spit

(3) a. Daniele ha tossito alle due in punto
Daniel coughed at two o'clock (sharp)

b. #Daniele ha tossicchiato alle due in punto
Daniel coughed (slightly and repeatedly) at two o'clock (sharp)

There is no plurality of events when a simplex predicate applies to singular participants once, but fragmenting a participant introduces a source of plurality. The argument that undergoes this treatment is the most directly affected one. It usually is the direct object in transitive verbs, as in *becchettare* (peck at), but more will be said in the next section.

3. Wood (2007) has independently proposed to use the groupification of a plural predicate to represent event internal pluractionality. However, her account cannot explain where is the source of the plurality of phases in an event with single participants. Indeed, starring the predicate is just a way to say that it denotes in a singular and plural domain, not a way to eliminate single phase events from the domain. Single phase events do exist in language, and are needed for the formal coherence of the system, but are not in the denotation of pluractional verbs, I claim.

Formally, the singular number of the atomic affected participant is modified by an application of the grinding operator (Landman 1991) invoked in the definition of mass role (see below). The thematic role of the affected argument is equated to a mass role (Landman 2000) and holds true of pairs of phases and cells of the cover, instead of pairs of events and individuals. Plurality requires that the parts over which the predicate is distributed are the cells of a cover weaker than the one having the atom as its unique cell. This use of the mass role makes it possible to get at countability, as the cells of the cover are parts (atoms but not individuals) related to the phases via the (sub)plural-role, as we said, but does not allow counting, since the affected participant is fragmented locally and the parts are not accessible at discourse referent level. Phases weakly exist as a reflex of the cells of a cover, but it is not known which cover is used and no contextual parameter is involved/provided for it. The only accessible elements are the variables for the event and the participants. It is not a surprise, therefore, that internal pluractional verbs differ from collective nouns, although both of them are groups. The elements constituting a group like *committee* have a status ontologically defined, as individuals, and can be seen. For instance, a collective noun can satisfy the verb requirement for a plural subject in (4). On the contrary, phases do not have independent status, as I contend. Groupification per se does not mean making the components invisible.

(4) The committee met.

In short, according to this proposal, event-internal pluractionality is a form of event plurality where the Aktionsart of the verbal expression is modified in a way that is specific to the class that is being characterised and independent of the reference type of the NPs in certain argument positions. Plurality is obtained by distributing over parts of an entity that continues to be perceived as an atom at discourse level. This is the general analysis of the phenomenon.

However, I wish to leave open the possibility that languages follow different paths to get at the same situation. We have said that languages may exploit diminutive affixes, but also other morphological devices. The intuition behind the present paper is that relevant aspects of the behaviour of internal pluractionality verbs in Italian and other Romance languages can be captured by assuming a single derivational process of verb formation whereby diminutive suffixes contribute to creating new verbs that denote singular internally-complex events, by overtly marking a reduction in the flow of a (semantic) thematic role. This position is compatible with the semantic treatment of the phenomenon that I have just summarised, but it is in contrast with the non-derivational morphological analysis defended in (Tovena and Kihm 2008). At least as far as Italian is concerned, I think that a derivational analysis cannot be entirely ruled out.

It is also worth noting that the proposal is compatible with Krifka's (1992) claim that all patient roles have the property of summativity, which is cumulativity defined for two place relations such as thematic roles. This property means that thematic relations are not sensitive to the size of the entities they relate. In the verb entry provided in (1), summativity is verified in the first half of the equation, the one that counts as far as thematic arguments of the verb are concerned. It is intended not to be verified in the second half, precisely because the reduced flow is what is going to trigger the repetition.

2.2 The number pattern

As we recalled, pluractionality is the term used to refer to the phenomenon whereby number is grammaticised as a morphological category inherent to the verb. This is a distinct phenomenon from number agreement, as demonstrated by Frajzyngier (1985) and Durie (1986). In event-external pluractionality, by far the most frequently studied case, the two commonest patterns in linking verb number morphology to verbal argument structure (Cusic 1981, Durie 1986) are:

1. the absolutive one (the number encoded is that of the intransitive subject or transitive object), which leads to a plural effect
2. the nominative one, which leads to group activity reading

Cusic draws attention to the parallelism in the use of the schemata S-$V_{intrans}$ and V_{trans}-O between several phenomena, namely case marking, i.e. the absolutive/ergative paradigm, pluractionality, i.e. the selection of the participant over which the action is distributed, and telicity, i.e. the participant whose boundedness and identification favour a conceptualisation of the event as bounded.

A natural question to ask is whether the patterns used in linking morphology and argument structure in event-internal pluractionality are the same as those recalled above for event-external pluractionality. The answer is positive, in general, with one important difference connected to the fact that the elements resulting from the fragmenting do not surface at discourse referent level. It appears to be possible to fragment what may not be an overt argument of the verb, e.g. the internal/cognate object of an intransitive verb, e.g. 'life' in *vivacchiare* (live/struggle along), as discussed later in the paper.

All the cases discussed so far concern the absolutive pattern, and one may wonder whether the answer is also positive with respect to the nominative pattern. I think it is, but this is less straightforward to show. Indeed, we have to reconcile in a single argument position two seemingly contradictory constraints that are the atomicity of the participant, as required by internal plurality, with the presence of

a multitude viewed as a collection for the collective reading to arise, as required by the pattern. The sentence in (5) fulfils all these requirements.

(5) Il colpo di fucile ha bucherellato l'otre
The gunshot riddled the water skin with holes.

The referent of the subject NP is a singular entity that can be reanalysed as a collection of pellets. Pellets may work as atoms but not as individuals is this case, like the grains of rice. The action of the gunshot is viewed as collectively responsible for the many little holes, and the distinction into phases is not built on pellets. Indeed, the sentence is used felicitously also to describe a situation where some pellets hit the water skin on the same spot and/or at the same time, and it is not possible to say which pellet caused which hole. The object provides the distributive key, not the subject. In short, no constraint of disjunction necessarily applies either on time, space or participants, and this makes it yet another counterexample to Lasersohn's claim mentioned above, and therefore to his formalisation of event-internal pluractionality that bans overlap, recalled here.

(6) V-PA(X) $\Leftrightarrow \forall e\, e' \in X[P(e) \& f(e) \text{ ø } f(e')] \,\&\, \text{card}(X) \geq n$

2.3 The conative reading

The cells are locally reduced instances of the original atomic value that gets fragmented. They are parts of a participant, but their existence is restricted to the purpose of predicate distribution. Diminution affects only the flow of the thematic role, not the fact that a particular role relates an event and a participant. The thematic relation is defined at event level, i.e. the first part of the entry of a pluractional verb in (1). Repetition is a consequence of meeting the constraint of satisfying the thematic relation with the whole participant while only having access to a portion of it at any given time.

The idea of having a fragmented object can be interpreted as a way of saying that one has access to information on the mode the whole participant related to the event gets recomposed from the collection of parts involved in the phases. The sum operation is what is generally used for (re)composition, cf. the property of mapping-to-subevents (MSE) defined by Krifka (1998). Sum is also the operation used in the definition of a mass role (Landman 2000), recalled in (7).

(7) MASS ROLE ^{M}R
Let *e* be an event and *a* a member of the domain of atomic individuals,
$^{M}R(e) = a$ iff $\sqcup (\{g(d) \mid d \in AT(^{*}R(e))\}) = g(a)$

Landman's (2000) mass role is a function from the domain of events into the domain of individuals. From the definition in (7) it appears that it corresponds to an application of a plural role to all the cells of a cover applied to the participant, whichever cover is taken. The atomic affected participant is modified by application of the grinding operator 'g' (Landman 1991), which is a function that maps an individual onto the sum of its material parts.

(8) The GRINDER function 'g' is that function from the count domain into the mass domain ($C \rightarrow M$) such that for every $c \in C$, $g(c) = \bigvee \{ x \in M \mid xKc \}$, where K is the relation MATERIAL PART OF.

When information on the mode of recomposing the whole participant related to the event is made accessible, such mode can also be varied. From this, one can see why the conative reading, according to which multiple attempts of performing the action fall short of producing some desired result, becomes so easily available with internal pluractionality verbs. The proposal presented in Section 2.1 can be extended to cover it simply by stating that the plural role of the affected argument applies to some but not all the cells of the cover. In order to formalise partial realization, the definition of mass role must be modified. We need a weaker version where a plural role applies to cells of a cover corresponding to some parts of a substance, but not necessarily to all the cells. Therefore, the participant that is reconstructed does not correspond to the maximal sum of its cells. I start by redefining the operation of grinding. The new operation is done by an unfaithful grinder that returns a subset of the parts of the entity to which it applies, as suggested by its name.

(9) The UNFAITHFUL GRINDER function 'ug' is that function $C \rightarrow M$ such that for every $c \in C$,
$ug(c) = \{ z \mid z \subset \bigvee \{x \in M \mid xKc\} \ \& \ z \neq \{x\}\}$.

The affected argument is related to the event by a fragmented role ^{F}R, defined as an application of a plural role to some of the cells of a cover, but not all of them, whichever cover is taken.

(10) FRAGMENTED ROLE ^{F}R
Let e be an event,
$^{F}R(e) = a$ iff a is an atomic individual and $\sqcup (\{g(d) \mid d \in AT(^{*}R(e))\}) = ug(a)$

Verbs may be underspecified with respect to the nature of the grinder they use, hence whether a mass or a fragmented role relates the relevant participant and the event. If they are derived from a verbal base with telic meaning and incremental theme, the use of the unfaithful grinder seems to be preferred and the conative reading generally is the most prominent one. Underspecification amounts to

saying that *z* of (8) is a subset or is equal to the total of the parts of the grinded entity, putting (7) and (8) together.

3. Aspectual considerations

In the literature, the 'part-of' relation is often used in determining the telicity of a predicate. Atelic predicates are called homogeneous. A predicate is homogeneous if parts of its denotation can be referred to by the same predicate (Vendler 1967). According to (Bennett and Partee 1972, Dowty 1979), they have the subinterval property, i.e. whenever a predicate is true at a time interval, it is true at any part of that interval. The fact that phases emerge from a form of distribution of the predicate should make us aware of possible aspectual consequences of event-internal pluralisation.

3.1 (A)Telicity

Deverbal pluractionals can have a telic base, e.g. *mangiare la mela*, or an atelic one, e.g. *vivere*. Pluractional forms in general, whether deverbal or non-deverbal, do not lend themselves easily to a definition of their a/telicity. The diminutive form may seem to leave unaffected the telicity of the predicate, as in the case of *tagliuzzare*, or affect it in a perceivable way, as in the case of *mangiucchiare* or *canticchiare* (hum). Contrary to what is the case with simplex forms, these verbs do not form clear telic predicates when combining with a singular definite object, see the contrast between (11) and (12), where the atelic interpretation is strongly preferred in (11) and the telic one is most natural in (12). The 'part of' relation is not preserved from the object domain to the event (Dowty 1991).

(11) Luisa ha mangiucchiato la mela
Luisa nibbled the apple

(12) Luisa ha mangiato la mela
Luisa ate the apple

Traditional in/for test (13) and implication test (14) return mix results for these predicates, i.e. as possibly telic for the first and atelic for the second.

(13) a. Luisa ha mangiucchiato la mela per un'ora/?in un'ora
Luisa nibbled the apple for an hour/in an hour

b. Luisa ha mangiato la mela *per un'ora/in un'ora
Luisa nibbled the apple for an hour/in an hour

(14) a. Luisa stava mangiucchiando la mela quando e' arrivato il treno
→ha mangiucchiato la mela
Luisa was nibbling the apple when the train arrived

b. Luisa stava mangiando la mela quando e' arrivato il treno
-/->ha mangiato la mela
Luisa was eating the apple when the train arrived

Grinding may cross out the homomorphism between incremental theme and event, and the internal argument may no longer measure out the event. If grinding is a consequence of a semantic instruction coming from the diminutive affix, as I suggest, we expect that contrasting aspectual information – from the simplex verb, the arguments and the derivational morphology– lead to unacceptability. This is precisely what happens with *tagliare* in the collocation *tagliare il traguardo*, which describes an achievement. In this use, the verb cannot be modified with diminutive morphology, see the contrast in (15) where the verb is combined with a definite NP in object position in both sentences.

(15) a. tagliare/tagliuzzare la mela
cut/chop the apple

b. tagliare/* tagliuzzare il traguardo
cross the finishing line

Achievements are not durative. example (16) provides support for the durativity of pluractional *tagliuzzare*.

(16) ?*Quando Luisa ha smesso di tagliuzzare la mela, l'ha distribuita sull'impasto della torta
When Luisa stopped chopping the apple, she sprinkled it on the mixture for the cake

The homomorphism from objects to events in telic events with an incremental theme follows from the properties of the thematic relation that mediates between event and object (Krifka 1992). Verbs of the internal pluractional type may be seen to have a patient role that satisfies the property mapping-to-object of (Krifka 1992), because there is a part of the object that is the patient of a proper part of the event for each of its parts, but they do not satisfy mapping-to-event, because it is not the case that every proper portion of the object corresponds to a part of the event. Note, however, that the first property holds only if one accepts that parts may not be affected through and through. The conative reading is a manifestation of the fact that the second property does not hold, as shown above. Similar is the situation found with respect to the other two properties uniqueness of object and uniqueness of event (Krifka 1992) relevant for the preservation of the lattice

structure for object and predicate. For verbs of consumption, the patient role shows uniqueness of object, with the same proviso as above, but verifying uniqueness of event is more complicated, because of the conative reading. The fact that these four properties cannot all be shown to hold for the patient of a pluractional verb means that this is not an incremental theme.

Mapping-to-object and uniqueness of object are the relevant properties for defining quantized predicates, together with the condition that the event is not iterated. Telic events are quantized, according to Krifka (1992). Atelic events are not quantized and are homogeneous. In the literature, proposals differ with respect to whether telicity or atelicity is the property that is directly defined, the other being the complement.

Homogeneity can be appreciated separately when combining or dividing events, i.e. in the two directions upward and downward. The first corresponds to the property of cumulativity the way it is defined by Krifka (1989) and Kiparsky (1998). A predicate P is cumulative iff $\forall x\ \forall y\ [P(x)\ \&\ P(y) \rightarrow P(x \oplus y)]$ and it does not have singular reference, i.e. $\exists x,y\ [P(x)\ \&\ P(y)\ \&\ \neg\ x = y]$. The second half of homogeneity can be made to correspond to not satisfying the property of quantization defined by Krifka (1992) on objects, i.e. $\forall x\ \forall y\ [P(x)\ \&\ P(y) \rightarrow \neg x \sqsubset y]$, or correspond to satisfying the property of divisive reference for predicates, defined as $\forall x\ \forall y\ [P(x)\ \&\ y \sqsubseteq x \rightarrow P(y)]$ and which corresponds to closure under subpart relation. It also corresponds to satisfying divisivity, i.e. $\forall x\ [P(x)\ \&\ \neg atom(x) \rightarrow \exists y\ [y \sqsubset x\ \&\ P(y)]$, defined by Kiparsky (1998) with the help of the predicate *atom*, which is problematic for pluractionals.

Diminutive plural predicates are upward homogeneous, as it is possible to 'expand' their denotation. On the contrary, this cannot be ensured when contracting it, although it cannot be ruled out in all cases. As I claim in Section 3.4, we hit a sorites paradox rather than the threshold of a cardinality constraint.

3.2 Incrementality

What is homogeneous is atelic. Homogeneity cannot be proven for internal pluractionals by standard means. Hence, atelicity also cannot be proven in this way. The order of phases is irrelevant and this goes against the standard situation concerning event related information. In particular, it can cause problems in determining exhaustively the unfolding of the whole event on the basis of the structure of the object. Rather than focussing on telicity, it may be more profitable to consider how incrementality is disrupted in these verbs. Internal pluractional verbs can be modified by degree adverbials that require intrinsically unbounded predicates, cf. (17). This is expected thanks to upward homogeneity. Consider (18).

(17) Ha vivacchiato/mangiucchiato la mela ancora un po'
S/he struggled along/nibbled the apple some more

(18) a. *Poco a poco ha mordicchiato la matita
Little by little he nibbled the pencil

b. Poco a poco ha mordicchiato tutta la matita
Little by little he nibbled the whole pencil

Graduality expressed by an adverb may count as introducing a partition on the object. The verb introduces its cover over each cell of such a partition and incrementality concerns only the 'big' partition. The presence of *tutta* (whole) is needed to warrant that all the cells of the 'big' partition are affected, as required by the adverbial *poco a poco*. It restores a form of incrementality on the object, but not within the cells, and the sentence talks about a progression on the object not correlating with the event. The little bitings are not evenly distributed through and through, since internal pluractionality disrupts incrementality, hence incremental homogeneity. An analogous situation is illustrated in (19) by adverbs that impose a form of (in)completude, and therefore produce unacceptable output.

(19) a. *Luisa ha mordicchiato a metà la matita
Luisa nibbled the pencil halfway

b. Luisa ha mordicchiato mezza matita
Luisa nibbled half of the pencil

c. *Luisa ha mordicchiato interamente la matita
Luisa entirely nibbled the pencil

d. La matita è mezza mordicchiata
the pencil has been nibbled half way through

In (19)b, the half pencil is the whole object of the nibbling. Still, one could infer that the event is half of a hypothetical nibbling event by considering that half of the real object has been affected. What is not possible is to get the adverb directly modify the event, see (19)a where the patient is the whole real object, and similarly for (19)c. Finally, (19)d contains a deverbal adjective and confirms that the reading according to which half of the event has taken place is not available.

3.3 Beyond arguments, to scales

Incremental themes measure out events. When discussing the number pattern, I pointed out that it appears to be possible to fragment what may not be an overt argument of the verb, e.g. the internal/cognate object of an intransitive verb, e.g. 'life' in *vivacchiare.* In this case, the base of the verb names the incremental

theme. The possibility also applies to the 'theme' of impersonal verbs like meteorological verbs, e.g. 'snow' in *neigeoter*, or to the process through the manner, e.g. 'work' in incassative *lavoricchiare* (work irregularly and with insufficient commitment)[4] where the amount of 'energy' involved in performing the action is affected. I surmise that it is not just overt arguments that can be fragmented, contrary to what an entry like (1) seems to suggest, and I generalize the proposal as follows. I consider property scales measuring an abstract dimension associated to an argument – and thereby to the event – instead of physical entities, and also scales associated to the event because of unexpressed PP arguments, absolutive uses, or cognate objects. Usually, the unfolding of an event is measured by adjacent isomorphic transitions of the theme along a scale. The scale is related to the event by Krifka's (1998) ϑ Movement Relation, whereby each part of the event is ϑ-related to a unique part of the scale, and viceversa, and the temporal adjacency of parts in the event corresponds to scalar adjacency on the scale. Fragmenting is equivalent to disrupting the homomorphism between the mereological structures of scales and events.

3.4 Against a condition on cardinality

There are well known cases of telic events that give mixed results when tested for cumulativity and divisivity. *Eat at least two apples* is telic, cumulative but not divisive, and *eat at most two apples* is telic, divisive but not cumulative. What they have in common is the identification of a threshold, where they differ is in the role of minimal or maximal point played by such a threshold. The issue of a threshold is relevant for internal pluractionals too, although in the literature the connection seems to have been missed and the issue is cast in terms of a requirement on the cardinality of the plurality.

I have pointed out that the cover applied in event internal pluractionality is required to have more than one cell.[5] The end result of this requirement is that no event composed of a single phase is to be found in the denotation of event-internal pluractional properties. In a way, this is the same result targeted by Lasersohn's constraint card(X) $\geq n$ for $n \geq 2$ on the plurality of events. He leaves fixing the value of n to pragmatics. An obvious difference between the two strategies is that

4. The incassative reading corresponds to a situation where there is aimless or undirected activity, and no attempt to do anything in particular.

5. As an aside, note that the fact of taking a cover on the object with more than one cell spares my proposal the problem in which runs Krifka's (1989) analysis of iterative-frequentative. His definition, stated in terms of parts and not of proper parts, applies to 'push a cart' too. A subpart of an event of pushing a cart is an event of pushing the whole cart, whereas a phase, i.e. a subpart, of an event of nibbling a pencil is a biting of a part of a pencil.

Lasersohn's constraint requires counting phases, which is not possible. A second difference is that there is no precise threshold establishing the minimal cardinality of event-internal pluralities, in my opinion, and not that *n* is fixed pragmatically, whether we can count phases or not.

Diminutive pluractional verbs are vague with respect to the minimal amount of phases required. It is possible to make sense of this impossibility of quantifying on phases in two ways, considering a quantitative and an aspectual motivation. If the purpose of decomposition is to get at plurality, the cells that act as local instantiations of the thematic role must be two at the very least. The minimal requirement is related also to the fact that phases cannot be differentiated. However, since phases are not accessible at discourse level, it is not straightforward to prove a case in terms of indistinction. The plurality requirement on the parts of the affected argument may be a consequence of the need to ensure that it should be possible to take away one phase from the plural event and preserve the indistinction of phases, but it also touches the issue of the indeterminacy surrounding the limits of application of the predicates involved. This can be seen as an instance of the phenomenon of vagueness, at the hart of the sorites paradox. Diminutive pluractional verbs are vague with respect to the number of phases that make up a minimal instance. Suppose we have an event of nibbling. Taking away a phase does not turn what is nibbling into not nibbling, since no one phase can be identified as the subpart of the whole that makes the difference between an event that is nibbling and one that is not nibbling. This is true recursively at each step, hence an event of the internal pluractional type cannot be 'undone' by taking away phases. But in the end, when we are left with one phase, it is no longer an event of nibbling. The same reasoning applies if one works in the opposite direction by accumulating phases, with the extra complication of having to start from assuming one little biting event that could candidate to the status of isolated phase of nibbling while in itself it does not constitute an event of nibbling. This is the traditional formulation of the heap paradox. It suggests that if we look at event-internal pluralities as collections of phases, the collection is a heap whose cardinality cannot be defined.

Vagueness can be expressed in aspectual terms. The problem is not just an issue of granularity, i.e. another case of the minimal interval that we need to define in order to preserve homogeneity. Phases naturally lend themselves to the role of minimal units, but they do not correspond to minimal intervals, because divisivity is not met. The property of upward homogeneity holds because it is verified on expansions of events starting from events, and not from phases. Hence, we are already outside the problem of the internal nature of an event that qualifies as internally plural.

3.5 Diminutive pluractionality and aspect

In this section, I have discussed a number of features of the behaviour of pluractional verbs that naturally fall under the heading of aspect. I wish to conclude by mentioning also some reasons against considering diminutive pluractionality (just) aspect. A first point is that a marker qualifies as being aspectual if it has aspectual import in a consistent way, but the diminutive form fails to produce systematic modification of telicity. Second, it has been argued in the literature that aspect refers to internal temporal organisation of an event, cf. (Tenny 1989). However, at different points in the discussion, it has appeared that the internal organisation of the pluractional event is of no use for temporal information. This suggests that internal pluractionality marking is not an aspectual phenomenon per se, but that it can have aspectual consequences. These consequences may go beyond the level of Aktionsart. For instance, I noted that fragmenting the object perturbs the property of mapping-to-object, thus the visibility of the final boundary may no longer be warranted.

4. Concluding remarks

In this paper, I have pursued the idea that event-internal pluractional verbs denote composite single events that result from distributing the predicate on the fragments of one participant, first presented in (Tovena 2007, Tovena and Kihm 2008). I have proposed that event-internal pluractionality grammaticises a local form of number through the part-of relation, where locality has to do with (non-)visibility at discourse level. The linking patterns between verb number morphology and verbal argument structure used by pluractional morphology are the same as described in the literature for case/transitivity and Aktionsart. This opens the possibility of having number marking that can be read in aspectual terms and vice-versa.

Fragmenting perturbs the mapping between event and object, with the immediate consequence that incrementality is disrupted. Incremental themes impose a homomorphism between the mereological structures of objects and events, but a parallel progression along two paths is no longer necessarily found in the pluractional events.

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Language index

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