

LEXICALIZATION BY PHASE:
THE ROLE OF PREPOSITIONS IN ARGUMENT STRUCTURE
AND ITS CROSS-LINGUISTIC VARIATION

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Abstract

This dissertation proposes an account for cross-linguistic variation at the lexical level. The proposal stems from a strong version of Hale and Keyser's hypothesis according to which lexicalization processes are syntactically driven. I claim that variation at the lexical level should be analyzed as variation at the sentential level, by means of the unification of the l(lexical) and s(entential)-syntax through the theory of cyclicity provided by Phase Theory. The phase is interpreted as a point of access of the interfaces to the derivation and as the domain for lexicalization. From this perspective, the difference in the specification of ϕ -features in functional heads determines what is a phase and what is not in a particular language, so that the emergence of variation is derived despite the uniformity of syntax. With that framework in mind, I propose a unified solution to the variation across languages of certain lexicalization patterns, namely, the expression of path, manner and possession.

The theory I develop builds on a syntactic theory of argument structure that takes into account the role that non-relational elements, namely, roots, have in the model. I propose that syntax operates with root positions that are semantically and phonologically underspecified and that are defined as non-projecting heads, i.e., non-labeling heads, which by general syntactic principles can only be present at the bottom, first merge position of every (sub)derivation. I propose that phase heads establish domains for lexicalization that allow us to consider morphological

operations such as feature percolation or vocabulary insertion as two distinct ways for phonologically interpreting syntactic representations.

As for the case studies, I first study the properties of path expressions in Romance and Germanic languages. I propose a simplified structure for PPs in which features such as boundedness arise configurationally, not through a specific functional projection. Then, I argue that case in the adpositional system is structural and emerges from the agreement relation between a DP and the ϕ -features of the functional projection or phase head, p . I argue that spatial expressions in Romance are always locative and that there is defectivity in the content of ϕ -features of path heads that makes them to be non-phase heads and to belong to the vP domain.

Second, I deal with some cases of verbal elasticity attested in Romance languages: the existence of cognate objects, that is, unergative intransitive verbs that can take under certain restricted conditions a direct object; and the existence of resultative constructions in Romance where a secondary predicate is said to denote a resultative change of state. In order to account for these constructions in a unified way I propose that they all involve a preposition of central coincidence that establishes a predicative relation between the complement and the verbal root.

Finally, I study Measure Verbs that are characterized by having a complement, a Measure Phrase, that behaves sometimes as an adjunct and sometimes as an argument. I propose that this is due mainly to the referential properties of this quantificational element. However, I add into the picture another property that has never been discussed before: the variable behavior of Measure Verbs with respect to unaccusativity. I propose that Measure Verbs have an underlying possessive structure that is headed by a BE predicate that selects a central coincidence preposition, p . The non-defective phase p head in Romance languages can incorporate into BE extending the phase and transforming BE, a defective unaccusative phase, into a non-defective transitive phase, HAVE, which is able to license accusative case and to allow for an external argument position.

Resum

Aquesta tesi proposa una teoria que dóna compte de la variació interlingüística al nivell lèxic. La present proposta parteix d'una versió forta de la hipòtesi de Hale i Keyser, segons la qual els processos de lexicalització estan dirigits per principis sintàctics. Sostinc que la variació al nivell lèxic s'ha d'analitzar com la variació al nivell oracional, unificant la sintaxi-l(èxica) i la sintaxi-o(racional) per mitjà de la teoria de la ciclicitat basada en la noció de fase. La fase s'interpreta com l'estadi derivacional a què tenen accés les interfícies i com el domini de lexicalització. Des d'aquest punt de vista, la diferència en l'especificació dels trets- ϕ dels nuclis funcionals determina què és una fase i què no ho és en una determinada llengua, de la qual cosa es deriva l'emergència de la variació lingüística malgrat la uniformitat de la sintaxi. A partir d'aquest marc teòric, proposo una solució unificada per tal de donar compte de la variació interlingüística de certs patrons de lexicalització, com ara l'expressió del trajecte, la manera i la possessió.

La teoria que desenvolupo recolza en una teoria sintàctica de l'estructura argumental que pren en consideració el paper que tenen els elements no relacionals (és a dir, les arrels) en el model. Proposo que la sintaxi opera amb les posicions de les arrels que estan subespecificades en termes semàntics i fonològics i que estan definides com a nuclis que no projecten (és a dir, que no forneixen cap etiqueta), les quals per principis sintàctics generals només poden ocórrer al capdavant de l'estructura, la posició de primer ajuntament de cada (sub)derivació. També proposo que els nuclis de fase estableixen dominis de lexicalització que habiliten

operacions morfològiques com ara la percolació de trets o la inserció de vocabulari com dues maneres diferents per interpretar fonològicament les representacions sintàctiques.

Pel que fa als casos que estudio, en primer lloc m'ocupo de l'expressió del trajecte en les llengües romàniques i germàniques. Proposo una estructura simplificada del SP en què trets com ara els de fitació emergeixen de manera configuracional i no per mitjà d'una projecció funcional privativa. Així, argüeixó que el cas en el sistema d'adposicions és estructural i emergeix de la relació de concordança entre un SD i els trets- ϕ d'una projecció funcional o nucli de fase, p . Sostinc que les expressions espacials en romànic són sempre locatives i que els trets- ϕ dels nuclis de trajecte són defectius, de manera que els inhabilita per ser nuclis de fase i els situa en el domini de Sv.

En segon lloc, tracto diversos casos d'elasticitat verbal que es poden observar en les llengües romàniques: l'existència d'objectes cognats, això és, els verbs intransitius de tipus inergatiu que seleccionen, en certes condicions especials, un complement directe; d'altra banda, es poden constatar certes construccions resultatives en romànic, en què un predicat secundari denota un canvi d'estat resultatiu. A fi d'explicar les construccions esmentades d'una manera unificada, proposo que en tots els casos hi participa una preposició de coincidència central que estableix una relació predicativa entre el complement i l'arrel verbal.

En darrer lloc, estudio els verbs de mesura que es caracteritzen per tenir un complement, el sintagma de mesura, que o bé es comporta com un adjunt o bé com un argument. Proposo que això és degut a les propietats referencials d'aquest element quantificador. A més, hi afegeixo una altra propietat que mai no s'ha discutit abans: el comportament variable dels verbs de mesura respecte de la inacusativitat. Proposo que els verbs de mesura tinguin una estructura possessiva subjacent, que té com a nucli un predicat SER que selecciona una preposició de coincidència central, p . En les llengües romàniques el nucli de fase p no és defectiu i es pot incorporar a SER, de manera que la fase s'estén i transforma SER, una

fase inacusativa i defectiva, en una fase transitiva i saturada, TENIR, que permet legitimar el cas acusatiu i fornir una posició per a l'argument extern.

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Chapter 1

Introduction

1.1 Introduction

The goal of this dissertation is to develop a principled account of lexicalization following a strong version of Hale and Keyser's hypothesis that states that the systematic and predictable part of the semantics of lexical items is syntactic in nature. If this is the case and syntax is involved in the formation of lexical items then we can treat cross-linguistic differences in the lexicalization of certain patterns to be derived as cross-linguistic differences in the sentential domain. In this way, the nature of variation by which some languages lexicalize possession in an unaccusative predicative structure (Lat. *Est liber mihi*, literally, "Is a book to me", 'I have a book') or in a transitive structure (Cat. *Tinc un llibre* 'I have a book') should be accounted for in a similar way to the nature of the variation by which some languages allow interrogatives with an interrogative word *in situ* (Jap. *John-wa nani-o yonda-no?*, literally, 'John-TOP what-ACC read-Q', 'What did John read?', from Cheng 2003) and some don't (Eng. *What did John read?*).

Moreover, this version of Hale and Keyser's hypothesis forces us to reconsider the nature of the lexicon and the concept of lexical item, something that has taken place in the linguistic field in the recent years with the emergence of non-lexicalist

approaches: the Distributed Morphology Framework (Halle and Marantz 1994, 1993; Harley and Noyer 1999; Marantz 1997), the Nanosyntax program (Fábregas 2007; Ramchand 2008b; Starke 2009), and the Exoskeletal approach developed in Borer (2005), to cite some of them. All these theories reconsider the role of the lexicon in the architecture of grammar.

From the lexicalist models (Grimshaw 1990; Levin and Rapoport 1988; Levin 1993; Rappaport Hovav and Levin 1998, among many others), the semantics of lexical items have been argued to be compositional (non-atomic, cf. Fodor and Lepore Fodor and Lepore) and to contain certain semantic patterns that allow us to predict argument structure regularities. At the same time, lexical items contain conceptual, non-compositional meaning that does not affect argument structure expression. The three non-lexicalist approaches mentioned above propose splitting the concept of lexical item into these two components. Thus, on one hand, predictable and regular meaning is obtained through syntactic structure, and, on the other, conceptual and non-compositional meaning is encapsulated in a different component, a root, as in Pesetsky (1996) or in the Distributed Morphology Framework, or a listeme in the Exoskeletal approach.¹ This dissertation discusses the notion of root in the theory and proposes a structural definition of roots that can derive its specific properties. At the same time, I develop a syntactic view of argument structure that endorses a strong parallelism with the syntax of the sentential domain, in the sense that lexical items are built derivationally. Lexicalization is understood as the output of externalization and therefore is assumed also to be phase driven.

¹In the nanosyntactic approach the non-compositional part of the meaning of a lexical item does not play a role in the syntactic derivation and it does not receive an encapsulated analysis. Lexical items (that can contain grammatical information in the form of features) are smeared over chunks of the syntactic tree, lexicalizing part of it. The non-compositional part of the meaning can be said to act as a modifier of the structural meaning, as in Borer (2005) or Marantz (2011). However, non-compositional meaning is not explicitly separated from the grammatically relevant part of the meaning of a lexical item.

1.2 Background and empirical coverage

In order to elaborate a theory of roots and lexicalization, I analyze three cases of crosslinguistic variation at the lexical level. First, I study Talmy's lexicalization patterns that establish different linguistic types depending on how they lexicalize motion events; second, I analyze the phenomenon of verbal elasticity by which certain types of verbs can be accommodated to express different types of events, while others cannot. Third, I investigate the process of lexicalization of possessive constructions.

1.2.1 Talmy's lexicalization patterns

Talmy's typological division (Talmy 1985, 2000) establishes that languages can be divided according to how events of motion are lexicalized. On this view, some languages express manner and motion in the verb and path/direction through a non-verbal predicate, a satellite². They are called satellite-framed languages. In others, path and motion are expressed through the verb: they are called verb-framed languages.

(1) Satellite-framed pattern (Talmy 2000)

The rock rolled down the hill

The bottle floated into the cave

(2) Verb-framed pattern (Talmy 2000)

²Satellites are defined in Talmy as those grammatical categories that are neither nominal nor prepositional phrases that appear with a verb root. Talmy was referring to elements of very different types such as English particles, or Latin and Russian verbal prefixes, but not PPs. However, Talmy's typology is used as well for those constructions in which a preposition expresses the framing event (ie., the result event) such as sentences like Eng. *The bird flew over the fence*. For this reason, in the dissertation, I adopt a wider conception of satellite, assumed by most authors in the literature of motion events, which considers that a satellite is an element that is not the verbal root and which cannot function as a main predicate *per se*. Under this new definition, English PPs can be considered *satellites*. In any case, the concept of satellite does not have theoretical status in my account, and I will only use it, if necessary, as a descriptive device (see Beavers 2008).

La botella entró a la cueva flotando
 the bottle moved-in to the cave (floating)
 The bottle floated into the cave

La botella salió de la cueva flotando
 the bottle moved-out from the cave (floating)
 The bottle floated out of the cave

Languages with the satellite-framed pattern have also been characterized as having complex resultative constructions and other related structures, such as verb-particle constructions, or effected object constructions.

- (3) (a) Susanna cut the vegetables into the pot
 (b) Suzie drank herself silly
 (c) Mary squeezed the juice out
 (d) Suzie dug a hole

Romance languages have been argued to lack the satellite-framed pattern and associated constructions: they cannot express the result in a predicate other than the verb (e.g., 4 a); through a PP (4 b), an AP (4 c), a particle (4 d) or an NP (4 e). Below I illustrate this point with some examples in Spanish.

- (4) (a) *Juan rompió el cristal*
 Juan broke the window
 Juan broke the window
 (b) **Susana troceó la verdura en la olla*
 Susanna cut the vegetables in the pot
 (c) **Mario caminó sus pies doloridos*
 Mario walked his feet sore
 (d) **Luis apretó el zumo afuera*
 Luis squeezed the juice out

- (e) **Sandra sonrió una alegre bienvenida*
 Sandra smiled a cheerful welcome

However, the claim that Romance languages have a verb-framed pattern has been questioned in several ways. First, it has been argued that in Romance goal of motion constructions, the path is expressed both in the verb and in the satellite (illustrated in (5 a) and (5 b) for Spanish). Therefore, if *a* or *de* denote the path, the framing event is expressed twice, showing a double-framed pattern, and not a verb-framed pattern.

- (5) (a) *La botella entró a la cueva*
 The bottle moved.in at the cave
 The bottle went into the cave
- (b) *Saqué el corcho de la botella*
 I.moved.out the cork from the bottle
 I twisted the cork out of the bottle

The second kind of problem deals with the existence in Romance of examples in which manner of motion verbs combine with point denoting prepositions ((6 a) for Spanish, (6 b) for Italian) or complex prepositions ((6 c), Spanish) to denote a goal of motion event, as in a satellite-framed type.

- (6) (a) *Corrió a la escuela*
 Runned from home to the school
 He/she ran from home to the school
- (b) *La moneta è scivolata nel buco*
 the coin be.aux slid in.the hole
 The coin slid in the hole
- (c) *La botella flotó hasta la cueva*
 The bottle floated towards the cave
 The bottle floated to the cave

These examples call into question the validity of Talmy's generalization and the belonging of the Romance group to the verb-framed pattern. Thus, Romance languages have been argued to constitute split-systems. A language constitutes a split-system if it uses a system for a type of motion event and another system for another type of motion event. Spanish has been considered to have a split-system depending on the type of path. According to Aske (1989) and Slobin (2004), if the path does not cross a boundary then the co-event pattern is possible.

In conclusion, Romance languages challenge Talmy's lexicalization patterns of motion events in four cases:

1. The existence of manner verbs that combine with simple prepositions to denote directed motion events ((6 c) for Spanish, (6 b) for Italian).
2. The existence of complex prepositions that do not denote a cross-boundary like *desde* or *hasta* ((6 c), in Spanish) and which allow a manner verb to denote a directed motion event.
3. The existence of verb particle constructions in Romance, in which a manner verb appears with a particle with directional semantics; examples, It. *buttare via* 'throw away' (Iacobini (2006)).
4. The existence of prefixed verbs in Romance languages, in which a directional prefix combines with a verb of manner of motion, like Fr. *accourir* 'rush up' or *s'envoler* 'fly off'.

In this dissertation, I show that cases 1 to 4 are not examples of the satellite-framed type. Cases 1 and 2 are analyzed in chapter 2, and cases 3 and 4 in chapter 4. I show that these examples do not constitute a true problem for Talmy's typology, once we take into account some properties of the adpositional system and the lexicalization process in Romance. Furthermore, I propose that the verb/satellite-framed patterns are obtained from morphological properties of paths in Romance that affects how manner is finally lexicalized. Thus, Talmy's classification serve as

a robust generalization about how languages vary and the limits of this variation, if it is theoretically defined in a precise way.

1.2.2 Verbal elasticity

Verbal elasticity can be defined as the capacity of a verb to adapt its meaning to different syntactic contexts that express different event types. For example, a verb like *sleep* in English can appear as denoting three different types of events (according to the Vendlerian classification of events into four types: activities, states, accomplishments and achievements, Vendler 1967) while retaining part of its meaning.

- (7) a. This room sleeps five people STATE
- b. John slept the whole night ACTIVITY
- c. John slept himself sober ACCOMPLISHMENT

Rappaport Hovav and Levin (1998) illustrate this point with the following examples in which the verbs *sweep*, *whistle* and *run* show different argument expression and event interpretation:

- (8) Verb *sweep* (Rappaport Hovav and Levin 1998: 97)
 - a. Terry swept
 - b. Terry swept the floor
 - c. Terry swept the crumbs into the corner
 - d. Terry swept the leaves off the sidewall
 - e. Terry swept the floor clean
 - f. Terry swept the leaves into a pile
- (9) Verb *whistle* (Rappaport Hovav and Levin 1998:98)

- a. Kim whistled
- b. Kim whistled at the dog
- c. Kim whistled a tune
- d. Kim whistled a warning
- e. Kim whistled me a warning
- f. Kim whistled her appreciation
- g. Kim whistled the dog to come
- h. The bullet whistled through the air
- i. The air whistled with bullets

(10) Verb *run* (Rappaport Hovav and Levin 1998: 98)

- a. Pat ran
- b. Pat ran to the beach
- c. Pat ran herself ragged
- d. Pat ran her shoes to shred
- e. Pat ran clear of the falling rocks
- f. The coach ran the athletes around the track

All these examples show that some verbal classes have elastic meanings. This phenomenon poses a number of interesting theoretical questions: is there a single mechanism that is behind the generation of elasticity? Why are only certain verbal classes elastic? Is elasticity/rigidity a property that emerges from the combination of different factors, or from a single mechanism?

The property of verbal elasticity is normally associated with specific verbal classes. Verbs lexically expressing the result can not appear in different contexts and only show the anticausative argument alternation.

- (11) (a) John broke the window
 (b) The window broke

All these facts are said to involve the phenomenon of “regular polysemy”, that is, verbs with similar semantic properties exhibit the same patterns of syntactic variation (Apresjan 1973, *apud* Mendikoetxea 2009). Therefore, verbal elasticity depends on the verbal type within the same language. In English, there are elastic verbs, like activity predicates such as *sweep* and *whistle*, and rigid verbs, such as result verbs like *break*.

Verbal elasticity also shows variation at the cross-linguistic level. For example, Romance languages can be said to be rigid, in the sense that verbs do not exhibit patterns of syntactic variation, or these patterns are restricted and are not as pervasive as in English. If we take the three examples above, the verbs *sweep*, *whistle*, and *run* and we examine their behavior in Spanish, we see that the argument expression of these verbs in this language does not show the same degree of variability.

- (12) (a) *Terry barrió*
 Terry swept
 Terry swept
- (b) *Terry barrió el suelo*
 Terry swept the floor
 Terry swept the floor
- (c) **Terry barrió las migas en la esquina*
 Terry swept the crumbs in the corner
- (d) **Terry barrió las hojas fuera de la acera*
 Terry swept the leaves out of the sidewalk
- (e) **Terry barrió el suelo limpio*
 Terry swept the floor clean

- (f) **Terry barrió las hojas en una pila*
 Terry swept the leaves in a pile

The verb *barrer* ‘to sweep’ shows only two syntactic patterns: the intransitive pattern as verb of activity and the transitive with both an affected direct object (*barrer las migas*) and a direct object of contact (*barrer el suelo*).

- (13) (a) *Kim silbó*
 Kim whistled
 Kim whistled
- (b) *Kim silbó al perro*
 Kim whistled at.the dog
 Kim whistled at the dog
- (c) *Kim silbó una melodía*
 Kim whistled a melody
 Kim whistled a tune
- (d) **Kim silbó una advertencia*
 Kim whistled a warning
- (e) **Kim me silbó una advertencia*
 Kim me whistled a warning
- (f) **Kim le silbó la admiración*
 Kim DAT.CL whistled the warning
- (g) **Kim silbó al perro de venir*
 Kim whistled at.the dog of come
- (h) **La bala silbaba a través del cielo*
 The bullet whistled at through of.the sky
- (i) **El cielo silbaba con balas*
 The sky whistled with bullets

The verb *silbar* ‘to whistle’ has three patterns: an intransitive (denoting an activity event), an intransitive with a dative argument, and a transitive with an object of creation. Spanish does not allow examples like (13 d) or the double object construction form, (13 e)-(13 g).

- (14) (a) *Pat corrió*
 Pat ran
 Pat ran
- (b) *Pat corrió a la playa*
 Pat ran at the beach
 Pat ran to the beach
- (c) **Pat corrió a ella misma harapienta*
 Pat ran at her self ragged
- (d) **Pat corrió sus zapatos a trizas*
 Pat ran her shoes at shreds
- (e) **Pat corrió fuera de las rocas que caían*
 Pat ran out of the rocks that were falling
- (f) **El entrenador corrió a los atletas alrededor del circuito*
 The coach ran at the athletes around the track

The verb *correr* ‘run’ (Rappaport Hovav and Levin 1998: 98)³ shows only two patterns: an intransitive verb of activity and an intransitive verb of directed movement (see chapter 2 for discussion).

³Rappaport Hovav and Levin (1998) analyze this fact as a consequence of Template Augmentation: event structure templates have a compositional form and complex templates derive from simple ones. Therefore, given a certain verb, it is possible to increase its complexity (template augmentation) but not to decrease it. Resultative verbs are rigid because they are associated with a complex template, while manner verbs are elastic because they are associated with a template that can be augmented. Ramchand (2008b) offers a similar account from a syntactic approach: resultative verbs are lexicalizations of more structure and therefore cannot lexicalize smaller portions of the tree.

To sum up, the notion of elasticity can be applied to both verb classes and languages. In general, manner verbs are elastic and result verbs are rigid. At the same time, the concept of elasticity can be applied at the cross-linguistic level. English is an elastic language because its manner verbs can exhibit different argument structure patterns, while Romance languages are rigid because their manner verbs can not exhibit as many different argument structure patterns. Intuitively, we can say that Romance languages are rigid because if there is a resultative component, then this component is obligatorily expressed in the verbal predicate.⁴ In chapter 3 I outline a theoretical proposal that captures this intuitive generalization.

However, although Romance languages are rigid, intransitive verbs of manner appear with certain types of objects, namely, cognate objects, (15 a). Moreover, some verbs can combine with certain types of APs or PPs in a resultative construction, (15 b, example from Napoli 1992).

(15) (a) *El Pere viu la vida* (Catalan)
 The Pere lives the life
 Pere lives his life

(b) *Ho stirato la camicia piatta piatta* (Italian)
 have ironed the shirt flat flat
 I ironed the shirt very flat

In chapter 4, I analyze these cases and provide an explanation of why Romance languages allow some verbs to combine with certain NP/DP or AP/PP complements.

⁴But see simple resultatives like Cat. *El Joan es va tornar boig* ‘John became crazy’, where resultatives are expressed through a light verb that does not contain a manner component. These examples raise serious questions about the proposal outlined here: I review them in chapter 4 and I examine whether they constitute a true counterexample for the approach.

1.2.3 Lexicalization of possessive constructions

Possessive constructions show two patterns crosslinguistically: one that involves a transitive verb that expresses predicative possession between a nominative possessor and an accusative possessee, and one that expresses predicative possession through a copulative verb that relates a dative or genitive possessor and a nominative possessee. These two patterns divide languages into HAVE and BE languages, respectively, according to Harves and Kayne's (2012) terminology. Swedish (Harves and Kayne 2012:3) and Russian (Harves and Kayne 2012:3) are examples of HAVE and BE languages respectively:

- (16) (a) *Anna har en ny bil* (Swedish)
 Anna have.3SG a new car
 Anna has a new car
- (b) *U menja budet novaja kniga* (Russian)
 at me.GEN will be new book.NOM
 I will have a new book

In this dissertation, I want to relate a case of crosslinguistic variation of a subset of stative verbs, namely Measure Verbs (MVs, henceforth), with the above-mentioned lexicalization pattern. MVs in Romance languages show two puzzling behavior. On the one hand, they do not consistently behave as unaccusative predicates. For example, in Italian, they can appear with the two auxiliaries *avere* and *essere* (Sorace 2004):

- (17) *Il concerto è / ha durato tre ore*
 The concert is / has lasted three hours
 The concert lasted three hours

On the other hand, MVs appear with a type of complement, a complement of measure, that exhibits argument and adjunct properties. For example, within the same language and construction, a Measure Complement (MC) can be resumed by an accusative clitic, but it cannot at the same time be extracted from a weak island.

- (18) (a) *El bolso no era de marca, pero sus 200 eur-o-s*
 The bag NEG was of brand, but its 200 euro-MASC-PL
sí que los costó (Spanish)
 POS that CL.ACC.MASC.PL costed
 It was not a name brand bag, but it did cost 200 euros
- (b) **Qué te preguntabas si el libro costaba?*
 What yourself asked whether the book costed?
 (Spanish)

Following the approach of lexicalization developed in Chapter 3, I propose that Measure Verbs share the same structure as possessive constructions. Specifically, I follow Kayne's (1993) analysis of possessive transitive HAVE as emerging from the incorporation of a preposition into the verb BE. Crucially, I consider this preposition to be one that expresses a central coincidence relation, as defined in Chapter 2. Finally, I propose that the properties of the Measure Complement depend on how MVs are construed following a HAVE or a BE pattern.

1.3 The proposal

This dissertation deals with the cases of lexicalization patterns discussed in section 1.2.1, section 1.2.2 and section 1.2.3, which involve a preposition that expresses a semantic relation of terminal or central coincidence between the Figure and the Ground. In doing so, I propose a theory of lexicalization that is sensitive to phasal domains and that derives crosslinguistic variation at the lexical level by means of differences in the points of access to the syntactic derivation by the interfaces. Thus, I put forth that phase heads can vary from language to language, and that this variation has an impact on the lexicalization patterns that a language exhibits. Moreover, I maintain that argument structure patterns arise from different types of configurations and that aspectual types can be derived from semantic properties of spatial prepositions.

In the next section I outline the main questions that this dissertation aims to solve, the antecedents, and the proposal I develop in subsequent chapters.

Talmy's lexicalization patterns deal with the linguistic expression of motion events. Motion events are formed by semantic components that are realized in different surface forms. As discussed above, Talmy's lexicalization patterns raise questions about its descriptive adequacy. Moreover, it poses the question of what determines whether a language chooses a particular way to linguistically express the different semantic components of a motion event. In this dissertation, I explore these questions starting from the study of the prepositional domain in Romance languages.

After reviewing two typologies of path expressions (Jackendoff 1985 and Pantcheva 2008) I propose a reductionist view of paths that considers them to always be transitional. Under this view, the classification of locative expressions in the semantic components of Path and Place can be defined following Hale's (1986) classification of locative expressions in adpositions that describes a terminal and a central coincidence relation, respectively. Under this view I show that Romance prepositions do not express transitional paths or terminal coincidence relations, despite the existence of possible counterexamples, such as Spanish preposition *a* or Romance prepositions like Cat. *fins a*, Fr. *jusqu'à*, It. *fino a*, and Sp. *hasta*. Instead I propose that these prepositions are locative, that is, they express a central coincidence relation.

The theoretical proposal that accounts for the properties of Romance PPs is based in the notion of defectivity applied to the prepositional domain. Thus, I propose that path prepositions make up a defective domain in Romance, while they are a non-defective domain in Germanic languages, as shown by different syntactic properties.

The notion of defectivity in cartographic approaches on Ps (den Dikken 2003, 2010b) is accounted for by assuming that Ps have a lexical layer and a functional layer that can have different degrees of complexity. PPs that do not project a full

fledged set of functional categories can be classified as defective, while PPs that project the full set of functional categories are non-defective. In the dissertation, I propose to transpose this notion of defectivity to phase theory. Thus, path and place prepositions constitute two phasal prepositional domains. Therefore, I assume a view of defectiveness as ϕ -defectivity, since defective heads are related with the inability to license case. First I need to make some assumptions explicit about the version of Phase Theory I assume throughout the dissertation.

Phase Theory is developed in different works by Chomsky (2000, 2001, 2004, 2005, 2007, 2008). The notion of phase is defined in different ways along the literature but basically it can be defined as the unit of cyclic spell-out (see Boeckx and Grohmann 2007 for a critical review of the notion of phase through its different implementations). As phases have been defined in many different ways, I explicitly state the view of phases that I am assuming in the dissertation to avoid confusion. I leave out of its scope, however, a justification of this conception, and I refer the reader to the specific works in which these notions are discussed.

The view of phase I am assuming takes two hypotheses that I will formulate as follows:

- (i) The hypothesis that phases are the domain of feature valuation (to ensure Full Interpretation at the interfaces)
- (ii) The hypothesis that phases can be determined derivationally.

Hypothesis (i) is basically endorsed in (Chomsky 2001, 2004, 2007, 2008) and hypothesis (ii) is based on ideas developed in den Dikken (2007) and Gallego (2007, 2010). Under this view, a third hypothesis that can be seen as a corollary of hypothesis (ii) can be formulated as follows:

- (iii) Phase heads are parametrizable

The way in which this is accomplished is similar to the mechanism of Phase sliding or Phase extension assumed in Gallego (2007) and den Dikken (2007), respectively; that is to say, a head movement operation can feed the extension of a phase

domain. Thus, by the mechanism of movement of a phase head, a non-phase head can become derivationally phasal.

The view of head movement assumed in the dissertation is based on ideas of Donati (2006), Matushansky (2006) and Vicente (2007) on head movement as movement of a head to a specifier, a position to avoid the cyclicity problems of classic head movement such as head adjunction.⁵ In these accounts, head movement is not different from phrasal movement. Actually, it is an instance of I-Merge, and as the operation of Merge, it always targets edge positions of heads.⁶

As a consequence of this definition of head movement, I assume the following hypothesis:

- (iv) Head movement can extend the phase

In sum, the different hypotheses outlined here can be summarized under the following hypothesis of linguistic variation, which says that languages vary with respect to at which point interfaces have access to the syntactic derivation. This idea is connected with hypothesis (v) that I discuss in chapter 3:

- (v) Lexicalization occurs at the phasal domains

This hypothesis aims to answer one of the problems of a radical syntactic theory of the lexicon, pointed out by Hale and Keyser (1993), and which can be formulated as follows: what makes a verb overtly phrasal in a certain language, or the verb the result of overt incorporation, or a syncretic lexical item? Hale and Keyser

⁵See Roberts (2010) for an alternative attempt to circumvent these problems in a view of head movement as agreement; see Roberts (2011) for an overview.

⁶I leave out of the discussion if head movement is followed by the operation of m(orphological)-merger of Marantz (1984) as in the proposals of Matushansky (2006) and Vicente (2007), and its consequences for the model of grammar. Nor will I discuss the reprojective nature of head movement, but I assume that movement of one head onto the specifier position of the next head makes the target head “inherit” the properties of the moved head; that is, if a phase head moves to a non-phase head, it makes the target head become the head of the phase. For now, I keep to the simplest assumptions about head movement as non-coutercyclic movement, and as a mechanism that can feed phase extension.

argue that this property is related with the view of the lexicon as the “repository of idiosyncracies”. Thus, what makes certain words lexicalize phrasal constituents or just a single terminal node is an idiosyncratic property of a certain lexical item, and therefore, the distinction between l-syntax and s-syntax should be maintained so as to be able to explain these effects. In this dissertation I hope to overcome this problem by means of developing the hypothesis in (v) in a certain way.

Thus, the problem of what constitutes a word in a language and a phrase in another has been tackled in different ways (see Vicente 2007 for discussion). Mainly, in non-lexicalist approaches, word formation is traditionally achieved through head movement that applies parametrically according to different conditions on feature specification, covert or overt movement, affix properties in the morphological component, or phase boundaries (Megerdooomian 2003). Word formation can also proceed via the mechanism of Phrasal Spell-out as defined within the Nanosyntactic program (Caha 2009; Pantcheva 2008; Starke 2009), in which each instance of Merge is followed by an operation of Spell-out in which the lexicon is accessed to see if a chunk of a tree can be lexicalised by an appropriate lexical item.

The approach I pursue in this dissertation claims that the mechanism by which certain languages spell-out certain sequences of heads as a single unit or word is marked by the phase, which is considered to be the domain of word formation (Marantz 2007a). This claim contains the assumption outlined above that phase boundaries are parametrizable and are not fixed by UG: phase boundaries are considered to be points of access from the interface to the syntactic derivation, and therefore, their existence is imposed by interface requirement, and maybe by optimization of processing and memory work. Thus, it is not necessary for phase heads to be fixed by UG and to be uniform cross-linguistically. Actually, it may be plausible to consider that linguistic variation arises from the differences in the timing of access by the interface to a crosslinguistically uniform syntactic structure. Differences in the time that a chunk of structure is interpreted can yield to

substantively different surface forms that correspond to uniform syntactic structures.

This departs from previous attempts like Phrasal Spell-out in that no loop needs to be assumed between the lexicon and the syntax, with the problems this loop raises for the theory. Moreover, there is no need to assume a constructionist view, that the lexicon of a language is defined as an inventory of constructions, dropping the hypothesis that structures and meaning are compositional. The proposal outlined here actually offers a solution to Hale and Keyser's problem by looking at it in a different way. In the Phrasal Spell-out model syntax has to have access to the lexicon to see the correspondence between a word and a chunk of the tree. In the model I sustain here, the correspondence between a word and a chunk of the tree is derived before accessing the post-syntactic lexicon, and it derives from points of access of the interface to the syntactic derivation.

The theory of argument structure I adopt is based on Hale and Keyser's view of argument structure. These authors wanted to answer basically two questions: why are there so few thematic roles, and why do they conform to the UTAH of Baker (1988)? Their answer to these questions is based on the nature of lexical categories and to their claim that lexical items project a syntactic structure that has the properties of Unambiguous Paths of Kayne (1984) or the Single Complement Hypothesis of Larson (1988). However, a question remains: why are the lexical categories just V, N, A and P? (Hale and Keyser 1993: 66). An answer to this question will be provided under the theoretical framework adopted here. The theory of categories is reduced to two types of categories, relational and non-relational (Mateu and Amadas 2001). Relational categories are just phase heads and non-relational categories are the complements of these phase heads. On this view the different types of categories emerge from the availability or non-availability of a specifier. Thus, three categories can be derived from this view: verbs, which only take a complement; prepositions, which also take a specifier; and non-relational categories, nouns or roots, which occupy the complement position of a phase head,

and cannot take a complement, in the sense that they cannot merge with a syntactic object and project its own label. In this dissertation I pursue the following research questions:

- (vii) What is a root ? Can we provide a configurational and structural definition of roots?
- (x) Can we generalize the theory outlined above to account for other lexicalization patterns, like variation at the lexicalization pattern of possessive constructions?

This dissertation, then, makes three claims:

1. L-syntax and s-syntax can be unified through a version of Phase Theory
2. A phase head is not fixed but it can emerge derivationally through head movement. Phases can be seen as points of access of the interfaces to the syntactic derivation. They are points of cyclic spell-out and domains where labeling (projection) ensues.
3. Linguistic variation emerges at these points of access. Syntactic derivations are crosslinguistically uniform but changes in the timing of externalization bring about substantive superficial differences among languages.

1.4 Organization of the dissertation

This dissertation is organized in six chapters.

Chapter 1 introduces the background and the empirical coverage of the dissertation. Further it introduces the main theoretical claims and hypotheses upon which the proposal is built, and which will be discussed and developed throughout the dissertation.

Chapter 2 studies the structure of PPs in Romance and proposes that Romance PPs are always locative. The Path component as defined at the beginning of the chapter is argued to be included in the verbal structure. Two counterexamples to this claim are discussed: Spanish preposition *a* and complex prepositions that act as delimiters of the event. Moreover, I discuss some syntactic differences between Germanic and Romance PPs and propose an analysis based on differences in defectivity in Romance and Germanic PPs.

The point of departure of Chapter 3 is the empirical observation that Romance languages do not show the same type of verbal polysemy observed in other linguistic families. This property has been related to Talmy's typology of motion events in approaches that focus on the presence of Manner Incorporation. The manner component of a verb is related with the content of the root in the verbal structure. I then discuss the notion of root in different theories of argument structure and develop a proposal in which roots are just heads that cannot label the structure. The opacity effects of roots with respect to the syntactic structure is seen to be derived from this. I propose a view of roots or non-functional heads in structural terms by considering the notion of phase. Then, I propose to derive Romance verbal rigidity, that is, the lack of Manner incorporation in motion events or resultative constructions from the property of PathPs in these languages. To do so, I propose that lexicalization proceeds at certain designated points, and these points of access to lexicalization can vary crosslinguistically by means of syntactic operations such as head movement.

Chapter 4 offers some counterexamples to the claim that Romance languages do not show verbal elasticity, by examining some constructions in which an intransitive verb of manner takes a complement. Thus, I examine the cognate object construction, some examples of resultative constructions, verb particle constructions and prefixed verbs in Romance languages. By examining these cases, I conclude that all of them have a property in common: the complements that these verbs can take have a semantic relation of cognation with the verbal predicate. The

semantic relation of cognation is analyzed as being derived from a preposition of central coincidence or Place, under our definition of Place outlined in Chapter 2. As Place prepositions are phasal domains in Romance languages, roots can be inserted after a PlaceP domain, and then manner verbs taking cognate complements are obtained.

Chapter 5 explores another consequence of the proposal developed in Chapters 2 and 3 that affects structures of possession and some related verbs. I start from the study of Measure verbs in Romance that show two properties that make them difficult to analyze: they show variable behavior regarding unaccusativity and they appear with a complement of measure that has argumental properties in some constructions and adjunct properties in others. I relate the behavior of these verbs with the properties that constructions of possession show crosslinguistically. Crucially, I follow the lexicalization pattern established by Harves and Kayne (2012) by which languages can be divided into HAVE and BE languages, depending on how they lexicalize structures of possession. The availability of a transitive verb of possession in certain languages has been related with the possibility of having a transitive modal of need. In the same line of reasoning, I argue that languages that have possessive HAVE can also have a transitive Measure Verb that takes a Measure Phrase as complement. The analysis follows the same approach of phases outlined in previous chapters: by means of head movement of phasal Place, unaccusative defective v can become a non-defective phase head, and thus a transitive phase v^* able to assign accusative case and to license an external argument in its specifier. Thus, the properties of Measure Complements can be derived from the analysis of expressions of measure as being constructed with a BE or a HAVE pattern.

Chapter 6 sets up overall conclusions, points out loose ends and open questions, and offers directions for further research.

Chapter 2

The expression of path in Romance

2.1 Introduction

This chapter deals with the expression of path in the Romance prepositional domain. The main goal is to show that Romance languages convey the meaning of bounded path through the verbal domain, and not through the prepositional, adjectival or nominal domain as other languages do. This fact has the side-effect of restricting other processes, as will be shown in the chapter that follows.

Secondarily, the chapter aims to give a survey of certain differences among Romance languages themselves, and with respect to Germanic languages. Crucially, the hypothesis that Romance languages have a defective prepositional system, in the sense that there are not dynamic bounded paths in these languages, has been pursued before in the literature about Romance prepositions (Bergh 1948; Folli 2001; Vandeloise 1991). However, there are some counterexamples to this claim. First, Spanish preposition *a* seems to behave as a pure directional preposition. For example, contrary to Catalan, French or Italian, Spanish preposition *a* cannot appear with stative verbs or as a locative adjunct with verbs of activity. Compare Spanish examples in (19 a)-(19 b) with Catalan ones in (20 a)-(20 b):

- (19) (a) **Juan está a la escuela*
 Juan is at the school
- (b) **Juan baila a la estación*
 Juan dance at the station
- (20) (a) *El Joan és a l'escola*
 The Joan is at the'school
 Joan is at/in the school
- (b) *El Joan balla a l'estació*
 The Joan dance at the'station
 Joan dance in the station

This chapter develops the argument that Spanish preposition *a* does not behave as a pure directional preposition if it is compared with other dynamic prepositions such as English *to* or Dutch *naar*. I propose instead, in line with Beavers (2008), that preposition *a* in Spanish is a case marker that can only be licensed in a certain syntactic context.

The second problem of the hypothesis outlined in this chapter is the existence of complex prepositions such as Cat. *fins a*, Fr. *jusqu'à*, It. *fino a* and Sp. *hasta* that have been argued to behave as bounded paths by many authors (Fong and Poulin 1998; Folli 2001; Folli and Ramchand 2005). I argue that this type of preposition is still a locative preposition and it cannot form a resultative predicate as happens with Germanic path prepositions.

This chapter is organized as follows: section 2 sets up the general background regarding the concepts of Path and Place, the theory of adpositions and motion events that I assume throughout the dissertation. First, I give a definition of the of Path and Place, and dynamic and stative prepositions. Then, I discuss cartographic approaches, and after a brief review, I propose a simplified version of them. Finally, section 2.2.5 discusses the relation that the concept of path bears with other domains, such as aspect.

Section 3 lays out a proposal about the structure of PPs and how they are built into a motion event. The approach is constructed on two dimensions: the notion of defective domain and the case properties of PPs.

Section 4 explores the properties of Romance locative PPs and deals with counterexamples.

Section 5 discusses some differences between path prepositions in Romance and Germanic and proposes an account for them, based on the existence of defective domains.

Section 6 develops the main hypothesis of this chapter: the domain of path prepositions is defective in Romance languages. In doing this I analyze the apparent counterexamples discussed in section 4 and show that they are not problems for our hypothesis.

Section 7 presents overall conclusions.

2.2 Preliminaries

Spatial expressions are divided into expressions of location and direction. Informally, we can say that an expression of location places an entity or an event in a point or set of points in space. Likewise, an expression of direction pinpoints a change of location of an entity in an event of motion.

There are two asymmetries between these two types of spatial expressions. On the one hand, while the first one can be argued for entities or events, the second has to make reference to a particular type of event, one that expresses that an entity is undergoing a change of location along a spatial dimension, a path. This asymmetry makes directional expressions more tied to the verbal domain. On the other hand, the notion of Path is complex and includes the notion of Place, but not the other way around, as argued in den Dikken (2003, 2010a,b); Jackendoff (1990); Koopman (2000, 2010); Pantcheva (2008); Svenonius (2003, 2004b,a,

2006, 2010); Tungseth (2006), among many others, based on morphosyntactic and semantic grounds.

Therefore, the syntactic and semantic analysis of spatial expressions poses some relevant questions. For example, why are paths normally more complex and contain a place expression? And why are Path PPs that denote a bounded change of location normally found in the complement position of *v*? These issues are explored in the sections that follow.

In section 2.2.2 I discuss the definitions of Path, and Place, and the types of paths found in natural languages. I briefly tackle the classification of locative expressions of Hale (1986). Then, I discuss Pantcheva's fine-grained classification of paths and propose a reduction of her typology. The main point of the argument is that the transition feature of paths might not be related to the prepositional domain, but to the syntactic context in which the PP is inserted. By assuming a configurational view of transitions, I propose a reduced typology of path and place expressions that can integrate the classification of Hale (1986) with current views about Path and Place prepositions.

2.2.1 Path and Place and the relation of central-terminal coincidence

The study of locative adpositions considers two main types of locative expressions: those that denote direction, and those that denote location. These two types of adpositions have been related with two different functional heads, Path and Place, or PDIR and PLOC, depending on the terminology. Path and Place have been related with the aspectual notions of dynamic and static predicates, respectively (Zwarts 2005b). The relation between these two notions can be illustrated by the fact that path prepositions are not compatible with stative verbs (Svenonius 2004b, 2010).

(21) (a) The boat remained behind the hill (Svenonius 2004b:4)

- (b) The boat was located inside the cave
- (22) (a) *The boat remained to the edge (Svenonius 2004b:18)
- (b) *The boat remained up to the cave.

Alternatively, spatial relations have been classified following the categories of terminal and central coincidence relation, defined in Hale (1986). However, the notions of Path and Place and the terminal/central coincidence relation are not directly related. Thus, there are prepositions that denote a terminal coincidence relation and express a static locative relation, that is, a Place. Moreover, prepositions that denote a central coincidence relation can also express a path, a locative relation that implies some movement by the Figure. This is clear in the definitions of terminal and central coincidence that involve the semantic relation between the Figure and the Ground:

(23) Terminal coincidence relation

A relation of terminal coincidence involves the contact between an edge or terminus of the Figure and the Ground.

(24) Central Coincidence relation

A central coincidence relation involves the contact between the center of the Figure and the center of the Ground.

According to Hale (1986), there are two types of locative relations within adpositions that denote a terminal coincidence relation, namely, the allative and ellative adpositions. Within the adpositions that denote a central coincidence relation, there are the locative and the perlative adpositions.

Perlative adpositions denote the relation between a Figure that has a linear extension and the Ground: the location of the Figure corresponds to its trajectory or its linear arrangement. Prepositions of this type are *along* or *over*, which can

be considered path expressions because there is movement of the Figure along a path.

On the other side, allative and ellative adpositions can denote a relation of terminal coincidence without the existence of movement: the location of the Figure can correspond with its trajectory or its linear extension, and no movement is implied.

In conclusion, there are path expressions that can be classified as central coincidence relations and locative expressions that can be classified as terminal coincidence relations. However, if with Gawron (2005), we conclude that there are static path expressions (extent predicates), then the notions of path and terminal coincidence can be unified. However, it is difficult to recast perlocative prepositions that can be identified with route prepositions (see section 2.2.2 for discussion) to denote location.

Moreover, the studies about spatial expressions also take into account the notion of boundedness (Jackendoff 1985). Thus, spatial adpositions can denote a bounded or an unbounded path or trajectory. The notion of boundedness is normally only applied to paths, not to locations (but see Tortora 2008 for a critique of this view). Following a similar reasoning, Hale and Keyser (2002) extend the concept of terminal and central coincidence relations to also encode the aspectual distinction between telic and atelic predicates, identifying prepositions of central coincidence with atelic or unbounded predicates, and terminal coincidence prepositions with telic or bounded predicates. On the basis of this aspectual distinction, then, one can say that the notion of central coincidence relation includes all unbounded locative and path prepositions, while terminal coincidence prepositions include all bounded path prepositions, that is source and goal prepositions (Jackendoff 1985).

As we have seen, the two classifications are not concurrent. In the next section, I discuss a typology of path expressions to see if it can be unified with the notions of central/terminal coincidence of Hale (1986) and Hale and Keyser (2002).

2.2.2 Types of paths

Spatial expressions that denote movement along a space are called paths. Since Jackendoff (1983), paths have been classified in three classes that define five distinct types: bounded paths (i.e., source and goals), directions (i.e., source and goal directions), and routes (in which place is identified at intermediate points and not at the extremes).

Pantcheva (2008) diverges from Jackendoff in that the goal and source distinction can be applied across all types of paths. Thus, each of the three types of paths can be classified into two groups, yielding six subtypes. Moreover, Pantcheva adds an additional property: delimitation, creating two more types of paths. In short, Pantcheva (2008) provides a different classification based on three properties: transition, orientation, and delimitation, which gives rise to eight types of paths.¹

1. Orientation: oriented paths are defined as introducing some asymmetry concerning the two extreme points of the path. Oriented paths are source and goal expressions, and non-oriented paths are route spatial expressions.
2. Transition: paths that contain a transition from one spatial domain to a complementary spatial domain. There are transition and non-transitional routes, goals and sources.
3. Delimitation: divides paths into terminative and non-terminative paths. Terminative paths set up an end-point while in non-terminative paths the end-point is not asserted, although it can be understood.

¹There are more classifications of paths and locative expressions. For example, Zwarts and Winter (2000) adopt a similar classification of paths but establish an asymmetry between them, much in the spirit of Jackendoff's classification: sources and goals behave alike, routes are different. Other debates about paths deal with the existence of a source/goal asymmetry (see Gehrke 2008 for discussion, and references therein). I will not analyze these distinctions in this dissertation.

These three features can be combined in different ways to provide eight types of paths. Within transitional paths, we must distinguish between oriented paths, source and goals (delimited and non-delimited), and non-oriented paths, that is, transitional routes. In contrast, non-transitional paths can be classified as approximative (goal oriented), recessive (source oriented), and prolative (route). Examples in English of each type are the following, except example (25d):

- (25) a. Transitional oriented path, goal, non-delimited

The frog jumped into the lake

- b. Transitional oriented path, goal, delimited

The boy ran up to the house

- c. Transitional oriented path, source, non-delimited

The frog jumped out of the lake

- d. Transitional oriented path, source, delimited, egressive

Volgograd-š'an' El'ba vá-ëdz (Komi-Permyak)

Volgograd-EGR Elba river-TERM

From Volgograd to Elba river

- e. Transitional non-oriented path, route

The boy ran past the tree

- f. Non-transitional oriented path, goal, approximative

John ran towards the house

- g. Non-transitional oriented path, source, recessive

John ran away from the house

- h. Non-transitional non-oriented path, route, prolative

The children walked along the river

The difference between transitional and non-transitional paths is stated in aspectual terms. Transitional paths can be defined as denoting a biphasic scale that is semantically non-cumulative (Zwarts 2005b), and hence, unbounded. If telicity has to be defined from the property of quantization (Krifka 1998), then only those paths that are transitional, that is, that contain two stages, satisfy this property, and hence are bounded. Therefore, transitional paths are by definition semantically quantized and non-cumulative, that is to say, bounded.

The notion of transitional path and the central/terminal coincidence relation also meet in the following sense: a central coincidence relation denotes a spatial configuration in which the centre of the Figure and the centre of the Ground coincide. Therefore, the notion of central coincidence can be extended to cover spatial relations in which a Figure is in movement, that is, a Figure that describes a path that never leaves the limits denoted by the Ground. This kind of path always describe the trajectory of a Figure within the same location, and therefore, always describe a non-transitional path. Therefore, under this definition of relation of central coincidence, the majority of routes, *along*, and non-transitional oriented paths, like *towards* or *away from*, will be classified with pure locative prepositions, in which class they both satisfy the property of not denoting a scale that has two stages or expressing a relation of central coincidence between a Figure and a Ground.

In contrast, a transitional path can be understood as a terminal coincidence relation, since the definition of terminal coincidence includes the notion of *terminus* or *end-point* and the existence of two spatial configurations in which the Figure takes part, one in which there is coincidence between the Figure and the Ground, and one in which there is not. Thus, a terminal coincidence relation contains the idea of transition, and hence, satisfies the property of non-cumulativity (since the sum of two concatenative paths that have the same properties does not necessarily denote a path with the same properties as the sum of paths) and are quantized (since a part of a transitional path does not necessarily have the same

properties as the whole path). Both properties can be reduced to the property of homogeneity: transitional paths are not homogeneous, and therefore, they are quantized and not cumulative. Thus, the properties of transitional/non-transitional and central/terminal coincidence can be unified.

Pantcheva's classification of paths also distinguishes a type of oriented transitional path characterized as being delimited, namely, preposition *up to* and egressive paths, as exemplified in (25). Delimited paths are difficult to characterize. For example, Kracht (2001) defines the difference between terminative paths and transitional goals in aspectual terms like their association with telicity and argues that terminative paths have a stronger requirement for telicity. However, this requirement is not further clarified since both types of paths are telic (Pantcheva 2008: 23):

- (26) (a) The boy ran up to the house in ten minutes / *for ten minutes
 (b) The boy ran to the house in ten minutes / *for ten minutes

Kracht (2001) also establishes that terminative paths carry the localizer AT and cannot carry the localizer IN, contrary to non-terminative goals. This is because terminative paths, as suggested by Pantcheva (2008), “explicitly state that the Ground is the boundary of movement.” That is, a terminative goal cannot denote a spatial configuration in which the Figure ends up in the Ground. The Ground denotes the end-point of the movement. In a way, therefore, terminative paths are special since they can be analyzed as not being transitional at all, because the Figure never reaches a different locative state, the Ground, since it stops exactly at this point.

Pantcheva (2008), drawing on work by Winter (2006), distinguishes terminative and non-terminative paths on the basis of their interpretation with an adverbial quantifier, such as *almost*. Thus, terminative paths denote a scalar interpretation, while non-terminative goal paths do not define a scale (or define a two stage scale that cannot be quantified). In the presence of *almost*, terminative paths denote a

scalar interpretation (ie., the Figure starts traversing the path, but never reaches the final point), and a counterfactual interpretation (ie., the Figure almost starts traversing the path, but never does so). On the contrary, non-terminative goals only have a counterfactual interpretation. This is illustrated in Hebrew and Dutch:

- (27) (a) *dan kimʔat rac la'agam* (Hebrew)
 Dan almost ran to.the.lake
 Dan almost ran to the lake (counterfactual/?scalar)
- (b) *dan kimʔat rac ʔad ha'agam*
 Dan almost ran until the.lake
 Dan almost ran to the lake (counterfactual/scalar)
- (28) (a) *Dan rende bijna naar het meer* (Dutch)
 Dan almost ran to the lake
 Dan almost ran to the lake (counterfactual/*scalar)
- (b) *Dan rende bijna tot het meer*
 Dan almost ran until the lake
 Dan almost ran to the lake (*counterfactual/scalar)

According to Pantcheva (2008) and Winter (2006), *almost* modification always induces a scalar reading with a terminative path, while it induces a counterfactual reading with a non-terminative path. However, scalar and counterfactual readings also depend on the kind of verb. This can be illustrated in Catalan with the following examples that feature preposition *fins a* ‘up to/until’ in both cases:

- (29) (a) *El Joan gairebé va arribar fins a casa* (Catalan)
 The Joan almost aux arrive end at house
 Joan almost arrived home (counterfactual/*scalar)
- (b) *El Joan gairebé va nedar fins a les roques* (Catalan)
 The Joan almost aux swim end at the rocks
 Joan almost swam to the rocks (counterfactual/scalar)

Thus, the example in (29 a) only has a counterfactual meaning since the verb *arribar* ‘to arrive’ is an achievement and, therefore, it does not contain structure, but rather denotes a two-point scale associated with the change of location and cannot be modified. In contrast, example (29 b) receives both interpretations, since, as *nedar* ‘to swim’ denotes a durative event, an activity, the terminative path denotes an end-point that sets up a frame within which the activity takes place.

Coming back to the examples in (27 a) and (27 b), we observe that (27 a) accepts both readings, although one of them is not grammatical for all speakers. Instead, example (27 b) accepts both interpretations. On the contrary, in Dutch, prepositions in (28 a) and (28 b) receive a different interpretation: (28 a) accepts only a counterfactual reading and (28 b) accepts only a scalar reading. I believe that the contrast between Hebrew and Dutch prepositions is related with the Catalan examples above, and with how expressions of motion are lexicalized in these languages. Thus, Hebrew is known to be a verb-framed language (Gehrke 2008; Slobin 2004, 2006, among others), like Catalan, while Dutch is a satellite-framed language. Hebrew and Catalan, however, accept, for some speakers, goal of motion readings with simple goal prepositions with a subset of manner of motion verbs. In the following sections, I argue that in these cases the verb *run* is not an activity predicate and that it lexicalizes a transitional change of location. Therefore, the emergence of a dubious scalar reading is available, but only for those speakers that do not allow verbs like *to run* to lexicalize a transitional change of location. On the other hand, with a terminative preposition, this type of verb is ambiguous and can denote a change of location event or a durative activity event whose duration is limited by the terminative preposition. In the former case, the counterfactual interpretation arises and in the latter case, the scalar interpretation is available (see section 2.4.1.2 for discussion). However, in Dutch, the distinction is more clear-cut, since the preposition *naar* only triggers a punctual change of location interpretation, and preposition *tot* sets up the frame within which an

activity takes place, and therefore, as the event has duration it can be modified by *almost*.

These facts indicate that terminative prepositions are not really transitional paths despite yielding a telic interpretation of the predicate: these prepositions, as I argue below, do not change the inner aspectual composition of the verbal predicate, as transitional paths do, but set a limit for the duration of the event. However, terminative paths in verb-framed languages can be interpreted as goals with an intensifier denotation by being integrated with a verb that already denotes a transitional path. In these cases, terminative prepositions do not trigger a scalar interpretation and have the same denotation as simple goal prepositions, as will be shown in section 2.4.1.2.

Moreover, delimited paths constitute a very restricted category. On the one hand, delimited routes, based on transitional routes, do not exist because the transition will be located in the center of the path and therefore it cannot be considered as an end-point. On the other hand, delimited sources are difficult to find according to Pantcheva (2008). The only example she provides also contains a terminative goal, that is, a delimited source path followed by a terminative goal.

- (30) *Volgograd-š'anⁱ Elba vá-ëdz* (Komi-Permyak)
 Volgograd-EGR Elba river-TERM
 From Volgograd to Elba river

The example is parallel to examples found in Catalan and Spanish in which delimited sources are always constructed with a terminative goal forming a constituent that is independent from a motion event. Thus, these complex PPs can combine with any type of verb and they always quantify the duration of the event by framing it within a spatial setting:

- (31) (a) *Va ballar des de casa fins al riu* (Catalan)
 Aux danced from of house end at.the river
 She/He danced from the house to the river

- (b) *Juan cantó desde la cocina hasta la despensa* (Spanish)
Juan sang from the kitchen until the pantry
Juan sang from the kitchen to the pantry

For now, I leave outside the discussion the integration of PPs with events, and I restrict myself to the discussion about how many types of paths there are and how they may be characterized. However, it seems clear that the notion of delimited path is not as relevant as argued in Pantcheva (2008); it can be defined as a type of non-transitional path that defines a spatial location that must be interpreted as an end-point. I argue that delimited paths can be analyzed as locative expressions whose path interpretation arises in the appropriate context.

According to what has been said above, transitional paths can be identified with relations of terminal coincidence, and locative and non-transitional paths can be argued to be part of expressions that denote a central coincidence relation. Furthermore, locations or place expressions are both locative and non-transitional paths. Under this more restricted view of paths, the haleandkeyserian view of spatial expressions can be integrated with the literature on spatial expressions.

Therefore, the Jackendoff (1985) and Pantcheva (2008) fine grained classification that distinguish five and eight types of paths, respectively, can be drastically reduced to three types of paths: transitional goals, routes and sources. The rest is considered to be in the class of Place expressions. Place expressions, therefore, contain punctual locative expressions that involve a static Figure, and extended locative expressions that involve a moving Figure, which is always in a uniform, single stage, location.

This reductionist view of paths allows us to develop a localist theory of aspect that provides a way to explain why bounded paths are always located within the vP (Gehrke's (2008) Bounded PP Hypothesis, see section 2.2.4.3, (61)) and the intimate relation between path prepositions and the verbal domain. I develop these ideas in the following sections.

2.2.3 The structure of PPs

In this section, I review three different syntactic analyses of PPs: den Dikken (2003, 2010b), Svenonius (2004b, 2010) and Rooryck (1996). These approaches consider that Ps are lexical and project a functional structure, with different degrees of complexity.

The first two follow a cartographic approach to adpositions (Koopman 2000, den Dikken 2003, 2010b, Fábregas 2007, Svenonius 2003, 2004b, 2010, and Pantcheva 2008). The majority of these proposals have focused on the properties of Germanic Ps: Dutch (den Dikken 2003, 2010b; Gehrke 2006, 2008; Koopman 2000), German (Gehrke 2008; den Dikken 2003, 2010b), Norwegian (Tungseth 2006, 2008), and English (Svenonius 2004a,b, 2010).

Cartographic approaches to prepositions are based on the conceptual argument structure of PPs of Jackendoff (1990), in which two basic semantic components are distinguished: Path and Place. According to this view, semantic labels such as Path and Place are compositionally and asymmetrically related. Thus, the argument structure of Path always contains Place, reflecting the morphological shape of English complex goal prepositions such as *into* or *onto*. This semantic composite view of paths is syntactically understood in cartographic approaches as two functional heads, namely, Path and Place, and the asymmetry between them is analyzed as a consequence of syntactic structure: Path selects and embeds a PlaceP.

In den Dikken's approach these notions are labeled as P_{DIR} and P_{LOC} and both categories can selectively project a rich functional PP on their own. Other authors use the more transparent labels Path and Place as the syntactic counterpart of the PATH and PLACE semantic components, as Koopman (2000) and Svenonius (2004b,a, 2010). In the following subsections, I summarize and compare these proposals, focusing on den Dikken (2003, 2010b) and Svenonius (2010). Then I review Rooryck's (1996) approach that defines the directional component of PPs as being always functional.

2.2.3.1 den Dikken's (2003, 2006, 2010) theory of adpositions

Den Dikken's theory of adpositions is a development of the main ideas outlined in Koopman's (2000) seminal work. Their work stems from the distinction between lexical and functional categories. Thus, they propose that Ps are lexical categories that project a functional structure with a set of different functional heads, in a way similar to what was proposed during the 90's for other categories such as N, V, and A (Abney 1987; Grimshaw 1990). Den Dikken's proposal is based on the following assumptions:

- (i) P_{LOC} and P_{DIR} are lexical categories
- (ii) Lexical categories project a functional structure that is uniform across categories
- (iii) Functional heads are always of three kinds: Complementizer (C), Deixis (Dx) and Aspect (Asp)

These three functional structures are present in the extended projection of any lexical category. For den Dikken, AspP appears in locative ($\text{Asp}^{\text{[PLACE]}}$) and directional Ps ($\text{Asp}^{\text{[PATH]}}$) and both can have two values, bounded/unbounded (see also Tortora 2008). This same head is responsible for the difference between dynamic and stative events and telicity in the verbal domain, and the mass/noun distinction in the NP. The semantic contribution of Deictic Phrase (DxP) is deixis, a semantic component that we may also find in other categories: deixis is present in NPs (in the form of definiteness, for example) or in VPs (understood as tense). In the adpositional domain, Dx comes in two flavors: Dx encodes the distinction between proximal, medial and distal in locative prepositions ($\text{Dx}^{\text{[PLACE]}}$), and orientation, in directional ones ($\text{Dx}^{\text{[PATH]}}$). Finally, den Dikken establishes that all PPs have a Complementiser Phrase. The reason for doing so is two-fold. First, the existence of a C layer provides a uniform proposal of lexical categories. Second, he observes that in order to explain the distribution of r-pronouns in Dutch

with respect to Measure Phrases (MPs), it is necessary to consider the existence of another structural position beyond Koopman's DegreeP.

To sum up, the full-fledged structure of locative and directional prepositions is as follows:

(32) Locative prepositions

$$[_{CP} C^{[PLACE]} [_{DxP} Dx^{[PLACE]} [_{AspP} Asp^{[PLACE]} [_{PP} P_{LOC} \dots]]]]$$

(33) Directional prepositions

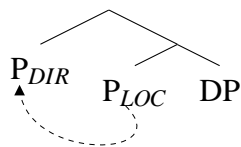
$$[_{CP} C^{[PATH]} [_{DxP} Dx^{[PATH]} [_{AspP} Asp^{[PATH]} [_{PP} P_{DIR} \dots]]]]$$

Den Dikken provides different possible structures for adpositions depending on the presence or absence of these functional projections. Thus, den Dikken defends a version of the cartographic approach that does not consider all functional projections to always be present. Instead, they are called up selectively. Syntactic structures are then sent to the interfaces where some possible structures are ruled out because of conditions on interpretability.

We may summarize the possible structures of PPs taking into account the possible P_{DIR} complements (hence, below P_{DIR}), and the structures above P_{DIR} .

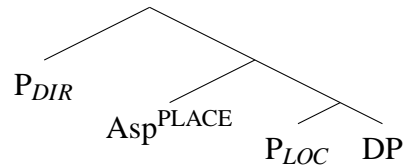
Structures above P_{DIR} In these structures P_{DIR} can take a bare P_{LOC} as its complement or a P_{LOC} that contains functional structure. If P_{LOC} is bare, it needs to be licensed by incorporating obligatorily into P_{DIR} .

(34)



P_{DIR} can also take a PP built-up until the $Asp^{[PLACE]}P$ as complement:

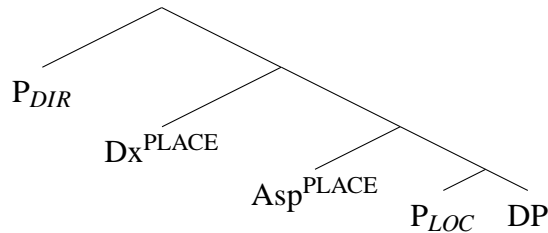
(35) *



Structure (35) is impossible on the basis of the analogy with the verbal domain, in which Asp cannot be adjoined directly to a verb, since according to Guéron and Hoekstra (1995) in order to AspP to be licensed it has to be part of a Tense-chain. The presence of an AspP in the complement position of V would force incorporation of Asp into the verb, resulting therefore in ‘improper head movement’ (Li 1990). In the prepositional case the same rationale applies and an obligatory P_{LOC} -to- $Asp^{[PLACE]}$ -to- P_{DIR} would follow, resulting in head-movement from lexical-to-functional-to-lexical category. Therefore, structure (35) is ruled out from the set of possible PP configurations.

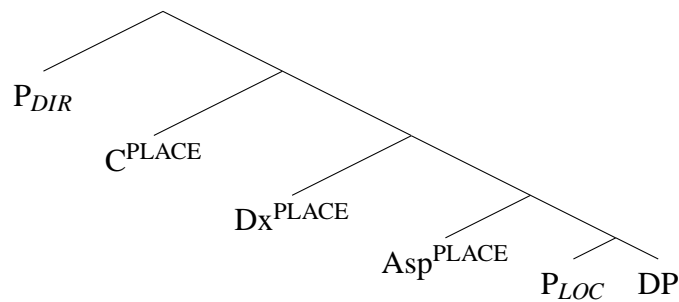
The next structure is dependent on the existence of a $Dx^{[PATH]}$ in the extended projection of P_{DIR} for the same reasons.

(36)



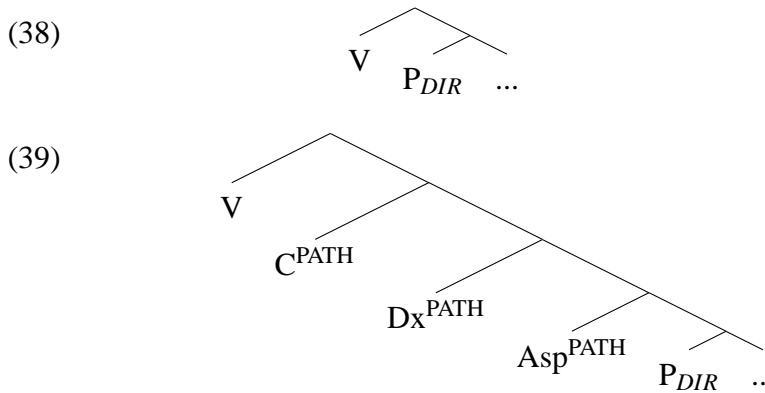
Finally the last possibility would be P_{DIR} taking a full-fledge locative preposition.

(37)



In brief, two different structures (a bare P_{LOC} and a full-fledge PP) and a semi-complete PP (built-up just until $Dx^{[PLACE]}$) can appear below P_{DIR} .

Possible structures beyond P_{DIR} den Dikken predicts only two types of structures for directional P_{DIR} appearing as a complement of a verb.² P_{DIR} can be bare or it can have a complete extended projection of its own.



In the structure in (38) a bare directional preposition is merged directly with the verb. For this preposition to be licensed, it needs to incorporate into the verb, forming a V - P_{DIR} complex. Then, by Baker's (1988) Government Transparency Corollary³ the complement of P_{DIR} turns out into the complement of the complex $V+P$.

In (39), however, P-incorporation does not take place, since the preposition gets licensed in its own extended projection. The other cases are not possible for the reasons mentioned above: the presence of the aspectual head depends on the presence of the Dx head, which needs to be incorporated into the verb to get licensed, and so does the P_{DIR} head, a violation of Li's condition on head movement.

The derivation in (40) is ruled out for the same reasons as (35). Finally, the structure in (41) is not possible since Dx must be licensed within a CP; if not, it can only be licensed by another similar head Dx with which it creates a chain:

²Note that he does not consider the possibility of adjunct directional prepositions, something that is not justified in this work. I come back to this issue in section 2.6.

³The Government Transparency Corollary of Baker (1988) says that "A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position".

are some ideas underlying den Dikken's approach that are not directly compatible with mine, such as the *a priori* distinction between functional and lexical categories, the concept of selection, and the notion of defectivity. In section 2.3.3, I show that the notion of defective domain is central to my analysis of Romance PPs but it needs to be defined in different terms.

2.2.3.2 Svenonius's cartographic approach

Like den Dikken, Svenonius follows a cartographic view of syntactic structures (see on page 37). They both consider that a locative preposition P is syntactically composed of different smaller functional projections. However, the number and the interpretation of these functional projections differ in the two authors. Moreover, in Svenonius's approach each projection is associated with a semantic interpretation in terms of function application. Two criteria are set up to determine the existence of a functional projection and its order in the hierarchy: (i) its semantic interpretation and (ii) the existence of morphosyntactic evidence.

Svenonius (2004b, 2010) proposes the existence of four classes of Ps: projective, bounded, extended and particles. Projective and bounded prepositions are locative prepositions; extended prepositions are path or directional Ps while particles form a class of their own that does not fit exactly into the place/path divide. The class of projective prepositions is defined mainly on the property of allowance of degree modification. In contrast, bounded prepositions do not allow the presence of degree modifiers. This property is explored extensively by Svenonius, who provides a syntactic explanation and argues that it correlates with other syntactic properties, showing that it can't be defined only in semantic terms (cf. Zwarts and Winter 2000).

Svenonius (2004b,a, 2007, 2010) propose that locative prepositions contain the following functional projections:

PROJECTIVE	BOUNDED	EXTENDED	PARTICLE
behind	among	past	up
in front of	between	around	down
inside	next to	through	on
outside	beside	across	off
above	near	along	in
below	against	over	out
beyond	upon	under	away

Table 2.2.1: Classification of prepositions according to Svenonius 2008:2

(44) p- Deg- Deix- Loc –AxPart - K

Each projection has a semantic interpretation in line with Zwarts and Winter's (2000) semantic approach to locative prepositions. The semantic contribution of each one of these projections is defined as follows:

(45) Semantic interpretation of functional projections

- a. p: it introduces the Figure as in a Neo-Davidsonian theory of argument structure as Kratzer's 1996 voice head in the verb phrase.⁴
- b. Deg: it denotes a function from vector spaces to the regions of space that vectors pick out. Measure Phrases can be merged in the specifier position of this functional projection selecting a set of vectors with a certain measure.
- c. Deix: it provides proximal or distal information. The semantic contribution of this projection in terms of function application is not made

⁴In his own terms: "This p is the natural locus of relational notions of containment, attachment, and support which are commonly expressed by prepositions such as *in* and *on* and their counterparts crosslinguistically" (Svenonius 2010:133).

explicit. This projection is related with the appearance of deictic words such as *r*-words.⁵

d. *Loc*: it defines a function that maps regions into vector spaces.

e. *AxPart*: it denotes a function from regions to subparts of regions. This function makes reference to parts of the Ground.

f. *K*: it defines a function from a Ground DP to a region.

The main contribution of Svenonius (2004b, 2007, 2010) is the following generalization to determine the (dis)allowance of degree modifiers. He observes the following pattern:

(46) Pattern

(i) allowance of degree modification

(ii) licensing of anaphoric Ground: analyzed as licensing of anaphoric KP

(iii) licensing of particle modification

(iv) licensing of *r*-words

This pattern can be exemplified in English, Svenonius (2010):

(47) (i) My clothes are ten meters below the bridge

(ii) We stood on a bridge. Below (it) we could see barges laden with port wine.

(iii) The boat drifted from off beyond the city limits

(iv) Get below there

This pattern is explained in Svenonius (2010) by how lexicalization proceeds. Crucially, he argues that if lexicalization proceeds either via head movement

⁵*R*-words or *r*-pronouns are locative adverbials that receive this name because they all contain the letter *r*. See section 2.3.1.1 for discussion.

or Phrasal Spell-out (Starke 2009), then specifier positions of moved functional heads, or heads spelled out within the same morpheme, become unavailable. This explains why bounded prepositions do not allow Measure Phrase modification, and anaphoric grounds, and do not license r-words or particle modification, since they imply movement to a specifier position among Deg and AxPart head. In a way, Svenonius gets a similar result as den Dikken: PPs can vary with respect to the richness of the functional projections they embed. If the functional domain is richer, more modifiers and landing site positions are available. Again, this idea can be restated in terms of defective/non-defective domains. In section 2.3.1 I argue that the syntactic structure of PPs can be simplified. I focus on the existence of three projections: Asp/Deg, Dx/Dex and AxPart, and argue that they do not belong to the prepositional domain but to the nominal domain that makes up the object of the preposition understood as a Ground. By this move, I lay out a simplified version of the structure of PPs.

2.2.3.3 Rooryck (1996)

This author proposes that PPs have a complex structure that is basically formed by a lexical head, P, and a functional head, F, responsible for the case assigning properties of PPs. He gives an overview of Dutch and English prepositions and circumpositions and based on evidence such as constituency or (dis)allowance of PP modifiers he proposes that there is a functional projection with specific morphological properties. Specifically, following Chomsky (1995), he considers that this functional projection can have weak and strong features that force overt incorporation of P into F.

Rooryck analyses some PPs in Dutch and concludes that overt incorporation is linked with a specific kind of interpretation, namely, what he calls the directional-inchoative interpretation of the PP. Thus, the difference in interpretation of prepositions and postpositions in Dutch is analyzed as incorporation of

P into F (Rooryck 1996:244). Postpositions receive a directional interpretation because P has incorporated into F.

- (48) (a) *De fles dreef de brug onder* (directional)
 The bottle floated under the bridge
- (b) *De fles dreef onder the brug* (locative/directional)
 The bottle floated under the bridge

Rooryck discusses French complex prepositions and concludes that there is a link between movement, complex PPs, and directional-inchoative interpretations. He observes that French PPs, and Romance languages in general, lack both prepositions with a directional-inchoative meaning, (49 a), and productivity of complex PPs, in contrast to English (49 c)-(49 b), and Dutch, (48 a)-(48 b).

- (49) (a) *La bouteille flottait sous le pont* (French; only locative)
 The bottle floated under the bridge
- (b) The bottle floated under the bridge (English; directional and locative)
- (c) down on the farm, out on the road, out of the country (English)

He proposes that PPs are headed by different sorts of functional projections associated to the prepositional domain that act in a similar way as modals in the verbal domain, that is, they add meaning to the interpretation of PPs. Based on data like in (49 a), he claims that the system of functional projections in French, and in Romance languages in general, is poorer than in Germanic languages. Concretely, it lacks a directional-inchoative functional projection FP (but it has a locative FP, that is overtly realized as preposition *of* a preposition present in most complex prepositions in Romance).⁶

⁶Actually, this preposition can be analyzed as a linker or predicative preposition in the sense of den Dikken (2006). Romance complex prepositions normally contain an *of*-type preposition (Sp. *a través de* ‘through’, or Fr. *dessous* ‘under’, for example), something that points out to the idea that complex PPs in Romance are nominal. See Terzi (2008, 2010) for more discussion about the nominal nature of prepositions. I briefly discuss the nominal component of PPs in section 2.3.1.2.

Rooryck's proposal departs from the accounts I have reviewed before in several respects. One of the important aspects is that he considers directionality and inchoativity to be similar concepts. Moreover, he proposes that directionality is a functional projection, while location is denoted by a preposition that is lexical in nature. The meaning of directionality is contributed by a functional projection that acts as a modal of the prepositional domain. In contrast, den Dikken and Svenonius consider that both Path and Place are lexical heads and the asymmetry between them can be reduced to selection, that is, Path selects and contains Place.

The second aspect that is different between Rooryck and the cartographic accounts reviewed is the relation between directionality and inchoativity, and the role that the verb or the preposition plays in the emergence of an inchoative-directional interpretation, which I defined in section 2.2.2 as a transitional path interpretation.⁷ Then, his account can serve as a link between proposals that only consider the structure of PPs and those that take into account the interpretation of PPs within a motion event, that is, in relation with a vP, which I review in section 2.2.4.

In this sense, Rooryck's proposal is similar to the one developed in Gehrke (2008), which will be reviewed in section section 2.2.4.3, in that, he considers that goal readings emerge from two sources: the verb (lexical induced bounded directionality) and the preposition (presence/absence of a functional projection). There is a crucial difference between Gehrke's and Rooryck's approaches though. In Rooryck, the directional-inchoative interpretation depends on the presence of a functional projection in the PP domain. In Gehrke, the directional-inchoative interpretation is obtained by incorporation of Path into a BECOME predicate that belongs to the verbal domain and that forms a complex predicate. In Gehrke's approach, directionality and inchoativity are two different concepts that can be

⁷In other words, for brevity's sake, a goal of motion interpretation. Note that, for reasons of space, I leave out of the discussion the study of transitional source and route prepositions.

expressed syncretically, or not, via overt movement. A similar analysis is provided by Tungseth (2008) who distinguishes inchoativity from directionality and assumes that inchoativity is expressed through a ResP or a PathP. I review their approaches in the next section since they analyze PPs in relation with the event and argument structure of verbal predicates.

2.2.3.4 Conclusion

In this section I have examined three syntactic proposals for the structure of PPs. In section §2.3, I provide an analysis of the structure of PPs that aims to simplify the number of functional projections set up by these authors. I bring the discussion Rooryck's contribution to the difference between Germanic and Romance PPs: the absence of a rich and complex structure in the prepositional domain is linked to the unavailability of an inchoative interpretation for prepositions.

2.2.4 PPs in motion events

In this section I discuss three approaches to motion events: Folli (2001); Gehrke (2008) and Tungseth (2008). I have grouped these approaches together because in these three cases the adpositional system is studied in relation with the VP domain. Thus, these authors highlight the importance of verbal types in deriving transitional path readings and providing an analysis of PPs and how they interact with the verb. Specially, the latter works, Gehrke (2008) and Tungseth (2008), study the case of ambiguous prepositions, namely, spatial expressions of location that in certain contexts give rise to directional readings. Both authors study this phenomenon in Germanic languages (Dutch, English and Norwegian). I consider that their studies can shed light on the behavior of spatial prepositions and goal readings in Romance languages as well. However, the approach adopted here is slightly different, as I show later, in section §2.3.

2.2.4.1 Folli (2001)

Folli provides a (semi)-constructional theory of cross-linguistic variation for the formation of telic constructions. She proposes a parameter that explains the distribution of goal of motion constructions in English and Italian.

Her account is based on two previous approaches to this issue: Higginbotham (2000) and Fong and Poulin (1998).

Higginbotham (2000) argues that there are two strategies to derive telic readings, by means of an accomplishment preposition and by means of a semantic operation called telic pair formation. On the one hand, Higginbotham (1995, 2000) puts forth the existence of accomplishment prepositions with two event positions. The telic interpretation is achieved by theta identification of the first event variable located in the activity verb with the event position of the accomplishment preposition. On the other hand, the operation of telic pair formation allows the construction of telic interpretation because it allows the event position of the verb of motion and of the preposition to combine and form a telic pair.

Higginbotham proposes that Italian does not have either strategy. The only thing that can happen in languages like Italian is theta identification between event variables to produce locative interpretations. Goal of motion constructions are analysed by theta identification of the last event of an accomplishment verb and the event provided by the preposition.

Fong and Poulin (1998), following Rappaport Hovav and Levin's (1998) view of event structure, argue that English motion verbs allow the lexical process of template augmentation, while French motion verbs do not. This difference is related to the absence of aspectual elasticity in the properties of the two languages. However, these authors explore two counterexamples to Talmy's lexicalization patterns in French. First, the existence of complex directional prepositions, such as Fr. *jusqu'à* 'up to' and, *de... en...* 'from ... to ...', that allow accomplishment

readings of verbs of manner of motion. Second is the presence of a class of manner of motion verbs that can combine with non-directional prepositions and yet provide accomplishment readings.

(50) *La grenouille a nagé jusqu'au nénuphar*
 The frog have swam until'at.the water-lily
 The frog swam up to the water lily

(51) *L'enfant a couru derrière la maison*
 The'child have run behind the house
 The child ran behind the house

From these data, Fong and Poulin conclude that telic interpretations can happen with manner of motion verbs in French in the presence of simple and complex Ps.

Folli disagrees with Higginbotham's hypothesis that English employs telic pair formation and accomplishment prepositions to create telic interpretations, while Italian uses none. She gives three reasons:

- (i) if telic pair formation was a correct analysis, we would expect a sentence such as Eng. *The boat floated under the bridge*, to mean that the boat ended up being under the bridge by means of floating, but it means that the boat crossed the bridge by going under it. So if it has another meaning is because *under* is itself an accomplishment predicate.
- (ii) if telic pair formation exists, why is it not fully productive? Why does it not happen every time there is a verb and a preposition indicating a terminal point of motion?
- (iii) PP resultatives can only be formed with complex Ps, not with simple ones (unless the verb denotes *per se* a change of state).

So, from these observations Folli draws the following conclusions:

1. CONC 1: There are two strategies to form telic constructions: accomplishment prepositions and telic pair formation.

2. CONC 2: English always forms telic interpretations via accomplishment prepositions, both with only directional Ps and with ambiguous Ps (lexical ambiguity).
3. CONC 3: French and Italian form telic interpretations in a superficially similar way to English.
4. CONC 4: Lexical specification of the verb has an impact on formation of telic interpretations.
5. CONC 5: Prepositional predicates in Romance can have a complex lexical-syntactic structure, like verbs.

Folli puts forth two processes by which English and French/Italian derive telic readings, respectively: telic accomplishment adjunction and telic creation.

(i) Telic-accomplishment adjunction

This is a lexical-syntactic translation of Higginbotham's telic-pair formation. It refers to the syntactic configuration whereby a verb licenses a Resultative head (Rv head, in Folli's terminology), but the identification of the event contained in Rv is done by the PP (in the same line as Gehrke's and Tungseth's account, see section 2.2.4.2 and section 2.2.4.3).

This analysis is based on two facts: (i) presence of the P changes the inner aspect of the predicate (change in auxiliary selection), and (ii) if PP is not present, the sentence is not grammatical

- (52) (a) *Gianni è corso nel bosco (in un secondo)*
 John is run in.the woods (in one second)
 John ran into the woods (in one second)
- (b) *Gianni ha corso nel bosco (per un'ora)*
 John has run in.the woods (for an hour)
 John ran in the woods (for an hour).

- (c) **Gianni è corso*
 John is run

(ii) Accomplishment Prepositions

Purely inherent Ps have the feature specification [+P, +Rp] (where P and Rp stand for a locative and a result semantic feature, respectively) and ambiguous Ps [+P, (+Rp)] since they have a locative and an accomplishment variant. Folli establishes that in Romance there can be accomplishment Ps, such as Fr. *jusqu'à* or It. *fino a*. These Ps have a complex I-syntactic structure and occupy an adjunct position. They create telic accomplishment readings via the process called accomplishment adjunction. For Folli, these prepositions can combine with any manner of motion verb and give rise only to accomplishment readings. Furthermore, they can appear with any verb no matter their lexical specifications.

Accomplishment creation is only possible with prepositions that provide a final location. This restriction is due to the fact that accomplishment creation only occurs if the P can move into an Rv head position, a configuration where telic interpretation takes place.

Folli considers that the type of verb is also important to allow accomplishment creation. She establishes three verbal classes with the following feature specifications:

- *correre* type [+v,+V]; [+v,+Rv] This verbal class is lexically ambiguous. One of its versions allows the projection of a Rv. Lexical ambiguity is reflected in change of auxiliary selection.
- *galleggiare* type [+v,+V] These verbs are not specified for Rv and therefore never license an accomplishment creation process.
- *entrare* type [+v,+Rv] They project Rv that can take a SC as a complement (optionally).

To summarize Folli's approach, we have seen that Italian can get telic readings by different means, by the class of P (accomplishment P) or by verbal class (via accomplishment creation with the *correre* class, and *entrare* class). Finally she concludes that there is a parameter in Italian that establishes that certain languages have the requirement to have overt morphological content to build additional heads in the I-syntactic structure. That is to say, in order to have event identification we need something to move overtly to an Rv head.

In section §2.4.1 I discuss complex prepositions of the *fino a*-type and argue that they are not accomplishment prepositions but locative Ps that can be used as delimiters of the duration of the event. Moreover, in chapter 3 I challenge Folli's proposal that there are three lexical verbal types, although I agree about the empirical claim that there is a type of motion verb that allows a manner of motion and a directed motion reading.

2.2.4.2 Tungseth (2006, 2008)

Tungseth analyzes the syntactic and semantic properties of spatial prepositional phrases in Norwegian. Specifically, she focuses on the interpretation of spatial PPs in combination with verbs of motion. Both the verb and the preposition contribute to characterize the motion event in different ways. Three types of PPs are analyzed: ambiguous PPs, which can receive a locative and directional interpretation depending on the context, and pure directional PPs.

Tungseth provides a structural account of the semantic flexibility of PP interpretation. Tungseth endorses what she calls a non-radical neo-constructionist approach and proposes that the semantic interpretation of PPs emerges from the syntactic environment where PPs are placed. The approach is said to be non-radical because it assumes the existence of certain selection mechanisms that ensure that not all lexical items appear in all kinds of configurations (cf. Borer 2005). In this sense, Tungseth follows a Ramchandian approach to argument structure where

lexical insertion is constrained by categorial features, which regulates the association between lexemes and functional heads in the syntactic structure. Thus, the interpretation of the V-PP complex is the combination of the relative position of the PP in the verbal predicational structure plus the fine-grained decompositional structure of the PP (Tungseth 2008:7).

Tungseth follows Levin's (1993) classification of motion verbs in verbs of manner of motion and verbs of directed motion. First, she observes that ambiguous PPs can get directional readings depending on the type of verb and the syntactic position they occupy. The directional and the locative readings on an ambiguous PP arise in two different syntactic positions, a complement and an adjunct position, respectively. Different syntactic tests reveal that the attachment positions of these PPs are different in these two interpretations. Thus, ambiguous PPs can have a directional reading if they appear in the complement position of a verb of directed motion, as revealed by different syntactic tests. For example, PPs with a directional interpretation cannot be topicalized, clefted, or replaced by *do so*, as opposed to PPs with a locative interpretation. In the examples below, only (53 a)-(53 b)-(53 c) are ambiguous between a locative and a directional reading:

(53) (a) *Jens har syklet i grøfta* (Tungseth 2008:29)

Jens has biked in ditch.the

Jens has biked in the ditch (directional / locative)

(b) *Per har hoppet i elva*

Per has jumped in river.the

Per has jumped in the river (directional / locative)

(c) *Flasken har rullet i åkeren*

bottle.the has rolled in field.the

The bottle has rolled in the field (directional / locative)

(54) (a) *I grøfta har Jens kjørt bilen*

in ditch.the has Jens driven car.the

(Norwegian; Tungseth 2008:39)

In the ditch has Jens driven the car (*directional / locative)

- (b) *I vannet har Per hoppet*
 in water.the has Per jumped
 In the water, Per has jumped (*directional / locative)

- (c) *Under brua har båten drevet*
 under bridge.the drifted boat.the
 Under the bridge, the boat was drifting (*directional / locative)

The analysis is very similar to Gehrke's proposal, since they both assume that syntactic structure is crucial to understanding the interpretation of ambiguous Ps in the verbal domain. Moreover, Tungseth follows Thomas's (2001) and Folli and Ramchand's (2002) analysis of motion events. Thus, following Rooryck (1996), Thomas argues that directional Ps contain a lexical projection PP embedded inside a functional projection *p*. This head contains a feature [direction] that forces an unambiguously directional P to move from the lexical into the functional head. Ambiguous *in/on* do not rise to *p*, and only verbs of motion that contain an element of direction allow the preposition to stay in P. On the other hand, Folli and Ramchand (2002) propose that goal interpretations have two sources. Telicity can be related to the presence of a functional projection ResP (Resultative Phrase) that can embed a locative PP specifying the endpoint of motion, or it can arise from adjunction of an unambiguous directional PP, an accomplishment PP as in Folli (2001), that by itself is associated with a telic interpretation.

Following these two approaches, Tungseth proposes that, on the one hand, motion verbs that allow locative Ps to derive a goal of motion interpretation have to incorporate direction as part of their meaning. Therefore, Tungseth assumes the presence of a [*direction*] feature optionally associated with the verb root. This feature when present can license the projection of ResultP (ResP, henceforth). ResP can take as its complement a PlaceP interpreted as the final point of the change of location meaning associated with ResP. In the case of directional PPs, the direction feature is associated with PathP, and therefore there is no need for

ResP in the structure to yield a directional interpretation. In these cases, the notion of endpoint or telic change of location event stems from the semantics of some types of Ps, following Zwarts (2005b).

In contrast, unambiguous directional Ps contain an extra functional layer, Path, that gives rise to the directional interpretation of the PP in different syntactic contexts. Basically, PathP can appear as the complement of ProcessP and give rise to a path or scale that can be homomorphic with respect to the verbal process. For this reason unambiguous PPs can combine with any manner of motion verbs.

2.2.4.3 Gehrke (2008)

In her dissertation, Gehrke surveys data about prepositions *in*, *on*, *under* and *behind* in English, and their cognates in Dutch and German with different types of verbs; specifically, Levin's classes of manner of motion verbs and verbs of directed motion. Therefore, different readings of Ps emerge from the different positions that Ps occupy in a particular syntactic structure. The results she reports are very similar to those discussed in Tungseth for Norwegian. Thus, in English, goal readings of locative Ps are only possible if the PP is adjacent to the verb, without any element intervening between the two, as shown in (55 a)-(55 b)-(55 c)(examples from Thomas 2001, 2003):

- (55) (a) John ran at top speed in the house (*directional / locative)
 (b) He ran out of the barn and in the house (*directional / locative)
 (c) In the concert hall ran the orchestra (*directional / locative)

These facts point to the idea endorsed by Thomas (2001) that the directional *in*-phrase is not an independent constituent. Thus, it cannot be topicalized (56 a), or pied-piped under *wh*-fronting (56 b) or relativization (56 c).

- (56) (a) Into / *in this pool John fell
 (b) Into / *in which pool did John fall?

- (c) The pool into / *in which John fell is extremely deep.

Dutch also shows similar effects. In Dutch, prepositions can have a directional reading only if combined with verbs of directed motion. A Dutch prepositional phrase with a manner of motion verb can only give rise to a locative interpretation. In Dutch, postverbal positions are restricted to adjuncts. As expected, prepositional phrases in postverbal position only give rise to a locative interpretation, showing that when they are directional, they are not adjuncts of the VP (Hoekstra 1984).

- (57) (a) ... *dat Jan in een bak met grote haaien sprong*
 ... that Jan in a container with big sharks jumped
 ... that Jan jumped inside / into a container with big sharks
- (b) ... *dat Jan sprong in een bak met grote haaien*
 ... that Jan jumped in a container with big sharks
 ... that Jan jumped inside / *into a container with big sharks

In Dutch, goal prepositional phrases have the requirement to stay in a close position with the verb. Thus the directional reading is lost with intervening material, like a PP ((58 a)-(58 b)), or negation ((59 a)-(59 b)).

- (58) (a) ... *dat Jan in een zwembroek in het water sprong.*
 ... that Jan in a swimpants in the water jumped
 ... that Jan jumped inside / into the pool in a swimsuit
- (b) ... *dat Jan in het water in een zwembroek sprong*
 ... that Jan in the water in a swimpants jumped
 ... that Jan jumped inside / *into the water in a swimsuit
- (59) (a) ... *dat Jan niet in het water sprong*
 ... that Jan not in the water jumped
 ... that Jan did not jump inside / into the water
- (b) ... *dat Jan in het water niet sprong*
 ... that Jan in the water not jumped
 ... that Jan did not jump inside / *into the water

This requirement holds for simple pospositions as well.

- (60) (a) ... *dat Jan op Ameland het bos in loopt*
 ... that Jan on Ameland the forest in runs
 ... that Jan runs / is running into the woods on Ameland
- (b) *... *dat Jan het bos in op Ameland loopt*
 ... that Jan the forest in on Ameland runs

Gerhke considers that postpositions behave as directional prepositions with respect to their relative position with the verb, because Dutch postpositions are created from interaction with the vP. Thus, for her, one of the ingredients in a goal reading is the notion of incrementality that can be associated with either a verb or an adposition. Therefore, goal creation can have two sources: one internal to PP and other external to PP. According to den Dikken (2003) and Koopman (2000, 2010) postpositions are created by overt incorporation of Place into a Path head. On the other hand, Gerhke assumes that postpositions are created by overt incorporation of Place that heads a PredP structure associated with an incremental meaning, forming a complex predicate. Dutch postpositions and locative prepositions with directional interpretations have in common that their goal meaning is generated externally to the PP. This fact explains the adjacency requirement because the postposition forms a complex predicate, that is, a constituent, with the verb. To sum up, with manner of motion verbs, in order to license the Pred structure, Place has to rise to Pred giving rise to a postpositional order. In contrast, with verbs of inherent motion Pred is licensed by incorporation into the verb and therefore a postpositional order is optional.

After examining different languages, she concludes that there are different strategies to derive goal readings from locative Ps cross-linguistically, namely,

- (i) form complex PPs (e.g. English; Italian)
- (ii) lexical meaning of the verb: combine a locative P with a *directional* verb (Dutch; English; Norwegian (Tungseth 2006, 2008); Afrikaans (Biberauer and

Folli 2004); Italian, (Folli 2001); French (Cummins 1996; Fong and Poulin 1998; Jones 1983).

(iii) form a postposition (Dutch (den Dikken 2003, 2006, 2010b; Gehrke 2008), Afrikaans (Biberauer and Folli 2004))

(iv) accusative case marking (German, Czech, Russian, Latin, Ancient Greek (Gehrke 2008)).

Thus, only verbs of directed motion license a complex event structure containing a BECOME event and locative PPs can modify the upper bound of the BECOME event. This has the effect that the location denoted by the PP is perceived as a goal in the overall structure since it refers to the final location of a motion event. This analysis is dependent on the semantic structure of these two classes of verbs: verbs of directed motion are incremental themselves, while verbs of manner of motion are not. Therefore, the latter group must combine with an incremental structure in order to express a BECOME event that certain prepositions, such as *to*, are associated with. Like Tungseth, Gehrke's analysis of ambiguous Ps is based on the assumption that P ambiguity is structural and not lexical.⁸

2.2.4.4 Conclusion

This section overviews three proposals that explain the interpretation of PPs and VPs in events of motion. One of the conclusions of these works is based on the observation that bounded directional readings are associated with a specific structural position within the vP, that is, the complement position of the vP. Therefore, it may be concluded that the emergence of a transitional meaning is not exclusively prepositional.

⁸However, their frameworks differ in substantial points. For example, Gehrke's proposal is lexicalist, and therefore the fact that directional readings of Ps are structural must be defined as a specific hypothesis, while for Tungseth this is the general case, as she endorses a neo-constructionist view.

For this reason, taking into account the contribution of structure to the specific interpretation of a directional preposition, Gehrke (2008) proposes the following hypothesis:

(61) The Bounded PP Hypothesis (Gehrke 2008:84)

PPs that make reference to an upper bound of a BECOME event have to be integrated as complements of the verb.

This hypothesis states that goal interpretation arises from the structural position that the PP occupies within the vP, providing an upper bound to the incremental change of state event associated with a functional projection that is semantically interpreted as a BECOME operator. Thus, both Gehrke's and Tungseth's proposals assume that the specific interpretation of goal is derived from the semantic contribution that functional heads make if they stand in a specific structural sequence. This yields the well-known cartographic problem, not yet solved in the literature, about what motivates certain specific orders, and why specific sequences give rise to particular interpretations.

Without having the intention of solving the cartographic problem now, I propose to rephrase (61) in configurational terms. Thus, a goal PP can be seen as a bounded path that is understood as a punctual change of state, a transition, that is integrated into an event of change. Assuming that the notion of event is brought about by the syntactic head *v*, I propose that only a PP that is c-commanded by *v* can be understood as having an eventive interpretation. Therefore, (61) can be restated as (62).

(62) A configurational definition of the interpretation of goal/transitional PPs

PPs that are c-commanded by *v* are semantically integrated in the event denoted by *v* providing a bound that yields a transitional interpretation.

However, this definition based on the configurational notion of c-commandment is general to all PPs and not only to PPs that have a goal denotation. For example,

stative verbs often take a locative PP to express location. This locative PP always stands in the complement position of V forming a small clause with the subject, which is conceived as a derived subject. At least this is the standard analysis for an example like (63 a), which as shown in (63 b) seems to be the subject of the PP.

- (63) (a) Three men remained in the room
 (b) There remained three men in the room

Therefore, I conclude that both goal interpretations of PPs and interpretations of locative PPs in stative raising constructions arise from the small clause configuration in the complement position of *v*. Therefore, we can state (62) in broader terms as in (64):⁹

- (64) A Configurational Definition of argumental PPs

PPs that are c-commanded by *v* are interpreted as forming part of the event denoted by *v*.

This tentative definition tries to capture how PPs receive a transitional interpretation in certain structural positions, that is, the complement position of *v*. This particular interpretation is related with the aspectual interpretation of the event as I explain in the following section.

2.2.5 Some semantic considerations about path and its relation with aspect

Path or directional prepositions are argued to yield bounded/telic interpretations when they are combined with predicates of activity. A typical example is given in (65):

⁹Recall that the fact that the PP forms a Small Clause configuration with the subject in goal of motion constructions need not be stipulated since it is a consequence of the syntactic structure of PPs that always have a DP interpreted as a Figure; see Chapter 3, section 4. It could also be stated as a general requirement to avoid vacuous predication, an interface condition of interpretation.

- (65) a. John walked for two hours[#]in two hours
 b. John walked to the store [#]for two hours/in two hours

As discussed in section 2.2.2, there are different types of path prepositions and they are not always bounded. Zwarts (2005b) discusses the interpretation of paths and defines the conditions under which certain paths have a bounded denotation. As boundedness is a cross-categorial property, it depends on certain quantificational properties of paths that are similar to quantificational properties of nominals and events. Thus, bounded paths, like bounded nominals and events, can be characterized as being non-cumulative and quantized (see section 2.2.2 for discussion) (Krifka 1998, also Borer 2005). Still, there are important questions that arise when defining aspect in a syntactic theory of argument structure. First, is aspect relevant for argument structure expression? And second, if it is, how is aspect structurally represented?

The answer to the first question has been a matter of debate in the literature. On the one hand, Hale and Keyser (1993, 2002) argued that aspectual information is not relevant for argument structure expression. On the other, Borer (2005), Folli and Ramchand (2002), Ramchand (2008a), Rappaport Hovav and Levin (1998) and Tenny (1992, 1994), among many others, claim that the event structure of a predicate determines the expression of its arguments. An intermediate position is taken by Harley (1999, 2005); Hale and Keyser (2002) who contend that argument interpretation is partially determined by the aspectual interpretation of the verbal predicate.

Whether the Vendlerian aspectual classes are relevant to explain some argument structure regularities, and are syntactically relevant, is an empirical question. For example, as shown in Mateu (2002) and Sorace (2000), in some languages differential auxiliary selection in perfectives depends on the aspectual interpretation of the verbal predicate. For example, Italian shows the verb *essere* ‘be’ with stative, telic and atelic change of state predicates, see (66 a)-(66 b), from Sorace (2000). In contrast, Dutch triggers *zijn* with change of state predicates but not with

stative verbs, see (67 a)-(67 b), from Sorace (2000). Thus, at least, a weak version of the aspectual hypothesis of argument structure is necessary to cover some of these regularities, found cross-linguistically¹⁰.

- (66) (a) *I dinosauri sono esistiti 65 milioni di anni fa* (Stative)
 The dinosaurs are existed 65 millions of years ago
 The dinosaurs existed 65 milion years ago
- (b) *Maria è venuta alla festa* (Telic change of state predicate)
 Maria is come to the party
 Maria came to the party
- (67) (a) *Het magische zwaard heeft echt bestaan* (Stative)
 The magic sword has really existed
 The magic sword really existed
- (b) The teacher suddenly died

The second question deals with the representation of aspect in argument structure: is aspectual information structurally encoded, or does it arise from a conjunction of different features, most of them not syntactically relevant? Two hypotheses answer this question. First, Acedo-Matellán (2010); Borer (2005); MacDonald (2006); Mateu (2002), among others, endorse the view that aspectual interpretation is always structural. However, there are differences among these proposals. Borer (2005), among others, considers eventive structure to model argument structure through a functional projection that is semantically associated with aspectual interpretation. In contrast, Acedo-Matellán (2010) and Mateu (2002) propose a localist theory of aspect in which aspectual interpretation is not a primitive feature of language but derives from the conceptualization of motion and spatial relations (Gruber 1965). Finally, Hale and Keyser (2002) and Harley (1999, 2005)

¹⁰There is more evidence that favors the aspectual hypothesis. For example, Slavic prefixes that contribute aspectually to the interpretation of the predicate also license and quantify the internal argument of the verb. In other languages, the aspectual contribution of the internal argument is expressed by case marking like in Finnish, see Kiparsky (1998). Thus, although this topic deserves much more attention and subtler discussion, I assume that it is on the right track and contend that, at least part of the aspectual information is relevant and structurally represented.

state that aspectual information is not always structural, and it sometimes depends on the conceptual, non-syntactically relevant, meaning of the verb. For example, Folli and Harley (2006) show that there is a dissociation between resultative constructions and telic interpretation in examples such as *Eng. Matilda waltzed around and around*. According to their data, resultative predicates do not always yield a telic predicate, something contrary to standard assumptions that attribute an accomplishment interpretation to resultative constructions. Then, they provide a small clause approach for resultatives in line with Hoekstra (1984) with no interaction of event structure in the syntax of resultatives.¹¹

They give different evidence that favors their view like context-induced telicity. For example, degree achievements (Hay et al. 1999) can induce atelic readings depending on the boundedness of the degree of change. If the difference value (ie., degree of change) is bounded then we have a telic predicate; if the difference value is unbounded then the predicate is atelic. The difference value is provided by different means: (i) a measure phrase, (ii) an adverbial modifier, or (iii) the context. Other evidence comes from the aspectual interpretation of certain denominal verbs depending on the (un)bounded interpretation of the root (Harley 1999, 2005).

(68) (a) The soup cooled in an hour / for an hour (Hay et al. 1999:138)

(b) Adelaide buttered the bread in 2 minutes/for 2 minutes (Harley 1999:7)

I propose, with these authors, a mixed view of aspectual interpretation in which inner aspect is partially determined by structure. The reason is that the absence of telicity, structural telicity, does not have to be identified with atelicity but with underspecification of inner aspect. Under these conditions the denotation of the root or the specific context might provide a bound to the event and yield a telic

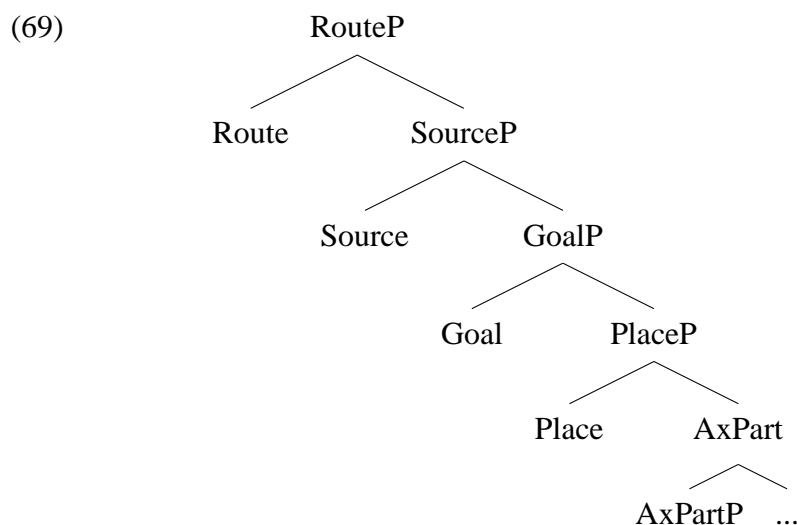
¹¹For example, "... telicity is not an essentially syntactic property. We also consider different varieties of telicity discussed by Borer (2005:134), where the usual tests for telic structures do not indicate the cessation of the event; rather, they refer to a type of "threshold". We conclude with Borer that the notion of endpoint so frequently referred to must be discarded in favor of a considerably more fluid conception of linguistically relevant subevent". (Folli and Harley 2006:)

event irrespective of being structurally non-telic. The prediction of this hypothesis would be that when telicity is structural we don't expect contextual effects or the influence of the type of root to change the aspectual interpretation of the event. On the contrary, when telicity is unmarked these effects apply.

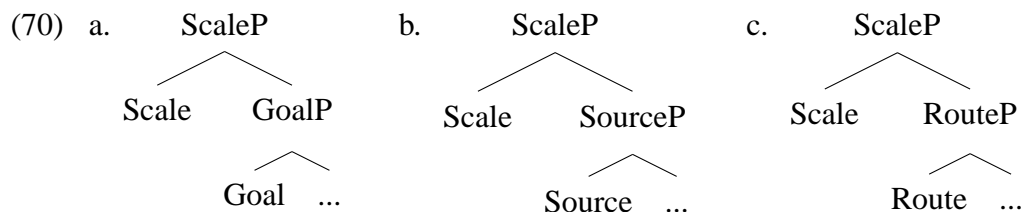
At the same time, the goal of this dissertation is to explore the hypothesis that argument structure expression is determined by spatial configurations, that is to say, by the role of prepositions. Therefore, I consider that the aspectual interpretation of Path and Place determines the argument and event structure properties of the verbal predicate. For this reason, I can transpose the debate of the role of aspect in argument structure from the verbal domain to the adpositional domain. Thus, how is boundedness syntactically represented in the prepositional domain? Is it a semantic property of P or does it depend on a syntactic head/feature in the internal structure of the PP? My claim here is that boundedness of the preposition depends on the configurational position that P occupies with respect to the verb. In this position, a preposition is able to contribute to the aspectual interpretation of the vP. Crucially, aspectual interpretation of the vP depends on the compositional semantics of the elements of the vP (Verkuyl 1999).

This view about the aspectuality of path expressions goes against cartographic views on PPs. For example, den Dikken (2003, 2010b,a) and Svenonius (2003, 2004b,a, 2006, 2010) claim that boundedness is a semantic feature introduced by a specific syntactic head that quantifies over a Path or a Place head (also Tortora 2008). On the same line, Pantcheva's (2008) decompositional approach to paths considers that paths are morphologically complex and contain different elements that are ordered in a certain hierarchy and are subject to a subset-superset relationship. For instance, Pantcheva bases her account on typological work and notes that in some languages, source paths morphologically contain goal paths, route paths contain source paths, and non-transitional paths contain the corresponding transitional path. Syntactic structure of paths is considered to reflect this containment relation among different types of paths.

As discussed in section 2.2.2, Pantcheva proposes the existence of three main types of paths, routes, sources, and goals, that are at the same time grouped according to three different features, transitional and non-transitional paths, delimited, and non-delimited paths, and oriented and non-oriented paths. Basically, the main structure of PathP is:



The further subtypes of paths depend on the presence of a ScaleP or BoundP at the level of each phrasal category. Thus, as the distinction between transitional and non-transitional path is aspectual, and as aspect is cross-categorial, then the projection ScaleP appears on the top of non-transitional goals, sources, and routes. The representation of each type of path is the following:



Therefore, boundedness among types of paths is cross-categorial, something that is not a new idea and has been argued for the aspectual interpretation of the verbal and nominal domain. However, there is a crucial difference between Pantcheva

and other approaches of paths and aspect. For Pantcheva it is atelicity, that is, the presence of a scale in a non-transitional path, what is grammatically encoded, not telicity, as standardly assumed (c.f., Borer 2005). The problem with this approach, and those that assume the existence of a specific aspectual phrase is that it does not capture two ideas: (i) from the empirical point of view, bounded PPs that modify the aspectual interpretation of the verbal predicate are always in the complement position of vP , and (ii) theoretically, functional heads show a strict order and hierarchy in this cartographic approach except for ScaleP or AspP that appear at different structural levels quantifying different types of categories. Thus, either we assume that Scale/AspP is an exception to the rule, or we consider that aspect does not arise from the presence of a specific functional projection, but from the position the PP occupies within the verbal phrase (see also Gehrke 2008).¹² Therefore, I propose that aspect is structurally encoded in a functional projection below v that is spatial in nature. The presence of a spatial P in this position yields a transitional reading of the PP. I develop this account in more detail in section §3.4.

In conclusion, in order for a PP to have a resultative interpretation this PP has to hold to the condition in (64). Telicity, then, arises from the specific semantics a path conveys when it is in the appropriate syntactic configuration.

2.3 The Syntax of PPs

The analysis of PPs endorsed here adopts a simplified version of the “cartographic approach” discussed in section 2.2.3. In this chapter, I assume that locative and directional PPs contain a small p head in line with Svenonius (2010), who proposes the existence of a functional head parallel to little v in the prepositional domain.

¹²Aspectual interpretation depends also on conceptual meaning like the semantics associated with the Ground or the reference object, and the semantics of the specific locative expression. Prepositions like *over* or *inside* define different spatial configurations that are subject to different aspectual interpretations. See section 2.3.1.1 for more discussion.

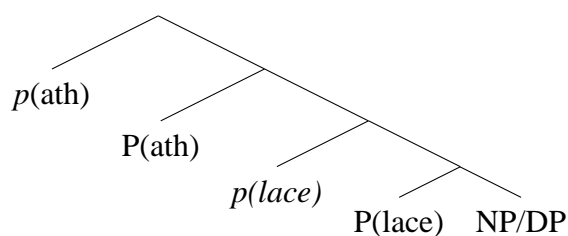
As little *v*, this head is the locus of case licensing and introduces the external argument of the PP. In this case the external argument of the PP is the Figure of a spatial relation, according to the semantics of spatial configurations proposed by Talmy (2000).

As argued in chapter 1 and discussed in depth in chapter 3, I propose a system of categories in which phasal domains are constituted by a functional and a lexical layer. The lexical layer is formed by root-like elements, that is to say, items that bear conceptual semantics and are devoid of grammatical content. I assume therefore that heads like *v*, *p(ath)* and *p(lace)*, on the one hand, and heads like *V*, *P(ath)* and *P(lace)* on the other, correspond to the classical distinction between functional and lexical heads, respectively. I also assume a pairwise version of phasal domains in which each phase is constituted by a phasal and a non-phasal element (see also Richards 2011), which can be identified with the functional categories *v*, *p(ath)* and *p(lace)* and the non-functional ones *V*, *P(ath)* and *P(lace)*. Each *v*, *p(ath)* and *p(lace)* will be a phase head that under the definition in Chomsky (2008) is the locus of ϕ -features. This means that both *p(ath)* and *p(lace)* are considered to be phase heads, and hence, to be endowed with uninterpretable ϕ features, and to establish probe-goal relations. The contention that Ps are probes has already been claimed in the literature by Kayne (2004).

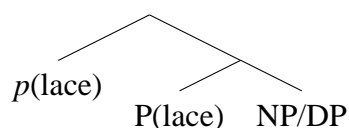
I follow the conceptual argument structure of PPs put forward by Jackendoff (1990) in which two basic semantic components, Path and Place, are distinguished. Throughout the paper I use the labels of Path and Place as the syntactic counterpart of the PATH and PLACE semantic components, as in Koopman (2000) and Svenonius (2010). Nevertheless, the compositional structure of directional prepositions into a preposition of direction and a preposition of location is derived from the semantic interpretation of having the interaction of two prepositional phrases. Path expressions arise when two PPs are combined. The Path and Place meaning derives from this compositional structure and is not essential to a particular functional projection. As will be discussed in more detail, the meaning of

path arises from the iteration of two prepositions of location that when combined are interpreted as a path at the C-I interface. For the sake of clarity, in this chapter, I continue to call Path the first preposition and Place the second one, following standard assumptions on this matter. Therefore, structure of path prepositions and place prepositions is as follows:

(71) Prepositions of direction

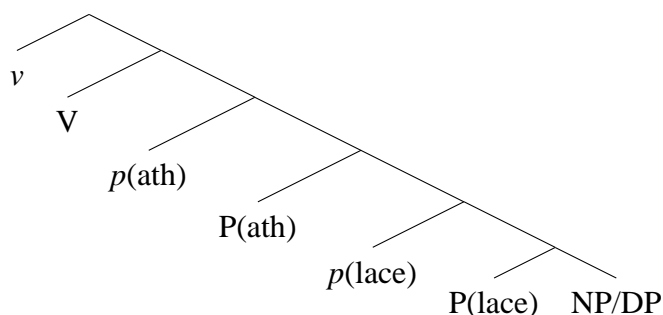


(72) Prepositions of location



Events of directed motion are headed by a $v\text{P}$ that take a Path as its complement.

(73) Goal of motion events



As argued in section 2.6 and in the next chapter, some goal of motion events do not contain a V head in the complement position of v . Instead, they directly select a *path* preposition. For clarity's sake, I assume the structure depicted in (73) as a point of departure for the approach I develop in the following sections.

2.3.1 The structure of PPs

In this section, I explore whether there is enough with the functional projections that I have postulated or whether it is necessary to resort to the different functional projections proposed in den Dikken (2003, 2010b); Koopman (2000); Svenonius (2003, 2004b,a, 2010). I propose that the number of functional projections can be reduced using evidence from *a*-words, defined below in section 2.3.1.1, and relational nouns of the Sp. *al borde de* “on the edge of” sort.

2.3.1.1 (Un)boundedness and Deixis

A-words are the Romance equivalent of *r*-words or *r*-pronouns. That is, *r*-words or *r*-pronouns are locative adverbials. They received this name because they all contain the letter *r*. Examples of *r*-words in Dutch are copied below:

- (74) *De leraar is plotseling gestorven* (Change of state predicate) *er*;
 The teacher is suddenly died it;
hier; daar; waar; ergens; nergens; overal
 this; that; what; something; nothing; everything

These *r*-pronouns can combine with locative PPs and form locative adverbials. The distribution of *r*-words within the PP domain has been used to determine the structure of PPs. Some examples of *r*-pronouns in Germanic languages, in Dutch, English and German, are listed below:

- (75) (a) Dutch: *er* ‘there’; *daar op* ‘there on’; *waar op* ‘whereon’; *nergens op* ‘nowhere on’
 (b) English: here; there; where; nowhere
 (c) German: *da* ‘there’; *wo* ‘where’; *hier* ‘here’

In this section I study locative adverbials in different Romance languages. I call these adverbials *a*-words by analogy with Germanic *r*-words, because they frequently contain an *a*. It is noteworthy that this *a* is phonologically identical to the

locative preposition *a*, something that will be important for our analysis. A-words are equivalent to a PP as shown by the fact that they can alternate with PPs and can be resumed by a locative clitic in Catalan:

- (76) (a) *El Jan estudia a la universitat / allà*
 the Jan studies at the university / there
 Jan studies at the university / there
- (b) *El Jan hi estudia*
 the Jan CL.LOC studies
 Jan studies there

Not all Romance locative adverbials contain an *a*; it depends on the language. However, for the sake of clarity, I will call them all *a*-words. Below I offer a summary of *a*-words in different Romance languages: Catalan, French, Italian, Portuguese, and Spanish. Locative adverbials can be classified according to two features: deixis and boundedness. Deixis classifies locative adverbials along the distal, medial, and proximal categories, which can be defined making reference to distance with respect to the reference point, that is, the speaker.¹³

	Proximal	Medial	Distal
Bounded	aquí	*	allà/allí ¹⁴
Unbounded			

Table 2.3.1: Central Catalan locative adverbials

¹³There are semantic distinctions among Romance languages about how these notions are encoded in these adverbials; I will leave these out of the scope of our study. What is important for us is that locative adverbials contain a deictic component. Other distinctions such as the enclitic nature of the adverbial will not be taken into account here.

¹⁴Pérez Saldanya and Rigau (2011) discuss the evolution of the locative adverbials in the different dialects of Catalan. The main characteristic is the reduction of the system to two elements that only encode deixis, which I will analyze as person, see page 74. However, this is not the case in all dialects. For example, in Valencian there are three degrees of proximity, *ací* (close to the 1st person), *ahí* (close to the second person) and *allí* or *allà* (close to the third person). Again the system is complex with respect to person, but not with respect to boundedness. The demonstrative system is richer since it also contains complex forms that are built upon prepositions *de* ‘of’ and *en* ‘in’: *deçà* ‘from here’/ *dellà* ‘from there’ and *ençà/enllà* ‘beyond’.

	Proximal	Medial	Distal
Bounded	ici	*	là
Unbounded			

Table 2.3.2: French locative adverbials

	Proximal	Medial	Distal
Bounded	qui	*	lì
Unbounded	qua		la

Table 2.3.3: Italian locative adverbials

	Proximal	Medial	Distal
Bounded	aquí	aí	alí
Unbounded	cá	*	lá

Table 2.3.4: Portuguese locative adverbials

	Proximal	Medial	Distal
Bounded	aquí	ahí	allí
Unbounded	% acá	*	allá

Table 2.3.5: Spanish locative adverbials

(Un)boundedness of the locative adverbials can be determined by (dis)allowance of degree quantifiers:

- (77) (a) Cat. més enllà / *més allà ‘more beyond / there’
 (b) Sp. más acá/allá; *más aquí/allí ‘more here / there’

According to den Dikken (2003, 2006, 2010), locative prepositions have the following functional structure, where Dx encodes distance from the speaker and Asp encodes boundedness.

- (78) [CP C^[PLACE] [DxP Dx^[PLACE] [AspP Asp^[PLACE] [PP P_{Loc} DP]]]]

As seen in section 2.2.3.2, Svenonius proposes the following functional projections, where boundedness is encoded in Deg (see also Koopman 2000) and deixis in Deix head.

(79) p- Deg- Deix- Loc –AxPart - K

The approaches reviewed so far postulate a functional projection for each semantic contribution that the PP makes. However, some of this information can be restated in non-cartographic terms. I claim that the DeixP that encodes the information about the distance of the location denoted by the PP can be defined as a referential property of the Ground or reference object. Thus Deixis needs not to be determined in a functional projection within P, but can be better recast in terms of ϕ -features contained in D, a head that establishes the reference and can be said to be associated with deixis. Actually, the distinction among distal, proximal, and medial can be rephrased in terms of person features: reference to a 1st, 2nd, and 3rd person.

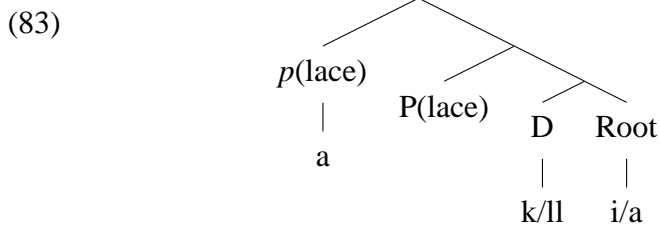
Moreover the (un)boundedness of the PP defined in terms of (dis)allowance of Measure Phrase modification is explained by the existence of a Degree Phrase or Aspectual Phrase whose specifier can host degree modifiers (den Dikken 2003, 2010b; Koopman 2000; Svenonius 2003, 2004b,a, 2010). However, the property of denoting a bounded or unbounded location does not depend solely on the properties of P, but on the properties of the Ground. Zwarts and Winter (2000) show that unboundedness is related with the property of being upward vector monotonic. In non-technical terms, a preposition is upward vector monotonic when the prepositional relation has the same truth value if the located object gets further from the reference object. They establish the generalization that PP modification also depends on the semantics of the spatial relation, that is, on the property of vector monotonicity. Thus, prepositions such as *in front of*, *behind*, *above*, *below*, *beside* or *outside* allow PP-modifiers but locative prepositions such as *between*, *near* or *at* do not (examples from Zwarts and Winter 2000:189).

- (80) (a) two meters in front of/behind/above/below the car
 (b) ?two meters beside the car
 (c) two kilometers outside the village
- (81) (a) *two meters near/on/at the house
 (b) *two meters in/inside the house
 (c) *two meters between the two houses

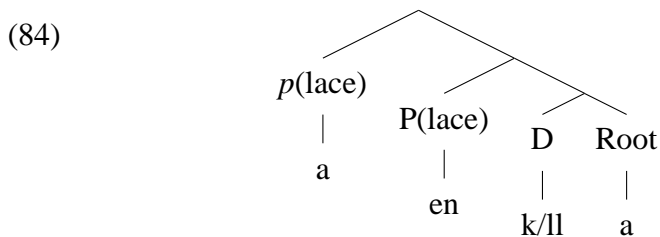
However, the property of being upward vector monotonic is not only calculated by the specific semantics of the preposition but also by the semantic properties of the Ground. Specifically, if the Ground has unbounded contours, the preposition can have a bounded denotation. For example, a preposition like *inside* that denotes the location of the Figure in a point coincident with the Ground does not have the property of being upward monotonic because if the Figure is located further from the Ground there will be a point at which it will not be placed inside the Ground. However, the preposition can be understood as upward vector monotonic if the Ground is construed as unbounded, that is to say, if it is conceived as not having limits. Therefore, if the object moves further it will never end up being outside the Ground since the Ground has not limits. This is a conceptual property and it depends not only on the conceptualization of the Ground but also on the relative conceptualization between the Figure and the Ground. Thus preposition *inside* do not allow PP modification, except in those cases in which the Ground is understood as having no limits as, for example, in the case of a nail driven into a wall. A wall is conceived as unbounded with respect to a nail, and therefore, it allows PP-modification.

- (82) (a) *The child went two meters inside the house
 (b) The nail is 10 cm inside the wall

Therefore, we see that Measure Phrase modification depends on the conceptual content of the Ground and the specific semantics of the locative preposition. Therefore, we may think that the (un)boundedness of the PP is encoded partially by the root that denotes the Ground and by the root that denotes the locative relation, the nominal Ground, and the conceptual content of the preposition, Place in this case. The possible analysis of demonstratives such as *allí*, *aquí* and *allá* would be as follows:



On this view, (un)boundedness can be analyzed as a property of the conceptualization of the Ground and the spatial relation denoted by P, and hence it does not have to be encoded in any functional projection within the PP. The selection between the boundedness of the Ground and the type of P attested, for example in Catalan in demonstratives like *enllà* or *allà* (see table 2.3.1), can be analyzed as follows¹⁵:



Thus, the system can be simplified and at the same time take into account the properties that are normally associated with locative expressions.

¹⁵See section 2.6 for an analysis and justification of *a* and *en* as the morphological realization of p and P respectively.

2.3.1.2 The projection AxPart

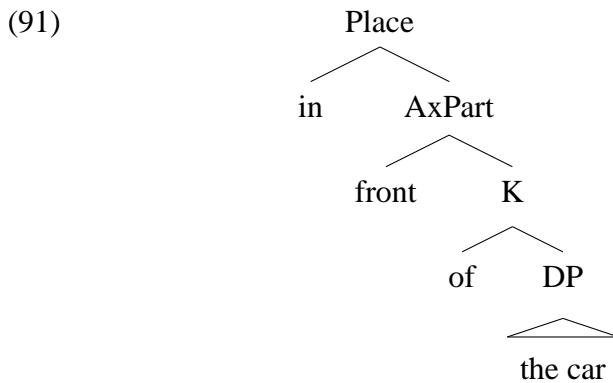
Svenonius (2006) argues that there is a functional projection called AxPart in order to explain complex prepositions like *in front of*. These prepositions are characterized by having a structure of the following sort: P + DP₁ + of + DP₂. The construction recalls a partitive structure of the type DP₁ + of + DP₂. The origin of these expressions is a DP structure that denotes a part-whole relation. Thus, a relational noun refers to a part of an object, the whole, that is referred to by a second noun that normally bears a genitive case.

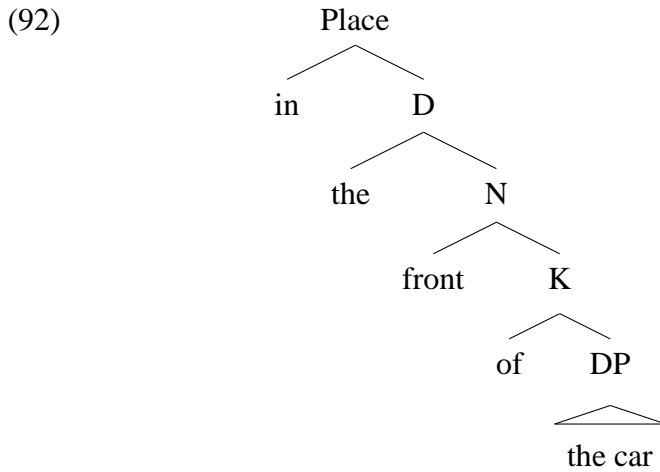
However, there are some differences between complex prepositions of this sort and partitive analytical structures. The differences are, first, semantic, since the DP₁ is not understood referentially anymore, but as a locative expression that refers to a part of an object. Second, there are syntactic differences: the locative normally lacks the determiner (85 a-85 b); selection of preposition *in/on* depending on the relation that the Figure bears with the specific part of the Ground. In the locative expression the preposition *in/on* is lexicalized and does not convey a specific meaning, while in the nominal/partitive expression it does (86 a-86 b); in the nominal expression the noun can be pluralized in the locative expression it can't (87 a-87 b); an MP (Measure Phrase) can modify a locative expression if it has specific semantics (see above), but it can't in the partitive expression because the MP has to modify *in* or *on*, which are bounded prepositions (88 a-88 b); the nominal of the locative expression cannot be resumed by a pronoun, while if it is part of a partitive expression it can (89 a-89 b); finally, the nominal part can be clefted in partitive expressions but not in locative expressions (90 a)-(90 b) (from Svenonius (2006)).

- (85) (a) There was a kangaro in front of the car - Locative expression
 (b) There was a kangaro in the front of the car - Partitive expression
- (86) (a) There was a kangaroo in/*on front of the car - Locative expression

- (b) There was a kangaroo in/on the front of the car - Partitive expression
- (87) (a) *There was a kangaroo in fronts of the car - Locative expression
 (b) There was a kangaroo in the fronts of the cars - Partitive expression
- (88) (a) There was a kangaroo sixty feet in front of the car - Locative expression
 (b) *There was a kangaroo sixty feet in the front of the car - Partitive expression
- (89) (a) *The kangaroo was in [front of the car]_i, but the koala wasn't in it_i-
 Locative expression
 (b) The kangaroo was in [the front of the car]_i, but the koala wasn't in it_i-
 Partitive expression
- (90) (a) *It was front of the car that the kangaroo was in- - Locative expression
 (b) It was the front of the car that the kangaroo was in - Partitive expression

For this reason Svenonius proposes that an expression like “in front of” has a different structure from the partitive construction “in the front of”. Crucially, the relational noun in the complex locative expression spells out a functional projection within the PP, namely, AxPart.





However, it is clear that the semantics of these complex locative expressions is akin to a partitive semantics, something that is captured in Svenonius' definition of the contribution of functional projection *AxPart*. Thus, *AxPart* is defined as delimiting subparts of regions of the Ground (Svenonius 2010). In the analysis proposed by Svenonius this semantic feature is explained by the historical relation that exists between the two structures, but it is not captured directly in the analysis.

Basque also gives evidence of the distinction between locative expressions and nominal ones. Both expressions contain a determiner. Thus, example (93) is ambiguous between a locative and a partitive reading.

- (93) *Etxe-a-r-en* *aurrea-n*
 House-D-r-GEN front-INE
 In front of the house
 In the façade of the house

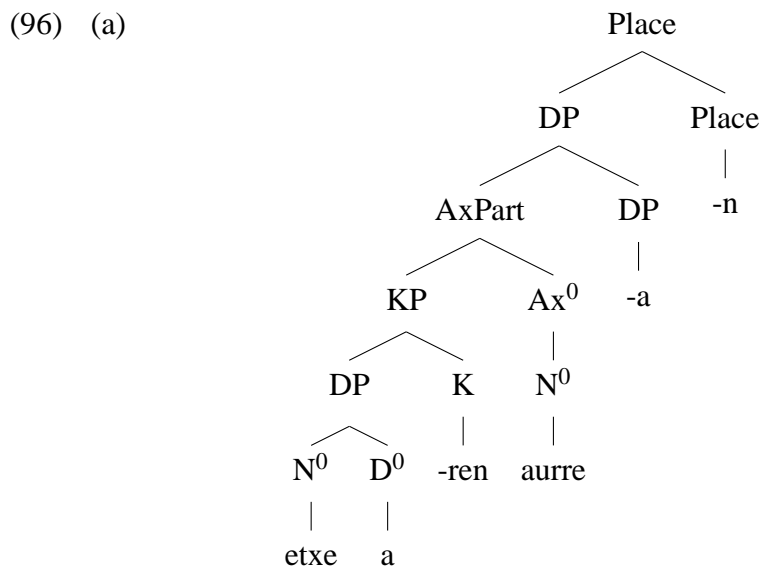
However they both differ in the same respects as in English: locative expressions do not allow restrictive modification, for example, (Etxepare and Oyharçabal 2011). Example (94) only allows a partitive interpretation.

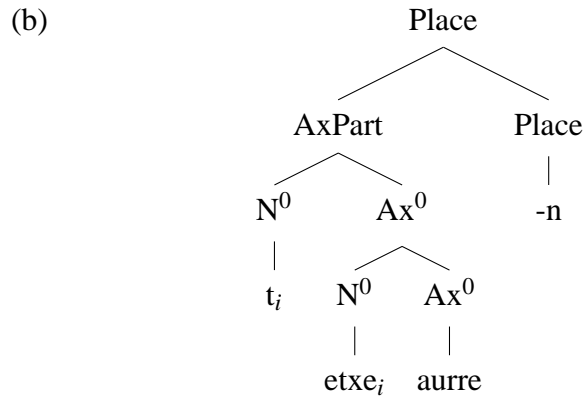
- (94) *Etxe-a-r-en* *aurre zikinea-n*
 House-D-r-gen front dirty-INE
 In the dirty façade of the house

Locative expressions can adopt two forms: the first with no-incorporation and appearance of genitive case in the nominal denoting the reference object (95 a) and the second, with overt incorporation of the relational noun into the Ground nominal (95 b). In the latter case, the Ground nominal does not bear any case marking.

- (95) (a) *Etxe-a-r-en aurre-a-n*
 house-D-r-GEN front-D-INE
 In front of the house
- (b) *Etxe-aurrean*
 house-front-ine
 In front of the house

Actually in all respects these locative expressions behave like the defective NPs defined by Ross (1995) (see also Chapter 5, section 2.2, for discussion). The properties of these nominal locative expressions are a consequence of being determinerless nominals and non-referential uses of certain nominal roots. This is analyzed as follows:

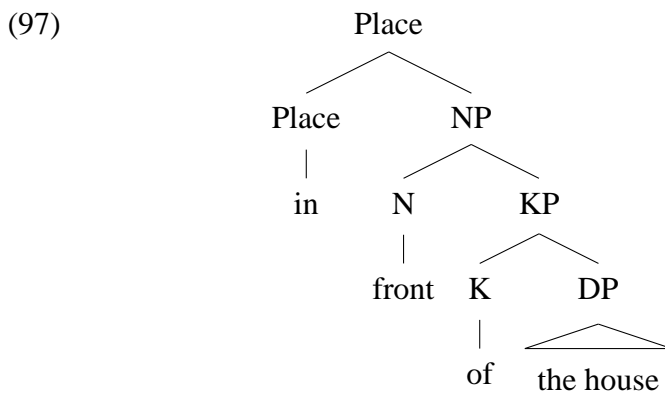




All these phenomena have been analyzed in different ways in the literature raising different questions depending on the stage of the theoretical development. At first, the status of these semi-lexical categories was problematic because if one takes the distinction between lexical and functional categories to be clear-cut, these nominals do not behave in either way; they have a mixed status. Nevertheless, a theory in line with Borer (2005) and many others that considers that roots can be attached to different structural positions conveying different meanings could explain the behavior of these elements.

In the case of nominal partitives the root is inserted in a DP environment and therefore is used referentially. Actually referentiality is a property of a functional projection, namely D, and not a property of nominals or roots. In the case of locative expressions the root is lexicalizing a functional projection. This reasoning would be in line with Svenonius's proposal and the root lexicalizes the functional projection named AxPart. However, this is not the only conclusion one may draw from a view of the roots as the one endorsed in Borer's proposal. Here, I am going to propose something that is much in line with Extepare's analysis depicted in (96 a) and (96 b). Thus, in his proposal the AxPart belongs to the nominal domain, not to the prepositional domain. In these cases the nominal complement is defective and lacks D^0 . The nominal root, the one that denotes the so-called Axial Part, acts as a kind of quantifier of the nominal Ground, much as in predicative or pseudo-partitive structures (e.g. Eng. *a cup of coffee*) that are similar to the

ones discussed here (they are all defective nominals). The Axial Part component, therefore, is not a functional projection of the PP, but a sort of quantifier of the DP specifying a part or region of the Ground. For this reason we can explain the pervasive presence of preposition *of* or genitive case, since these locative expressions are nominal in nature. For example, a preposition like “in front of” can be analyzed as¹⁶:



Complex prepositions in Romance languages have a strong nominal component. The preposition and the Ground are often linked by preposition *of*. For this reason we are going to consider that Romance prepositions are originated in the nominal complement of P that gets incorporated into P, explaining why these Ps cannot combine with the nominal Ground and need a linker, an *of*, the preposition *par excellence* in the nominal domain. Therefore we can get rid of this functional projection as being part of the complex functional structure of the PP. I assume therefore the structure of (71) and (72) for locative and directional PPs respectively.

¹⁶I am agnostic at this stage about the specific status of this KP or the genitive preposition. I consider that it is a case that licenses complement within a DP or NP, and that it does not belong to the PP domain. Other than this my proposal could be compatible with other approaches that treat preposition *of* as a linker (den Dikken 2006) between a predicative structure in which two non-predicative elements, like two NPs, take part. In these cases *of* would mark that a predicative relation has been established.

2.3.2 PPs and Case

The relation between case and the prepositional domain has been studied in different works (see for example, Asbury 2008; Bošković 2006; Caha 2007, 2009; den Dikken 2003, 2006, 2010b; Etxepare and Oyharçabal 2011; Pantcheva 2008, among many others). Although I leave out of the scope of this dissertation providing an account of how case is assigned within the PP,¹⁷ I summarize in this section the main properties of case assignment inside PPs and lay out some generalizations that have been proposed in this respect.

den Dikken (2003, 2010b) proposes that prepositional or oblique case is also structural, in the sense that it is also checked or assigned in a particular functional head. Specifically, den Dikken (2010b) proposes that dative is checked/assigned in Asp^[PLACE] and accusative case in Asp^[PATH]. Part of the reason for considering dative as the case for locative spatial prepositions, and accusative the case of directional prepositions, comes from empirical evidence. For example, in German, among other languages, some prepositions have a locative reading if they appear with a dative complement, while they have a directional interpretation when they appear with an accusative complement.

- (98) (a) *auf dem Berg*
 on the-DAT mountain
 "On the mountain" (locative interpretation)
- (b) *auf den Berg*
 on the-ACC mountain
 "On the mountain" (directional interpretation)

¹⁷According to the amount of literature about case and PPs, and case within the PP (see discussion and references in Caha 2010; Gehrke 2008; van Riemsdijk 2007; Zwarts 2005a) the facts about PPs and case marking are quite complex. For this reason, I am not going to develop an account here that I leave for future research (see chapter 6). I restrict myself to summarizing some interesting facts about case and PP interpretation in the verbal domain, which can help us to draw some generalizations about defective paths across languages.

However, the relation between locative PPs and dative case is not accurate; unambiguous directional prepositions such as *zu* 'to', *von* 'from' and *aus* 'out' only appear with dative case. den Dikken explains these cases by arguing that directional prepositions can take different types of locative PPs as complements: if they take a full-fledged locative PP that is built up to $\text{Asp}^{\text{[PLACE]}}$ the preposition although being directional would assign dative case; if the directional P selects a bare locative P, then only $\text{Asp}^{\text{[PLACE]}}$ can check/assign its case. This proposal, although empirically accountable, does not explain the interesting observation made by Gehrke (2008) that the prepositions that can assign accusative and dative in German are prepositions that have a directional and a locative interpretation. That is, only unambiguous directional prepositions assign dative, while locative Ps that can have a directional use can assign accusative. Thus, Gehrke (2008) establishes that the accusative and dative alternation in the prepositional domain only affects what she calls derived goals, that is, locative prepositions that obtain their goal interpretation in a certain structural position. Inherent directional prepositions never show accusative case marking, something that is at odds with den Dikken's proposal (2003, 2010) of accusative case as being the case of the directional domain. For this reason, Gehrke (2008), following van Riemsdijk (2007), proposes that accusative case is structural and is assigned under an appropriate structural configuration, that of a predicative structure following Zwarts (2005a), and dative case is the morphological default case in the oblique domain¹⁸. One of the appealing things about Gehrke's analysis is that she gives a unified account of derived goals, that is, locative prepositions that end up receiving a directional interpretation. I come back to this issue later in section 3 of Chapter 6 when I revisit Talmy's typology, and the strategies that languages have to derive goal readings for locative Ps. I assume, with Gehrke, that one of the strategies is accusative case

¹⁸But see Caha (2010) for discussion and some counterarguments to the approach of van Riemsdijk (2007). This author proposes an account similar to den Dikken (2010b) but under his Peeling Theory of case Caha (2009). I will not go through the details of his account for reasons of space.

marking. Thus, a locative P in an appropriate configuration in which it receives a directional interpretation can assign accusative case to its complement.

Therefore, it seems clear that dative and other oblique cases such as instrumental and genitive (see Gehrke 2008 for case marking in Czech and Russian) can be the morphological case of unambiguous directional prepositions. Moreover, languages exhibit locative prepositions that can be used to express direction. In these cases, languages make recourse to several options to express a goal through a preposition of location. If the language has morphological case, as German, Latin, Czech and Russian, then locative prepositions exhibit accusative case marking to its complement. Otherwise, the preposition assigns/checks dative case. In languages with no morphological case, such as Dutch, Romance languages and English, two options are available: creation of a postpositional order as in Dutch, or licensing of a locative P in a context in which the verb denotes a directed motion. That is, the content of the verb licenses the presence of a derived goal expression. A summary can be sketched out as follows:

- (99) Strategies to license derived goals (that is, locative Ps with a goal interpretation)
 - (i) Accusative case marking in languages with morphological case (Czech, German, Latin, Russian)¹⁹
 - (ii) Postpositional order (Dutch)
 - (iii) Verbs of directed motion (Dutch, English, Romance languages)

In the next section I propose a formal characterization of these derived goals. I take these cases of derived goals to be different instantiations of a defectivity in the prepositional domain.

With these data in mind I propose that the difference between Romance and Germanic PPs can be reduced to the defectivity in the prepositional domain, which

¹⁹I don't consider here the strategy of prefixation since it seems to co-appear with the case strategy at least in Latin and Slavic languages. I discuss it briefly in chapter 6.

I take to be linked to the endowment of ϕ -features of phase heads. I explore the relation of this property of PPs and the impact that it has in the vP in chapter 3, which deals with manner incorporation structures, and chapter 4, with the study of cognation.

2.3.3 Defective domains

In the work of den Dikken (2010b), Rooryck (1996) and Svenonius (2010) it is assumed that PPs might differ in the number of functional projections they have. I want to translate this difference among types of PPs in terms of defective domains. However, there are two notions of defective domain that I first have to clarify.

1. Defectivity as ϕ -defectiveness
2. Defectivity domains and cross-linguistic variation

2.3.3.1 Defectivity as ϕ -defectiveness

It is normally assumed in the literature that there are defective heads. Defective heads that have been proposed are the set of Core Functional Categories that are normally identified with C, T and v . Specifically, it has been argued that there are defective T and defective v that are identified with those functional projections that cannot license case, nominative and accusative respectively, as they normally do. Thus, an example of T_{def} is normally the case of infinitives, which cannot license a nominative subject, and an example of v_{def} are unaccusatives or passives, which cannot license accusative case.

Defective heads can be defined in different ways. A way to define a defective head is based on the type of features it contains. For example, a defective head contains a defective set of ϕ features. This view of defective heads can be called defectivity as ϕ -defectiveness (Richards 2007).

Another question about defectivity as applied to heads is the number of possible defective heads that exists. We can restrict the number of them by saying that defectiveness only applies to phase heads, something that can be a consequence of the definition of defectivity as ϕ -defectiveness and Chomsky's definition of phase as the locus of ϕ -features (Chomsky 2008).

If defectivity only applies to Phase heads, the only possible defective heads would be C_{def} (which subsumes T_{def} since C and T share features according to feature inheritance) and v_{def} . In the approach outlined here I propose that defectivity can also be extended to $p(\text{ath})$ and $p(\text{lacc})$.

Defective head domains are domains where case assignment cannot apply, *e.g.* Nom (T_{def}) and Acc (v_{def}), and which do not license an external argument.

2.3.3.2 Defective domains and cross-linguistic variation

However, there is a second notion of defectivity which is not the one used in the above-mentioned works. This view of defectivity attributes to defective heads different properties. For example, in den Dikken (2010b) the lack of functional projections above the lexical head has as a consequence that they need to be licensed in by forcing incorporation to the upper head, or similar operations. This assumption is also common with structures that involve incorporation (Baker 1988). This notion of defectivity has also been linked to lack of movement of the defective constituent as argued in Koopman (2000). The reasons behind these two assumptions are not made explicit in these works, though.

This kind of defectivity has also been argued to be subject to parametric variation. In some accounts defective domains understood as lexical heads that are not able to project a full-fledged functional structure can vary from language to language and this feature can account for linguistic variation. Thus, as seen in section 2.2.3.3, Rooryck (1996) explains the difference between Romance and

Germanic PPs in terms of the presence or absence of a certain functional structure, which is related to the fact that there are not complex Romance PPs of the type found in Germanic.

2.3.3.3 A unified view of defectivity

The view of defectivity that I want to put forth combines both views of defective domains. Concretely, I propose that $p(\text{ath})$ and $p(\text{lacc})$, are phase heads that contain an unvalued set of ϕ -features that makes them active probes and that establishes an Agree relation with a DP down in the structure. The agreement relation between $p(\text{ath})$ and a DP would result in valuing Accusative case features of the DP; in the same way, $p(\text{lacc})$ establishes a probe-goal relation and values the case features of the DP, obtaining dative case.

However, these phase heads can be defective; that is to say, they can contain an incomplete set of ϕ -features, and therefore they cannot value case in the DP complement, nor Accusative or Dative, respectively. Defectiveness moreover has another consequence: if $p(\text{ath})$ is a defective phase head, then it belongs to the immediately next strong phase, that is, v . The same holds for defective $p(\text{lacc})$. I develop the consequences of this proposal in the following sections.

2.4 Paths in Romance

The goal of this section is to pursue the hypothesis that there are not path prepositions in Romance languages. The hypothesis departs from the assumption, partially adapted from Gehrke (2006, 2008), defined in (100)²⁰:

²⁰Explicitly, Gehrke (2006) states that prepositions that can be ambiguous between a locative and a directional reading are only locative, and directionality arises from the syntactic context. Later in Gehrke (2008) she restricts this hypothesis to English prepositions *in*, *on*, *under* and *behind*, saying that it can run into problems if applied to prepositions like French preposition *à*. In this work I try to develop her initial intuition and apply this idea to Romance prepositions to see how far it can take us.

(100) If a preposition has a locative and a directional use, then the preposition is basically locative and the directional meaning is derived.

Romance simple prepositions such as *a*, *en/in* (and other Romance Ps), in languages such as French (101 a), Italian (101 b) and Catalan (101 c), can be clearly locative, since they can appear with stative verbs and denote a spatial relation of location when they appear in an adjunct position.

(101) (a) *L' enfant est à la maison*
 the' child is at the home
 The child is at home

(b) *Gianni è a casa di Maria*
 Gianni is at house of Maria
 Gianni is at Maria's house

(c) *La Maria canta a l'estació*
 The Maria sings at the'station
 Maria sings at the station

Actually, these prepositions in Catalan, French and Italian only have directional interpretations if they appear as complements of certain types of verbs, namely, resultative verbs like Sp. *caerse*, 'to fall'; directed motion verbs like Sp. *entrar* 'to enter' or *salir* 'to leave'; and some manner of motion verbs like *run* or *fly*.

(102) (a) *Jean è tombé dans la piscine*
 Jean aux fallen in the swimming.pool
 Jean fell into the swimming pool (French)

(b) *Gianni è arrivato a casa*
 Gianni is arrived at home
 Gianni has arrived home (Italian)

(c) *El Joan va córrer a la farmàcia*
 The Joan aux run at the pharmacy
 Joan ran to the pharmacy (Catalan)

These examples challenge Talmy's classification of Romance languages as verb-framed languages, since a manner of motion verb appears in a goal of motion construction. Examples of this type have been observed widely in Italian (103 a), (Folli 2001; Folli and Ramchand 2005; Fong and Poulin 1998; Zubizarreta and Oh 2007, among others), but they are also found in other Romance languages, such as Catalan (102 c), French (49 a) and Spanish (103 c), (cf. Zubizarreta and Oh 2007).

- (103) (a) *La moneta è scivolata nel buco*
 the coin be.aux slid in.the hole
 The coin slid in the hole
- (b) *Le détective a bondi sur le gangster*
 the detective aux leap on the gangster
 The detective has jumped on the gangster
- (c) *Ella corrió a la salida*
 She ran to the exit
 She ran to the exit

However, I argue that there is a class of verbs of manner of motion that can be used as verbs of directed motion. Actually pure manner of motion verbs such as 'dance' do not license directional interpretations when combined with point-denoting prepositions of the *a/en* type.

- (104) *El Joan balla a l'habitació*
 The Joan dance at the'room
 Joan danced in the room (only locative reading)

These facts are uniform cross-linguistically. If we examine languages that do have directional prepositions such as Germanic languages, we see that locative prepositions can license directional readings when in the complement of certain verb types: resultative verbs (105 a), directed motion verbs, and the above-mentioned subset of manner of motion verbs. English (Thomas 2001, 2003;

Gehrke 2008); Dutch (Gehrke 2008; Koopman 2000; den Dikken 2003); and Norwegian (Tungseth 2006) illustrates this point.

- (105) (a) Anna kicked the ball on/onto the table (English, Gehrke 2008)
 (b) John ran in the room (locative/directional) (English)
 (c) *Hij klimt in de stoel* (Dutch)
 He climbs in(to) the chair
 He climbs in/into the chair (locative/directional)
 (d) *Jens har syklet i grøfta* (Norwegian)
 Jens has biked in ditch.the
 Jens has biked in/into the ditch (locative/directional)

The set of manner of motion verbs that combine with locative prepositions to derive a directional interpretation is limited and semantically uniform across languages. Furthermore, there is a lot of variation among speakers regarding the acceptability of the examples²¹.

- (106) (a) Catalan: *córrer* ‘run’; *rodar* ‘roll’; *saltar* ‘jump’; *volar* ‘fly’
 (b) French: *courir* ‘run’; *rouler* ‘roll’; *bondir* ‘bounce’; *sauter* ‘jump’; *voler* ‘fly’; *ramper* ‘crawl’
 (c) Italian: *correre* ‘run’; *rotolare* ‘roll’; *rimbalzare* ‘bounce’; *saltare*, *saltellare* ‘jump’; *volare* ‘fly’; *gattonare* ‘crawl’
 (d) Spanish: *correr* ‘run’; *rodar* ‘roll’; *rebotar* ‘bounce’; *saltar* ‘jump’; *volar* ‘fly’; *gatear* ‘crawl’
- (107) (a) Dutch: *rennen* ‘run’; *rollen* ‘roll’; *springen* ‘jump’; *klimmen* ‘climb’
 (den Dikken, 2003; Gehrke, 2008)
 (b) English: *run*; *roll*; *crawl*; *jump*; *hop*; *climb* (Thomas, 2001, 2003)

²¹Data extracted from different works and informants: den Dikken (2003); Fábregas (2007); Folli (2001); Fong and Poulin (1998); Gehrke (2008); Iacobini (2006); Son (2007); Thomas (2001, 2003); Tungseth (2006)

(c) Norwegian: *løpe* ‘run’; *hoppe* ‘jump’; *sykle* ‘bike’ (Tungseth, 2006)

These verbs can also be used as manner of motion verbs, as shown by the contrast below.

- (108) (a) *Gianni ha corso*
 Gianni have run
 Gianni ran
- (b) *Gianni è corso in casa*
 Gianni be.aux run in house
 Gianni ran into his house

I argue that the semantic interpretation of the event denoted by these verbs is compatible with the semantic construal of a directed motion event and of a manner of motion event. Assuming a neo-constructionist view of verbal interpretation, I consider that the meaning of a lexical item is a function of the conceptual semantic content of the root and the semantic construal provided by the syntactic structure that it lexicalizes (Mateu and Amadas 2001; Mateu 2002). Therefore, when these verbs appear in directed motion constructions with non-directional prepositions, they are actually verbs of directed motion (they lexicalize a path component), since the preposition does not provide the directional meaning. Pure manner of motion verbs cannot be coerced to denote a path, and therefore they are not accepted as lexicalizing path structures.

- (109) *Juan *bailó / *girá / *tambaleó a casa*
 Juan danced / spun / wobbled at home

Therefore, alleged counterexamples in Romance are not a problem for Talmy’s typology since they follow the verb-framed pattern, namely, the path is still lexicalized in the verb. Under the view endorsed here, Romance simple prepositions never encode path, that is, they do not show a double-framing pattern. However some questions remain. First, Spanish preposition *a* cannot be integrated under

this account, since this preposition does not behave as a locative preposition: it cannot combine with stative verbs or denote a location in adjunct position as its cognates in the other Romance languages examined here.

(110) (a) **Juan está a casa*
 John is at home

(b) **Juan cantó a casa*
 John sang at home

Moreover, some complex prepositions such as Sp. *hasta*, It. *fino a*, fr. *jusqu'à*, and Cat. *fins a* can combine with a wider range of manner of motion verbs, not only the restricted set of manner of motion verbs that can be coerced to express path. These latter examples have been used by Folli (2001); Folli and Ramchand (2005) and Fong and Poulin (1998) to claim that Italian and French do not always behave as verb-framed languages. I examine these two problems in the next section.

2.4.1 Dealing with counterexamples

This section tackles two different counterexamples to our claim that Romance lacks generally path prepositions. In section 2.4.1.1, I analyze Spanish preposition *a*, which cannot be analyzed as locative at least at first sight. In section 2.4.1.2 I consider Romance complex PPs that can combine with a wider range of manner of motion verbs like pure directional prepositions of the Germanic type.

2.4.1.1 Spanish preposition *a* does not introduce goals

Spanish *a* challenges our claim that Romance simple prepositions are only locative since it does not behave as a typical locative preposition. As seen in the previous section, it cannot appear as the complement of a stative verb, (110 a), and it cannot function as a locative adjunct when combined with a non-motion predicate, (110 b).

However, preposition *a* can have a locative meaning in some specific contexts: when it establishes a spatial relationship in which the Figure is in contact with at least one point of the boundary of the Ground (Fábregas 2007). Hence *a* can combine with nouns that denote boundaries (e.g. *lado* ‘side’, *borde* ‘border’, *límite* ‘limit’, *filo* ‘edge’, etc.), points in a scale (e.g. *al principio de* ‘at the beginning of’, *al final de* ‘at the end of’, *a nivel de* ‘at the level of’), for some complex locations (111 b), or some expressions in which the boundaries of the Ground to which the Figure is in contact are left unclear (111 c).

- (111) (a) *El ratón está al lado del libro*
 The mouse is at.the next of.the book
 The mouse is next to the book
- (b) *Juan está a la puerta del colegio*
 Juan is at the door of.the school
 Juan is standing at the door of the school
- (c) *Juan está al piano*
 Juan is at.the piano
 Juan is at the piano

Spanish *a* has also a locative meaning when it appears with measure phrases and when it combines with locative prepositions to derive a locative adverb. In these two cases *a* denotes a static location.

- (112) (a) *El coche se encuentra a tres kilómetros de casa*
 the car pron.refl find at three kilometers of home
 The car is three km from home
- (b) *Los estudiantes esperaban fuera del bar*
 The students waited out of.the bar
 The students were waiting outside the bar
- (c) *Los estudiantes esperaban a-fuera*
 The students waited at-out
 The students were waiting outside

Therefore Spanish *a* can be used as a preposition of location provided it is integrated in a complex preposition or an adverbial expression (see Romeu 2012). In any case, by the assumption stated in section §2.4, if *a* can be a preposition of location and direction, then it is a locative preposition and directionality arises contextually. The fact that preposition *a* gets its directional interpretation from the outside can be shown by the fact that directional interpretations of *a* only arise with directional verbs such as directed motion verbs like *llegar* or *salir* or with the subset of manner of motion verbs of the *run* type. If *a* was a true directional preposition, we would expect to derive directional interpretations in other contexts, like with manner of motion verbs of the *dance* type, as in Germanic, contrary to fact.

- (113) **Juan bailó a la habitación*
 Juan danced at the room
 Juan danced to the room

2.4.1.2 Romance *fino a*-prepositions are not paths

Folli (2001) and Fong and Poulin (1998) suggest that Romance languages do not fit into Talmy's typology since there are examples like the following:

- (114) (a) *La grenouille a nagé jusqu'au nenuphar*
 The frog has swam to/at the water-lily
 The frog swam up to the water lily (example from Fong and Poulin 1998, *apud* Folli 2001:160)
- (b) *Gianni camminó fino al negozio*
 Gianni walked until at the store
 Gianni walked to the store (example from Folli 2001:186)

According to Folli (2001), Romance prepositions such as Fr. *jusqu'à* and It. *fino a* are accomplishment prepositions in adjunct position that have a complex I-syntactic structure like resultative verbs. She argues that this analysis is supported by the fact that they can combine with manner of motion verbs to give rise to an accomplishment and, hence, a telic reading no matter the lexical specifications of

the verb, as (114 a) and (114 b) illustrate. Thus, Fr. *jusqu'à* and It. *fino a* can combine with verbs like *swim*, *float* and *dance* to derive accomplishment readings according to Folli (2001) and Folli and Ramchand (2005). On Folli's view *fino* in Italian cannot occur by itself but in a complex preposition configuration with preposition *a*, which has the semantic function of identifying the terminal point, while the presence of *fino* is understood as a semantic function that measures the path of motion and implies the presence of a telos.

However, the analysis they provide does not account for the exact properties that these constructions display. Their behavior is not as uniform as may be deduced from Folli's (2001) or Folli and Ramchand's (2005) accounts. For instance, it is true that prepositions of the *fino a*-type can combine with a wider range of motion verbs than simple prepositions of the *a/en* type, but the reading obtained is not always an accomplishment. For example, preposition *hasta* in Spanish can combine with verbs of directed motion, manner of motion verbs of the *run* type (section 2), and manner of motion verbs:

- (115) (a) *Juan llegó hasta Barcelona*
 Juan arrived until Barcelona
 Juan arrived to Barcelona
- (b) *Juan nadó hasta las rocas*
 Juan swam until the rocks
 Juan swam to the rocks
- (c) *Juan bailó hasta la puerta*
 Juan danced up.to the door
 Juan danced to the door

However the examples do not have the same event interpretation, an expected result if Folli (2001) is on the right track. For instance, (115 a) is not an accomplishment but an achievement, since the verb Sp. *llegar* 'arrive' belongs to this

aspectual class. Thus, *llegar* does not have stages as shown by the fact that it cannot appear with predicates such as *dejar de* ‘stop’ or *acabar de* ‘finish’ (Vendler 1967):

- (116) #*Juan dejó de llegar hasta Barcelona*
 Juan stopped of arrive until Barcelona
 "Juan stopped arriving to Barcelona"

On the other hand, verbs of the *run* type do accept accomplishment interpretations as shown in (117 a) and (117 b), but verbs of manner of motion of the *dance* type do not (115 c). Thus, the presence of the preposition does not change the aspectual interpretation of the predicate, as shown in (117 c):

- (117) (a) *Juan dejó de nadar hasta las rocas*
 Juan stopped of swim until the rocks
 Juan stopped swimming to the rocks
- (b) *Juan nadó hasta las rocas en dos minutos*
 Juan swam until the rocks in two minutes
 Juan swam to the rocks in two minutes
- (c) *Juan bailó hasta la puerta durante unos minutos / #en*
 Juan danced until the door for some minutes / #in
dos minutos
 two minutes
 Juan danced until the door for some minutes / in two minutes

Verbs of manner of motion of the *run* type, *nadar* ‘swim’ in this case, are compatible with both telic and atelic readings depending on the interpretation. Under the telic reading, we obtain an achievement interpretation in which Juan gets where the rocks are by swimming, while in the atelic reading we obtain the interpretation that Juan is performing the activity of swimming and is moving in an area that has its limits at the rocks.

- (118) *Juan nadó hasta las rocas en dos minutos / durante dos minutos*
 Juan swam until the rocks in two minutes / for two minutes
minutos
 minutes
 Juan swam to the rocks in two minutes/for two minutes

In contrast, pure manner of motion verbs only allow the second interpretation (117 c). This reading is more salient with the use of modals that make the example in (115 c) much more acceptable by the speakers consulted²².

- (119) (a) *Juan podía bailar hasta la puerta*
 Juan could to dance until the door
 Juan was allowed to dance until the door

These results are similar to the ones reported in Folli (2001) and Folli and Ramchand (2005) in which verbs like *correre* can appear with both the auxiliary *avere* and *essere* when combined with a *fino a* preposition. Change in auxiliary selection however is not attested with other manner of motion verbs like *camminare* that do not belong to the group of verbs of the *run* class, but to the class of *dance* verbs in Italian. These results are not clearly accounted for in Folli (2001), in which if *fino a* is always an accomplishment adjunct, we would never expect auxiliary BE to appear since the subject and the PP do not establish a small clause configuration. Alternatively, if we assume that the complex preposition is in the complement position of the VP as in the Germanic group (Folli and Ramchand 2005), we would always expect the presence of auxiliary BE, and that is not the case.

- (120) (a) *Gianni ha/è corso fino a casa*
 Gianni has/is run until at home
 Gianni ran to home
- (b) *Gianni a/*è camminato fino a casa*
 Gianni has/*is walked until at home

²²Some speakers do not accept examples like (115 c). The interpretation of the sentence is roughly that Juan was dancing within the space delimited by the position of the door. The use of modals or imperfective aspect improves speaker's acceptability.

Gianni walked to home

These results are similar in Spanish: *caminar* does not allow telic readings when combined with *hasta*-P as noted by Aske (1989).²³ We can conclude therefore that *hasta*-PP does not change the aspectual interpretation of the predicate since it is an adjunct. In contrast, with verbs of the *run* type there are two possibilities: first, that *hasta*-PP occupies a complement position deriving an achievement reading; and second that *hasta*-PP occupies an adjunct position, in which the complex preposition acts as the delimiter of the location where the whole event takes place.

Similar effects are also reported in Dutch that do exhibit an unambiguous preposition of direction: *naar*. This preposition however can give rise to two different readings that are disambiguated by the difference in the auxiliary selection of the predicate in perfective tenses or by the relative position of the PP with the verb. Contrary to the Romance cases reported above, ambiguity arises even with pure manner of motion verbs, showing that *naar* preposition is the trigger of the goal of motion interpretation, while it is not in the Romance case. However, *naar* as *hasta*-PPs can appear in two different positions, as complement of V or as adjunct of V. The examples and the judgements below are the ones reported by Hoekstra (1984).

- (121) (a) *Jan wandelt naar Groningen*
 John walks to Groningen
 John was walking on his way to Groningen

Adjunct interpretation: selects *hebben* in the perfect

- (b) *dat Jan naar Groningen heeft gewandeld*
 That John to Groningen have walked

²³There is cross-speaker variation with this verb in Spanish. There is consistency though among speakers: speakers who accept the accomplishment interpretation of *caminar* with complex prepositions, also accept it with preposition *a*. Therefore it could be the case that *caminar* ‘walk’ for some speakers is a verb of the *run* type. However, I think that for these speakers there has been a process of semantic bleaching of this verb and that, in these dialects, *caminar* is close to the verb *go*. This process of bleaching is not new and can be found in other languages. For example Catalan verb *anar* ‘to go’ comes from the Latin verb *ambŭlāre* that meant exactly ‘to walk’.

that John walked towards Groningen

- (c) *Jan wandelt naar Groningen*
 John walks to Groningen
 John ended up being in Groningen by walking there

Complement interpretation: selects *zijn* in the perfect

- (d) *dat Jan naar Groningen is gewandeld*
 That John to Groningen is walked
 that John walked to Groningen

The two interpretations of *naar* can be disambiguated by the relative position of the PP with respect to the verb. Thus, only adjuncts can appear in a postverbal position in Dutch, as shown in the examples below from Hoekstra (1999), *apud* Gehrke (2008:76).

- (122) (a) *dat Jan zijn vriend (in Amsterdam) ontmoette (in Amsterdam)*
 that John his friend (in Amsterdam) met (in Amsterdam)
 "that John met his friends in Amsterdam"
- (b) *dat Jan in de tuin is (*in the tuin)*
 that John in the garden is (*in de garden)
 "that John is in the garden"

Therefore, the combination of the two tests, auxiliary selection and PP-position, confirms the existence of two attachment positions for *naar*-PPs: a complement position that selects auxiliary BE and appears only preverbally, and an adjunct position that selects auxiliary HAVE and can appear in preverbal and postverbal positions. The interpretation of the *naar*-PP is different in the two cases. Only in the first case is the path understood as involved in a bounded change of location event.

- (123) (a) *dat Jan (naar Groningen) is gewandeld (*naar Groningen)*
 That John to Groningen is walked (*to Groningen)

That John walked to Groningen

- (b) *dat Jan (naar Groningen) heeft gewandeld (naar Groningen)*
 That John to Groningen have walked (to Groningen)
 That John walked towards Groningen

In conclusion, *hasta/fin* *a*-PPs only form goal of motion constructions with verbs of directed motion or verbs of motion of the *run* type. These facts show that, as with simple point-denoting prepositions, the path of the goal of motion event is still lexicalized in the verb, and not in the preposition. In line with these data, goal of motion constructions with complex PPs are of the verb-framed type since the goal is lexicalized in the verb and not in the preposition. In section 2.6 I propose an analysis of *hasta/fin* *a*-PPs and their semantic contribution to the interpretation of the event of motion. First, I shall review some differences between Germanic and Romance PPs.

2.5 Differences between Germanic and Romance prepositional domain

The hypothesis in (100), in section §2.4, states that the ambiguity of certain prepositions is provided by the specific syntactic context in which these adpositions appear. According to this hypothesis ambiguity is not lexical, but arises from context, which is in line with current non-projectionist approaches to argument structure, like that endorsed here. In this section, I outline the behavior of ambiguous prepositions both in Germanic and Romance languages and review the conditions upon which directional interpretations arise.

2.5.1 Germanic Prepositions

As has been observed, certain Germanic locative prepositions can derive goal of motion interpretations in the complement position of a subset of motion verbs (den

Dikken 2003, 2010b; Gehrke 2006, 2008; Koopman 2000; Thomas 2001, 2003; Tungseth 2006, 2008). Svenonius (2004b) shows that an adposition is inherently locative if it can combine with a stative verb and convey a meaning of static location. The examples in (124 a) show that English prepositions such as *in* and *on* are inherently locative while complex prepositions in (124 b) are not.

(124) (a) The box stayed/remained in/on/under/behind the table

(b) *The box stayed/remained into/onto the table (from Gehrke 2008: 87)

Furthermore, locative adpositions express a static location even when the verb conveys a meaning of motion. Moreover, with a certain class of motion verbs locative adpositions can have both a directional and a locative interpretation. For instance, Dutch prepositions allow a directional and a locative interpretation when combined with verbs like *springen* ‘jump’, while Dutch postpositions only allow for a directional reading (den Dikken 2003:5).

(125) (a) *Jan sprong in de sloot*
 Jan jumped in the ditch
 Jan jumped in/into the ditch

(b) *Jan sprong de sloot in*
 Jan jumped the ditch in
 Jan jumped into/*in the ditch

By the hypothesis in (100), the meaning of these prepositions is inherently locative, and the source of the directional interpretation is structural. Thus, the fact that locative adpositions can have a directional reading in certain contexts has been attested in several Germanic languages, such as *in* and *on* prepositions in English (Gehrke 2008; Thomas 2001, 2003), prepositions in Dutch (den Dikken 2003, 2010b; Gehrke 2008), and the locative *i* preposition in Norwegian (Tungseth 2006, 2008).

(126) (a) John ran in the room (English; from Gehrke 2008)

- (b) *Hij klimt in de stoel* (Dutch; den Dikken 2003)
 He climbs in(to) the chair
 He climbs into the chair
- (c) *Jens har syklet i grøfta* (Norwegian; Tungseth 2006)
 Jens has biked in ditch.the
 Jens has biked in the ditch

As shown in section 2.2.4.2 and section 2.2.4.3, locative prepositions allow directional readings only when certain conditions are met. First, directional readings are only possible in the complement position of a specific type of verb: the class of verbs that include verbs of putting, verbs of directed motion, verbs of change, and semelfactives. All these verbs have in common that they denote a definite change of state. Thus, though semantically they make up a heterogeneous verbal class, I assume that they belong to a single syntactic class that corresponds configurationally to a change of state event; see examples in (105 a), repeated below in (127 a).

- (127) (a) Anna kicked the ball on/onto the table (English, Gehrke 2008)
- (b) John ran in the room (locative/directional) (English)
- (c) *Hij klimt in de stoel* (Dutch)
 He climbs in(to) the chair
 He climbs in/into the chair (locative/directional)
- (d) *Jens har syklet i grøfta* (Norwegian)
 Jens has biked in ditch.the
 Jens has biked in/into the ditch (locative/directional)

Among the predicates contained in this class, there are change of state verbs like *break* and directed motion verbs, like *come* and *arrive*. Moreover, there are verbs that are frequently classified as manner of motion verbs (such as *walk*, *fly* and *run*). The examples below (from Thomas (2003)) illustrate this phenomenon.

- (128) (a) [?]John came in the room

(b) ?He went in the house

(c) ?Mum walked in the room

Germanic goal of motion constructions with locative prepositions have specific syntactic properties: the preposition must appear in the verbal complement position, and stay VP internally and adjacent to the verb. The directional interpretation is lost whenever the PP moves out of VP, or when an adverb intervenes between the verb and the PP. As seen in section 2.2.4 this requirement is present in English (129 a)-(129 b), Dutch (130 a)-(130 b), and Norwegian (131 a)-(131 b).

(129) (a) *In the house John run

(b) *The pool in which John fell is extremely deep (English; Gehrke 2008: 106)

In Dutch (130 a) the PP can have a locative and a goal interpretation. However, if the PP is extraposed to the right as in (130 b) only a locative reading is possible (Gehrke 2008: 108) .

(130) (a) ... *dat hij onder de tafel kroop*
 ... that he under the table crawled
 ... that he was under the table and crawled or ... that he crawled to a point under the table

(b) ... *dat hij kroop onder de tafel*
 ... that he crawled under the table
 ... that he was under the table and crawled

The same phenomenon occurs in Norwegian, as shown by Tungseth (2006:43). In the examples below, preposition *i* cannot be understood as a goal of motion when it is topicalized (131 a) or clefted (131 b).

(131) (a) *I grøfta har Jens kjørt bilen*
 In ditch.the has Jens driven car.the
 In the ditch Jens drove the car

- (b) *Det er i grøfta (at) Jens har kjørt bilen*
 It is in ditch.the (that) Jens has driven car.the
 It's in the ditch (that) Jens has been driving the car

In contrast, unambiguous directional prepositions like Eng. *to*, Nor. *til*, and Dt. *naar* give rise to a goal interpretation irrespective of the type of motion verb or the relative position it occupies with the verb. Again, we find similar examples in Dutch (132 a), English (132 b) and Norwegian (132 c). This has been widely observed in Gehrke (2008); Thomas (2001, 2003); Tungseth (2006)

- (132) (a) *Naar het meer is Marjo gezwommen*
 To the lake is Marjo swum
 Marjo swam to the lake
- (b) Into the concert hall ran the orchestra
- (c) *Til supermarkedet har Jens aldri sprunget*
 to supermarket.the has Jens never run
 To the supermarket Jens has never run

To sum up, the properties that license directional readings for locative prepositions in Germanic languages are as follows:

- (i) the verbal meaning: verbs that are not very specific in their expression of manner and that semantically denote a change of location.
- (ii) the relative position of the PP with respect to the verb.

In the next section I review similar examples in Romance languages.

2.5.2 Locative prepositions in goal of motion constructions in Romance

As seen in previous sections, locative prepositions in Romance languages can have a directional interpretation when they appear in the complement position of certain

classes of verbs. As with Germanic (2.5.1), the class of verbs that elicit directional readings with locative Ps are verbs of directed motion, verbs of *putting*, and verbs that are normally ambiguous between an activity reading and a change of state reading. They all syntactically involve a definite change of state configuration in the sense defined in Chapter 1. Examples below show directional readings with locative Ps in Spanish (133 a) and Italian (133 b) with directed motion verbs, and verbs of *putting* in Catalan (133 c) and French (133 d).

- (133) (a) *Juan entró en la habitación*
 Juan entered into the room
 Juan entered into the room
- (b) *Gianni è arrivato a casa*
 Gianni is arrived at home
 Gianni has arrived home
- (c) *La Maria va posar els llibres al prestatge*
 The Maria aux put the books at.the shelf
 Maria put the books on the shelf
- (d) *Marie a lancé le ballon à Jean*
 Marie has kicked the ball at Jean
 Marie has thrown the ball to Jean

Furthermore, some manner of motion verbs can appear in goal of motion constructions with locative prepositions. These cases have been observed mainly in Italian where the appearance of the auxiliary *essere* in perfective tenses makes the phenomenon clearer, but they are attested in other Romance languages as well (cf. Zubizarreta and Oh 2007), as shown in section 2.4.1.1.

- (134) (a) *Gianni è corso in spiaggia*
 Gianni is run in beach
 Gianni ran in the beach
- (b) *La palla è rimbalzata dietro il tavolo*
 The ball is bounced behind the table
 The ball has bounced behind the table

- (c) *Ella corrió a la salida*
 She ran to the exit
 She ran to the exit
- (d) *Le détective a bondi sur le gangster*
 The detective has leapt on the gangster
 The detective has jumped on the gangster
- (e) *La noia va saltar a la piscina*
 The girl aux jump to the swimming pool
 The girl jumped in the swimming pool

The specific analysis of these verbs and their ambiguity will be treated in Chapter 3 when I consider the interaction among lexicalization, syntactic structure, and root content, and I give an analysis of so-called constructions involving manner incorporation. For now, I only consider the properties of PPs in certain contexts. Thus, the other property that characterizes Germanic goal of motion constructions with locatives Ps is the requirement that the locative PP must stay adjacent to the verb. Contrary to what happens in Germanic, Romance locative prepositions can be separated from the verb by adverbial material (135 a), and allow for topicalization (135 b).

- (135) (a) *L'oiseau a volé rapidement sur la fenêtre*
 The bird aux flown quickly on the window
 The bird flew quickly onto the window
- (b) *Il a volé, l'oiseau, sur la fenêtre*
 He aux flown, the bird, on the window
 The bird flew onto the window

In Spanish, the preposition in (136 a) and (136 b) receives a goal interpretation, even though the PP is not adjacent to the verb.

- (136) (a) *Juan resbaló de golpe al suelo*
 Juan slipped of knock to.the floor
 Juan suddenly slipped to the floor

- (b) *El barril rodó, a pesar de haberlo atado bien, al
The barrel rolled, despite having tied well, at.the
pie de la colina
bottom of the hill
The barrel rolled to the bottom of the hill, despite having been strongly
tied*

Likewise in Catalan, the PP can appear clefted (137 a) or separated from the verb by adverbial material (137 b), preserving a goal of motion interpretation.

- (137) (a) *El Joan salta sempre que pot a la piscina
The Joan jump always that can at the swimming.pool
Joan jumps whenever he can into the swimming pool*
- (b) *És a terra on les monedes van rodolar
Is at.the floor where the coins go roll
It was to the floor, where the coins rolled*

These PPs are not in an adjunct position as shown by the difference in the choice of auxiliary in Italian, extraction and *do-so* substitution (cf. Demonte 2009²⁴).

²⁴Actually, Demonte (2009) gives three arguments to defend the idea that locative PPs that appear with manner of motion verbs in goal of motion constructions are in adjunct position. First, she argues that these prepositions alternate with complex unbounded prepositions like *hacia* 'towards', see example (1). Second, they cannot be extracted from weak islands, (2). Finally, they do not modify the inner structure of the event as can be seen from the entailments and the contrast between (3) and (4).

- (1) Mi hija voló {a / hacia} Barcelona
(2) ??/*¿A qué puerta me preguntaste si Elisa corrió?
(3) Juan corrió al castillo (pero no llegó)
(4) Juan subió al castillo (# pero no llegó).

However, these arguments are not totally convincing for several reasons. First, the alternation between an unbounded preposition like *hacia* and a bounded preposition like *a* is also found with verbs of directed motion whose complement is argued to be in an argument position. Take, for example, a verb like *subir* that can take both *hacia* and *a*. However, *hacia*-PP can co-appear with an *a*-PP, which is in an argument position something that also holds true for a verb like *volar*.

- (5) Mi hija subió a/hacia Barcelona
(6) Mi hija subió al pueblo hacia Barcelona

- (138) (a) *La rana è/*a saltellata nella trappola*
 The frog is/have jumped in the trap
 The frog has jumped into the trap
- (b) *A qué farmacia me preguntaste si Elisa corrió / llegó ?*
 At what pharmacy me asked if Elisa run/arrived?
 llegó ?
- To which pharmacy did you ask me if Elisa ran/arrived?
- (c) *?Juan corrió al hospital y María lo hizo a la farmacia*
 Juan ran at.the hospital and María did it to the pharmacy
 pharmacy
 Juan ran to the hospital and María did it to the pharmacy
- (d) *Juan saltó a la piscina y *María lo hizo al estanque*
 Juan jumped into the swimming.pool and María cl did into the reservoir

(7) Mi hija voló a Barcelona hacia el este

Second, extraction from a weak island is degraded in the case of adjuncts, contrary to arguments. The examples Demonte uses, however, always involve a complex preposition whose head is a relational noun of the AxPart sort, discussed in Svenonius (2004b,a, 2010). Thus the example in (2) is generated from the following PP Sp. *a la puerta de la habitación* ‘at the door of the room’ which can be understood as a relational noun as *al lado de* ‘next to’ or *al borde de* ‘on the edge of’. The examples improve if we use a locative PP which includes a DP that cannot be understood as a relational noun.

(8) ?Qué farmacia me preguntaste si Elisa corrió / llegó ?

Finally, the contrast between (3) and (4) shows that the locative PP is not an argument and does not yield a result state interpretation as the resultative verb in (4). This would mean that these prepositions are understood more as PPs that denote orientation. Another proof in this respect is shown by the fact that if we modify sentences in (3) and (4) by a *for*-adverbial we only get the result state interpretation in the second case, in (10), something that gives support to Demonte’s conclusion that *a*-PPs with manner of motion verbs are adjuncts that are interpreted as orientation Paths.

(9) Juan corrió al castillo durante horas

(10) Juan subió al castillo durante horas

I leave for further research an account of these dubious cases.

Juan jumped into the swimming pool and María did so into the reservoir

As shown in this section, Germanic and Romance goal of motion constructions with locative PPs exhibit similar properties with regard to the type of motion verb they appear with. However, locative PPs behave differently in Romance and Germanic: Romance locative prepositions can be moved freely, preserving the goal of motion reading, whereas Germanic ones cannot. In the following two sections I propose a theory to explain the derivation of goal of motion constructions with Germanic and Romance PPs, in order to shed some light on the aforementioned distinction between them.

2.5.3 An analysis of PPs in Romance and Germanic languages

In this section, I provide an analysis of Romance prepositions following the theory of adpositions outlined in section §2.3 above. This section aims to determine which of the four previously mentioned possible structures corresponds with Romance prepositions and with goal of motion structures seen so far. I am going to propose that prepositions can be defective or non-defective in the sense outlined before. Defectiveness in the PP domain can derive the different properties attested in Germanic and Romance PPs.

This section is structured as follows. First, in section 2.5.3.1, I review the first type of prepositional structures depicted above, namely, bare directional prepositions that appear in the complement position of V. Next, section 2.5.3.2 overviews structures of type II in which directional P is not defective. Section section 2.5.4 presents overall conclusions.

2.5.3.1 Defective directional PPs

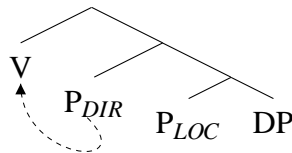
As discussed in the subsection 2.2.3.1, den Dikken (2010b) and Koopman (2000, 2010) study the properties of Dutch postpositions, arriving at the conclusion that

they must involve a defective head, that is, a head that does not have a C layer. In terms of Koopman (2000), directional prepositions with verbs of motion are obtained by incorporation of a silent Path into V. Postpositions instead are obtained by incorporation of the Place head below to license silent Path. One of the properties of defective PPs, in the sense of Koopman, is that these PPs cannot move, since according to the generalization she states in Koopman (2000), a “PP has a CP (place) level if it can move to the Specifier of CP, scramble or occur in the PP-over-V positions” (Koopman: 2010). Thus, we can explain the specific properties of directional prepositions and postpositions on these grounds: sensitivity of verb type, and not movement of the PP to a position non-adjacent to the verb.

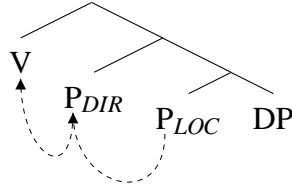
- (139) **Ze zijn gelopen het bos in*
 they are walked the forest in
 (Intended meaning) "They walked into the forest"
 (from Gehrke 2008:250)

den Dikken (2003, 2010b) pursues a similar approach, and establishes that the structure of postpositions would be like *in* and would enforce overt raising of P_{LOC} into P_{DIR} and incorporation of the complex into V. This makes the object of P_{LOC} a derived complement of the V complex (by the Government Transparency Corollary) and hence it has to undergo Object Shift, obtaining the postpositional order and explaining why the $DP + P_{LOC} + P_{DIR}$ complex cannot move, since it is not a constituent. The other possibility would be that defective P_{LOC} does not move and P_{DIR} incorporates into V, resulting in a prepositional order. P_{LOC} would be bare and hence not movable.

- (140) Prepositional order



(141) Postpositional order



Postpositions can also have a structure in which P_{DIR} is built up until C because they can move in some examples (den Dikken2010:107):

(142) [*de boom in*] *is Jan geklommen*
 the tree in is Jan climbed
 Jan climbed into the tree

The analysis outlined before could also explain ambiguous PPs in English and Norwegian, clarifying the restriction imposed by the semantics of the verb into the distribution of ambiguous PPs. Incorporation of Path into V would explain that only those verbs that contain a path meaning can be licensed in these structures.

As seen in section 2.2.4, Gehrke (2008) and Tungseth (2006, 2008) establish that the directional interpretation of these locative prepositions is PP-external. Specifically, locative PPs receive a directional interpretation from a specific functional head, PredP in Gehrke's proposal, or ResP in Tungseth's (which I consider to be equivalent for the purposes of this discussion), which is associated with an incremental interpretation. The syntactic properties of Germanic locative PPs in directed motion events are explained structurally. For Gehrke (2008), movement of locative PPs out of the VP is impossible, as it would imply movement of Pred'. Instead, movement of pure directional PPs implies movement of the whole PP from the complement position of the verb. However, this analysis faces different problems. First, lack of movement of the PP in these structures does not follow from their analysis. Assuming an eventive approach such as the one assumed in these works, following Ramchand (2008), which establishes that arguments receive their thematic interpretation structurally, Tungseth argues that locative PPs only receive a directional interpretation in the complement position of a ResP, and

that this interpretation is lost if the relation between the verb and the locative PP is disrupted by intervention of an adverb or by movement of the PP. As Tungseth (2006: 59) points out, there is no explanation in this type of theory as to whether movement of the PP is not allowed for locative Ps since it is not evident what would preclude reconstruction in these cases. In both theories, we should explain why movement of locative PP plus reconstruction is precluded in the complement position of the Pred/Res head, or why movement of PredP/ResP is not a possibility either in Gerhke's system or Tungseth's, something that does not receive a principled explanation in these works.

Second, if Romance counterexamples to Talmy's typology imply the combination of locative Ps with verbs that contain a resultative feature in their semantic interpretation, and they have the same structure as the Germanic constructions of the verb-framed type discussed before, then we have to explain why Romance languages allow free movement of the alleged locative PP, or why PP-movement is possible in some languages and not in others. Therefore, Gerhke's and Tungseth's proposals do not offer a conclusive analysis of the constructions examined here if we provide the same account. Therefore, their analysis would fail to explain the differences in the syntactic properties of directed motion events across languages. As seen in section 2.5.1 and section 2.5.2, both Germanic and Romance locative PPs can have a directional interpretation whenever they appear with a restricted set of verbs whose meaning is similar across languages²⁵.

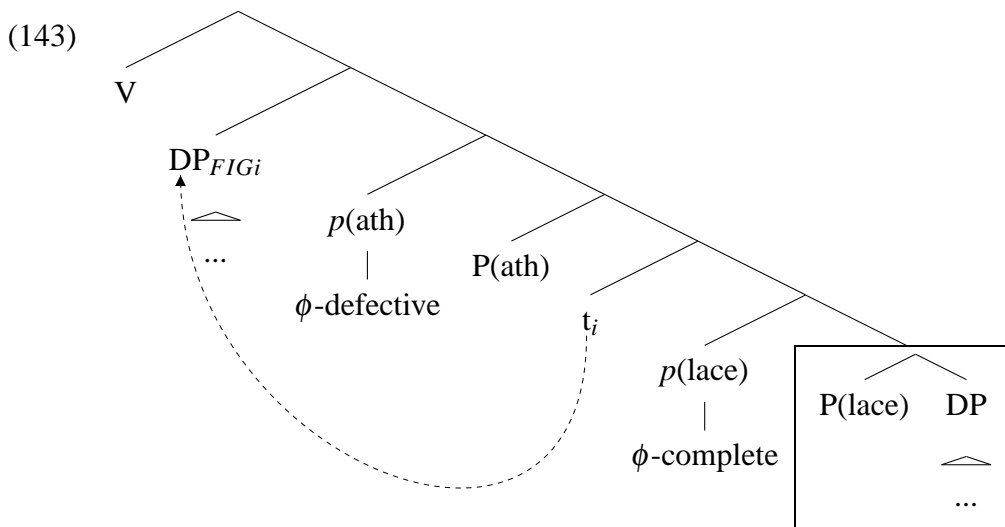
As seen in previous section, both Germanic and Romance languages show the same restriction with respect to the verbal type, but differ on the syntactic properties of PP: while Germanic PPs must be adjacent to the verb, Romance

²⁵I leave the discussion about how roots get to lexicalize the complex V + Path and about root insertion in general for the next chapter. On our account, some roots can lexicalize the V+Path complex head since they are conceptually unspecified and allow directional content to be present in their meaning. Coercion of roots is possible for certain speakers but not for others, yielding the observed effects throughout the paper of instability in the judgments of the speakers across languages (these effects are also attested in other verb-framed languages, such as Japanese; see Beavers 2008 and references therein).

PPs are movable and can be separated from the verb by adverbial material. What would be the analysis of Romance goal of motion constructions?

As we have seen, Romance does not have postpositions to derive directional readings, which makes the derivation in (141) not possible in this linguistic family. However, Romance allows prepositional order. But the analysis in (140) would predict that the PP is not movable, contrary to fact.

In conclusion, structures that contain a defective P_{LOC} /Place and P_{DIR} /Path are not appropriate analysis for Romance goal of motion structures. Thus, a structure that considers a non-defective P_{LOC} ($p(\text{lace})$ in our terms) and a defective P_{DIR} ($p(\text{ath})$ in our terms) would be a good candidate to instantiate goal of motion expressions with the properties discussed in section 2.5.2. In such a structure, $P(\text{lace})$ cannot incorporate into $P(\text{ath})$, due to minimality restrictions; they belong to different phases. Moreover, the fact that locative PPs are ϕ -complete explains why PPs are movable in Romance, as shown in section 2.5.2.



In sum, we have seen that Germanic and Romance locative PPs in goal of motion constructions can be analyzed in a principled way that covers the restrictions outlined in the previous section and summarized here in (144) and (145).

(144) Locative PPs in Germanic languages receive a goal reading depending on

The verbal type ✓

The position of the PP with regard to the verb ✓

(145) Locative PPs in Romance languages receive a goal reading depending

The verbal type ✓

The position of the PP with regard to the verb ✗

On this account, the first condition on locative PPs that receive a goal reading is explained for both linguistic families: in both families there is incorporation of Path into the verb, yielding similar effects on the type of verb that can appear in these constructions.

2.5.3.2 Non-defective directional PPs

In this section we are going to discuss structures that involve a non-defective directional PP. As seen in the previous section, defective directional PPs correspond with either Dutch postpositions, ambiguous directional Dutch prepositions, other Germanic ambiguous PPs, or Romance directed motion constructions. The former case is the only case that allows manner incorporation since defective directional P does not need to incorporate into the verb as it is licensed from below, via successive incorporation of *p*(lace) into *p*(ath). The rest corresponds to a verb-framed type of construction because it involves incorporation of Path into V.

In this section I explore Germanic goal of motion constructions with pure directional PPs, assuming that they involve a non-defective directional P. The consequence of this is that manner incorporation will be possible (I set out the details in next chapter) and free movement (topicalization, fronting, adverbial intervention) of the directional PP is predicted on this account.

According to Gehrke (2008) and Tungseth (2006, 2008) and shown in 2.5.1, pure directional prepositions have these properties in Dutch, English and Norwegian.

(i) PP topicalization and relativization is possible

- (146) (a) *Til supermarkedet har Jens aldri sprunget*
to supermarket.the has Jens never run
To the supermarket Jens has never run (Norwegian, Tungseth 2006:62)
- (b) *Naar het meer is Marjo gezwommen*
To the lake is Marjo swum
Marjo swam to the lake (Dutch; references)
- (c) c. The pool into which John fell is extremely deep (English, Thomas 2001)

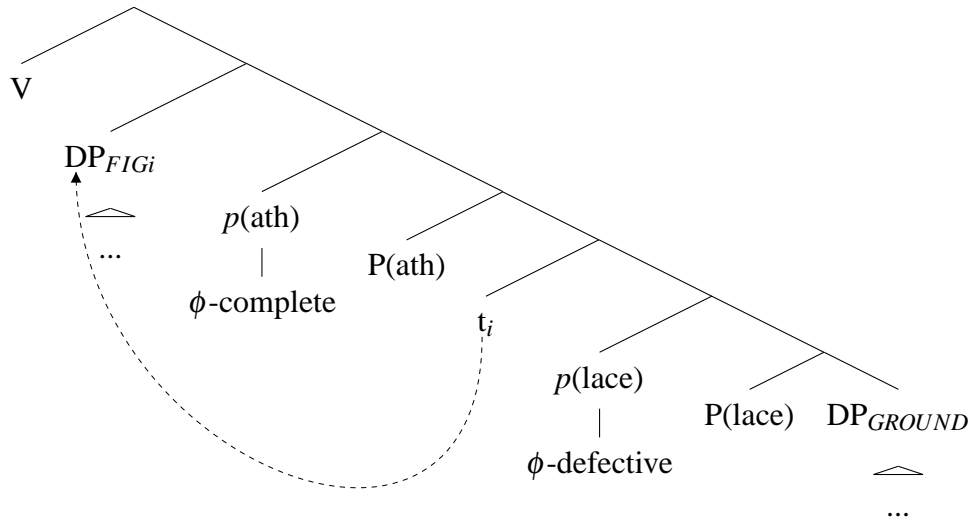
(ii) Pure directional prepositions can combine with manner of motion verbs

- (147) (a) *Jens danset til stua*
Jens danced to living.room.the
Jens danced to the living room (Norwegian, Tungseth 2006:60)
- (b) *Marjo is naar het meer gezwommen.*
Marjo is to the lake swum
Marjo swam to the lake (Dutch; references)
- (c) The boat floated to the shore (English)

Manner incorporation is possible in these languages since directional PPs are full phases and get licensed within. Moreover, these PPs are independent and movable. As discussed in section 2.3.2, if a directional preposition is a non-defective case, locative P has to be defective, or the derivation would crash. Therefore, the analysis of pure directional prepositions must correspond to the following derivation:²⁶

²⁶We must assume that if $p(\text{lace})$ is defective it is part of the same phase for probe-goal relations with respect to $p(\text{ath})$, and therefore both DP_{FIG} and $\text{DP}_{\text{GROUND}}$ are equidistant for $p(\text{ath})$, assuming something like all elements in a phase are equidistant.

(148)



Therefore, Germanic languages can be characterized as having a non-defective directional P and a defective locative P, while Romance languages have the reverse scenario, a defective directional P and a non-defective locative P. However, we have argued that there are cases of defective directional Ps in Germanic languages as well, instantiated by Dutch postpositions or, marginally, by verb-framed type structures with ambiguous prepositions. As seen the latter cases are not common in Germanic, and pure directional PPs are always preferred (even when the manner is not specified). A possibility that it is not attested would be the one in which a non-defective directional PP takes a non-defective locative Ps, this possibility being excluded for theoretical reasons.

2.5.4 Summary of the approach

In this section I have addressed an analysis of some differences between Romance and Germanic goal of motion constructions with locative PPs. It has been proposed that Romance goal of motion constructions have a prepositional structure that involves a defective directional preposition. Movement behavior of locative PPs in Romance has been explained by the observation that locative prepositions

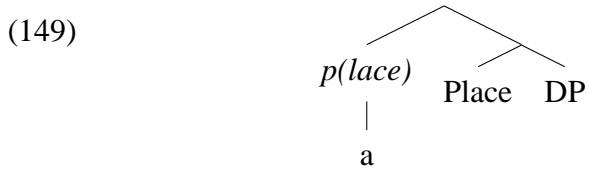
seem to be non-defective in these languages. In contrast, Germanic locative PPs in goal of motion constructions are better explained if we consider a full defective directional structure in which both directional and locative Ps are defective. Finally I have explored pure directional Ps as an instantiation of a structure involving non-defective directional PPs. Finally, the account given here explains why in Germanic and Romance cases the semantic properties of the verb influence the availability of directional interpretations of locative Ps: these interpretations always involve incorporation of the directional P into the verb. In next chapter I put forth an analysis of how these manner verbs lexicalize path.

2.6 Accounting for Romance PPs

With the theory of adpositions and events of motion outlined in section 2.3.1, I argue that Spanish preposition *a* is a case marker and not a goal preposition. Actually, *a* has been argued to be a case marker in differential object marking structures and in datives. The presence of this preposition in a wide variety of complements (namely, direct objects; different types of datives, argumental and non-argumental; goal complements; and some complements of location) constitutes a puzzling fact. Normally it is taken for granted that NP dative and accusative arguments headed by *a* and prepositional complements headed by *a* involve two different morphemes and constitute a case of homophony. This section explores the possibility that *a* is the same morphological element in both prepositional complements and accusative/dative complements, by asserting that *a* in locative PPs is the morphological realization of case, namely dative.

As argued in section 2.3.2, in the simplified version of the functional structure of the den Dikken's (2003, 2010) PP domain that I adopt here, $p(lace)$ is the locus of dative case valuation and $p(ath)$ the locus of the accusative case valuation,

reinforcing the parallelism with the *v* head.²⁷ The analysis for Spanish *a*, and its cognates in Romance, would be as follows:



Beavers (2008) proposes an account for *ni* complements in Japanese that considers the postposition *ni* to be an argument marker in Japanese that is used to cover both datives and PP complements of verbs of directed motion.

(150) (a) *John-wa eki-ni itta* (Japanese; from Beavers 2008)

John-TOP station-to went

John went to the station

(b) *Mary-ga boku-ni kono hon-o kureta*

Mary-NOM I-DAT this book-ACC. gave

Mary gave me this book

There is a problem with this hypothesis. Preposition *a* in Spanish appears in PP complements that have a directional meaning, but it can also appear with Spanish *a*-PPs that have a locative meaning in adjunct position in two contexts: (i) when the ground cannot be understood as having a semantic relation of support or inclusion with the figure (e.g., Sp. *Juan está al sol* ‘at the sun’, *a la mesa* ‘at the table’, *al piano* ‘at the piano’), and (ii) in complex prepositions that include a locational noun such as Sp. *al borde de la mesa*, ‘on the edge of the table’.

²⁷Note that under this approach we are implying that there are two domains in which accusative case can be valued, *p(ath)* and *v*. This prediction is a nice outcome since it allows us to explain the correlation between double object constructions, resultatives and goal of motion constructions with manner verbs. For example, English allows double object constructions but Romance does not. The fact that *p(ath)* is morphologically defective in Romance means that constructions with two accusatives are out in this linguistic family, contrary to Latin, a language that was a satellite-framed language, and which allowed accusative directional prepositions, and double object constructions. I leave the cross-linguistic correlation of resultative constructions, directed motion expressions with manner of motion verbs, and double object constructions of Snyder (2001) for further research.

- (151) (a) *Juan canta al piano* (Spanish)
 Juan sings at.the piano
 Juan is singing while he is playing the piano
- (b) *Juan bailó a la puerta del colegio*
 Juan danced at the door of.the school
 Juan danced in front of the school

Etxepare and Oyharçabal (2011) notes that datives in North-Eastern Basque can replace the allative only when the semantic relation of inclusion or support cannot be understood. Otherwise, the allative is needed.

- (152) (a) *Erretora joan da atea-ren gakoari* (Basque)
 priest gone is door-gen lock-dat
 The priest went to the door-lock
- (b) ??*Erretora joan da atea-ren gako-ra* (Basque)
 priest gone is door-gen lock-all
 The priest went to the door-lock

Following a nanosyntactic approach, Etxepare and Oyharçabal (2011) proposes that the allative lexicalizes a Path and a Place feature, and dative only lexicalizes Path. However, this view is incompatible with the Spanish data discussed here, because Sp. *a*-PPs can have a locative meaning, and therefore can lexicalize Place.

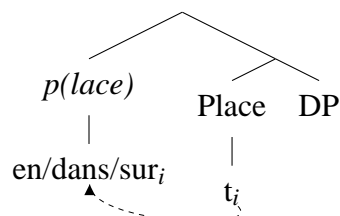
For these reasons I propose an alternative account for Spanish *a*-PPs. Unlike other Romance *a*-PPs. Spanish *a*-PPs are only licensed if the semantics of EN, inessive, is absent. By EN I understand the type of locative relation that is typically conveyed by the inessive case in several languages (see Pantcheva 2008). Alternatively, using Etxepare and Oyharçabal's (2011) observations, EN always establish a locative relation of inclusion or support between the figure and the ground in a semantic relation of central coincidence.

Thus, I propose that preposition *a* in Spanish is always the lexicalization of the *p*(lace) head, while preposition *en* is a root and lexicalizes P(lace). Thus, in those cases in which P(lace) is not present, the ground is lexicalized by a locational

noun, as in a complex preposition (see section 2.3.1.2), or by a “DP” such as ‘el sol’ or ‘el piano’ that can be understood as not being a true DP with a referential denotation, but rather an eventive meaning, similar to the one observed by certain NPs in Collins (2007) that license silent prepositions (e.g., Eng. *John went home*). Under this view, the Place head would be the ‘lexical’ preposition of location (see Chapter 3 for a discussion about lexical/functional categories). Therefore, I assume that prepositions such as Cat./It./Sp. *en* or Fr. *dans/sur* ‘in/on’ are the spell-out of a Place head since they contain semantic conceptual information such as the type, the countours, and the boundedness of the ground.

Following Zwarts and Winter (2000) and Zwarts (2005b), in order to determine the truth value of this type of PPs it is necessary to make reference to the dimensions and the shape of the Ground, something that has to do with conceptual information and with encyclopaedic knowledge that is not syntactically relevant. Thus, choice between French prepositions *dans* or *sur* does not trigger different case marking or different agreement relations. Therefore, these prepositions are good candidates to be considered lexical. The fact that *en/dans/sur* cannot coappear with *a* points out to the possible existence of head movement from Place to *p*(lace):

(153)



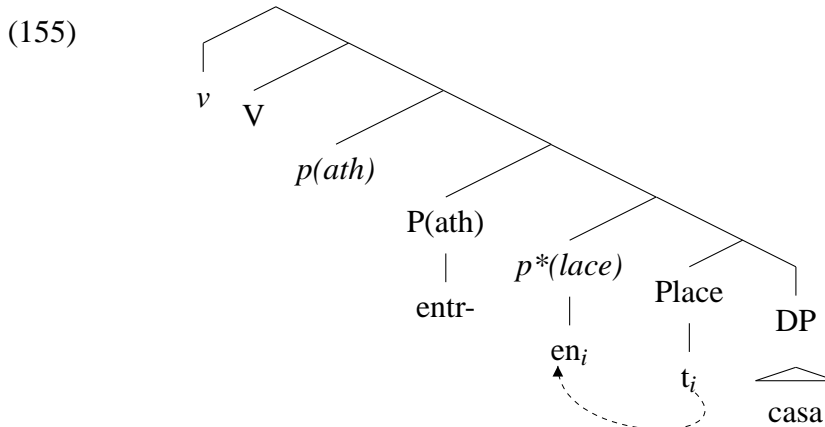
Nevertheless, it seems necessary to ask what the difference is between Sp. *a* and Cat./Fr./It. *a*. The basic difference between them is that in Catalan, French and Italian, preposition *a* can also denote a central coincidence relation of support and inclusion with the figure. Actually, in these languages the relation between *a* and *en* could be characterized as a case of contextual allomorphy, although a deeper

analysis is needed to fully argue in favor of this.²⁸ In Catalan and Italian *a* appears with definite grounds and *en* with indefinite grounds. In contrast, in French some types of location need *en* and some types select preposition *a*.

- (154) (a) *Viu al camp / en una casa* (Catalan)
 lives at.the country / in a house
 He/She lives in the country / in one house
- (b) *J' habite à Paris / en France* (French)
 I live in Paris / in France
 I live in Paris/France

A possible analysis of these facts would be to consider that *a* can lexicalize a Place head in Catalan, French and Italian, while in Spanish, *a* is only possible as a case marker introduced by the functional head *p*(lace).

These locative prepositions can be integrated within a directed motion event and can lexicalize the lower part of change of location. Thus, the analysis of a sentence like Sp. *Juan entró en casa* ‘Juan went into the house’ contains a defective path and a complete place. Thus, I consider that if *p*(ath) is a defective phase head it does not trigger Spell-out, and therefore it is spelled out at the next phase level, that is, with *v*.



²⁸See Clua i Julve (1996) for a review of different studies of Catalan *a/en* alternation. Among them there are theories that explain this alternation as a case of contextual allomorphy.

Crucially, I claim that the morphological content of the *p(ath)* head is defective in Romance. I understand defectivity in the functional domain as the morphological properties of lacking ϕ -features. The lack of ϕ -features within the *p(ath)* head prevents it from entering in a probe-goal relation with a DP in its domain and valuing the accusative case features of the goal, assuming George and Kornfilt's (1981) view on case. The next upper phase head, *v* attracts *p(ath)* constituting therefore the same phase domain with the domain of *p(ath)*, namely, Path. Thus, morphological properties of the functional head *p(ath)* force V and Path to spell-out in the same phasal domain, to wit, within the same word, following Marantz (2007a). I develop this account further in Chapter 3 along with some considerations about the nature of roots and lexical heads. Besides, I also provide a theory of lexicalization and its consequences. For now, I just want to sketch out how the Romance prepositional system can be accounted for in terms of defective path prepositions.

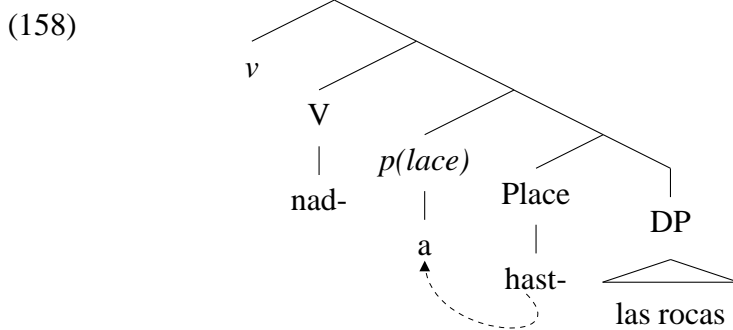
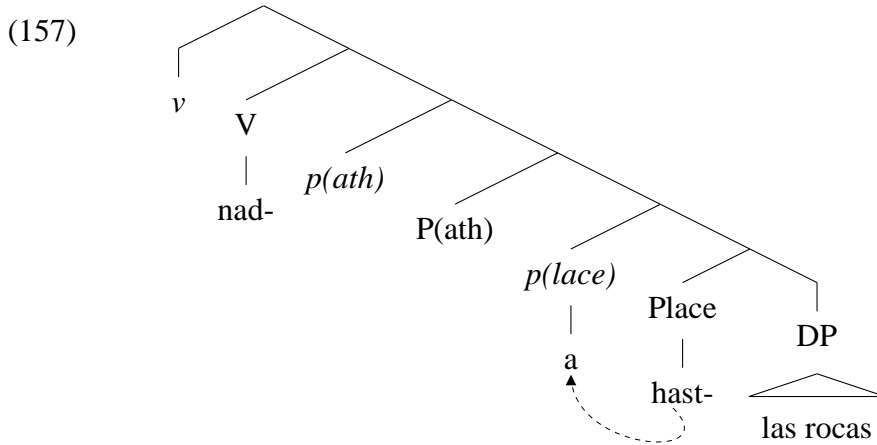
The second problem that I have discussed in this chapter is the role of *hasta/fin* *a*-PPs. I have argued that *hasta/fin* *a*-PPs act as delimiters, because of the conceptual nature of the root that forms these Ps. Thus It. *fin* and Cat. *fins* are related to the word It. *fine* and Cat. *fi* which means 'end'; Sp. *hasta* comes from Latin *ad ista* 'at this', also denoting a point. I must conclude, therefore, that this preposition is formed by a root that gives the conceptual meaning of limit and the functional case marker *a*, of locative prepositions. The fact that *hasta*-PPs is a locative preposition can be argued for because it allows locative readings with stative verbs (156 a) and when it is an adjunct of a non-motion verb (156 b). Additionally, according to the discussion outlined in section 2.2.2, all non-transitional prepositions are considered to be central coincidence prepositions, that is, place prepositions. These prepositions act as delimiters of the event and are sensitive to events that have a duration in both the outer and the inner aspect. Locative readings are then possible when the event is framed by a modal:

- (156) (a) *Juan puede estar en primera clase hasta Madrid*
 Juan can be in first class up to Madrid
 Juan can be in first class up to Madrid
- (b) *Puedes cantar hasta la puerta*
 can.PRES.2P.SG can sing up to the door
 You are allowed to sing up to the door

Therefore *hasta/fin* *a*-PPs are a special kind of locative preposition. They can occupy two positions: the position of complement of path and an adjunct position to V that denotes the location in which the event takes place. These two positions derive the different readings we have observed for *hasta/fin* *a*-PPs in Romance. Remember that these prepositions can combine with three types of verbs: directed motion verbs, manner of motion verbs of the *run* type, and pure manner of motion verbs. With the two first types of verbal predicates two positions are available, to wit, the complement position of a Path head and the adjunct position of V. These two different positions can be disambiguated in Italian by the different choice in the auxiliary, (120 a). In contrast, with pure manner of motion verbs only the adjunct position is possible. This explains why with verbs like It. *camminare* only auxiliary *avere* is allowed, showing that *fin* *a* is an adjunct, interpreted as delimiting the space in which the event of walking takes place. The adjunct position of *hasta/fin* *a*-PPs is also characterized by not triggering any change in the aspectual interpretation of the predicate (120 b).

Recall that Dutch *naar*-PP, a true directional preposition, was also able to occupy both an adjunct and an argument position in a motion event construction. The two readings can be disambiguated by the choice of auxiliary in perfect tenses. However, in this case, the presence of the preposition *naar* in argument position was not restricted to certain types of verbs but was also available to pure manner of motion verbs (see (121 a) and (121 c) above). The sensitivity to the verb type of *hasta*-PPs in Romance shows that this preposition is not a true directional preposition. Therefore, the analysis of Sp. *Juan nadó hasta las rocas*

(115 b), in (2.4.1.2) could correspond to two interpretations depending whether *hasta* occupies an argument (157) or an adjunct (158) position ²⁹:



For now, I believe the trees in (157) and (158) to be right. However, I offer a different analysis in Chapter 3 in which I also explore how roots are inserted in the structure as well as the nature of the process of Manner Incorporation.

²⁹Fábregas (2007) and Zubizarreta and Oh (2007) discuss whether *hasta*-PPs are arguments or adjuncts respectively in Spanish. Fábregas (2007) shows that *hasta*-PPs behave as arguments as far as a test like the *do so* substitution is concerned. However as shown in Tungseth (2006) this kind of locative adjunct is internal to the VP and not distinguishable from arguments using these tests, since they are below *v*P. Assuming Bare Phrase Structure, the difference between arguments and adjuncts is obtained by the kind of merge operation applied, namely set-merge or pair-merge, respectively (Chomsky 2004).

2.7 Conclusions

In this chapter I have set forth my view of the syntactic structure of PPs based on cartographic approaches. First, I have proposed a syntactic approach to spatial expressions that considers a simplified structure for PPs, in which certain concepts such as boundedness arise configurationally and are not linked to a specific functional projection. Second, I have briefly discussed some observations and accounts of the relationship between case and the adpositional domain.

After clarifying my view on the syntactic structure of PPs, I have discussed whether the differences between the adpositional system in Germanic and Romance can be reduced to a morphosyntactic property related with the notion of phase. Then, I reviewed two classical counterexamples to Talmy's typology in which manner of motion verbs appear in goal of motion constructions. I have shown that in both cases they do not challenge the verb-framed nature of Romance since the verb that appears in these constructions is actually a directed motion verb.

Specifically, I have argued that spatial expressions in Romance are always locative and that there is a defectivity in the content of ϕ features of *path* heads that forces *path* to incorporate into *v*, extending the phase domain. Thus, verb and path belong to the same phase domain and this has consequences for lexicalization, if we contend with Marantz (2007a) that words are formed within the domain of a phase. Therefore, if a path is present in Romance it should be expressed in the verbal domain yielding the verb-framed type defined by Talmy. I review the consequences of this approach for the lexicalization process in depth in Chapter 3.

Chapter 3

On Lexicalization

3.1 Introduction

Hale and Keyser's programmatic research stems from the idea that the systematic part of lexical meaning is to be derived from syntactic structure. Several claims can be derived from this proposal: (i) that lexical items or words are not primitives and are not atomic for syntactic computation (against the Lexical Integrity Hypothesis), (ii) a lexical item or word can correspond to a syntactic phrase, and (iii) that lexicalization is obtained derivationally, and hence, words or lexical items are by-products of syntax.

Another question that Hale and Keyser's ideas pose about lexical items and lexicalization seeks to develop a more sophisticated theory of categories, something that was lacking in the generative theory at the time. At the time, the theory of categories was based on the system of \pm setting of two features, namely, N and V (Chomsky 1970). Therefore, lexical categories, namely, A(djective), N(oun), V(erb) and P(reposition)¹ were defined in base of nominal and verbal features.

¹Baker (2003) notes that prepositions were not included in Chomsky's original system because they were not considered lexical. The switch was due to Jackendoff (1977) who pointed out that Ps could also be lexical.

Hale and Keyser aimed to give a configurational approach of categories that was able to define their semantic interpretation, and ultimately, to derive the different but limited argument structure patterns. For these authors these two questions could be solved by assuming a syntactic approach to lexical categories that only takes into account two structural relations, those of head-complement and specifier-head.

However, when it comes to deriving argument structure regularities from structural relations, how do we account for the relationship between structural and non-structural (conceptual and encyclopaedic) meaning and how these two meanings combine to form lexical items?² Basically, even if most theories that follow Hale and Keyser's insight about the syntactic nature of argument structure assume that the encyclopaedic/conceptual part of meaning and the structural meaning have to be torn apart and that encyclopaedic/conceptual meaning does not play a role in the syntactic module, this part of the meaning is still present in the syntactic derivation and it is said to occupy certain syntactic positions that are relevant to argument structure interpretation.

In order to theoretically derive the difference between syntactically relevant meaning and conceptual/encyclopaedic semantics, and to capture Hale and Keyser's idea that syntax operates with elements that are smaller than the word, I study:

- (i) the place of non-structural meaning in syntax,
- (ii) the multiple terminal-word correspondence

The question in (i) explores whether roots (under the definition that roots are elements that do not lexicalize grammatical features and henceforth do not contain structural meaning) are present or not in syntax. If present, why are they syntactically inactive and how do they derive their specific properties.

²This question can be related ultimately to the theory of (lexical) categories and how categories emerge. I explore this in section 3.3.3, section 3.3.4 and section 3.3.5.

By proposing that roots occupy a certain position in the syntactic derivation I also make specific claims about the process of Manner Incorporation/Conflation/Lexical subordination that have consequences in the emergence of different lexicalization patterns. Basically, the allowance of Manner Incorporation has consequences for the property of verbal elasticity and for the manner/result complementarity: a generalization that has been observed by Talmy (2000) and Levin and Rappaport (2013), among many others, and that has had different treatment in the literature. Therefore, besides the two claims made above, I add a third one that refers to cross-linguistic variation:

(iii) cross-linguistic variation at the lexicalization level follows the same paths as cross-linguistic variation in the sentential domain

The organization of the chapter is as follows:

Section 2 discusses two types of approach to Talmy's lexicalization patterns: one based on Manner Incorporation and one based on Path incorporation.

Section 3 discusses the properties of roots and examines different proposals to derive these properties. A new definition of root is proposed: one that differentiates between root as a syntactic position and root as a morphological entity, that is, a pairing of sound and meaning. This definition of root is put in relation to the relational and non-relational categories proposed by Mateu and Amadas (2001) and Kayne (2009). Finally, I discuss two proposals that define roots as syntactic positions: Boeckx (2010) and De Belder and van Craenenbroeck (2011).

Section 4 outlines our proposal about roots, categories, and argument structure regularities. I also analyse the v-framed and s-framed patterns by tuning the analysis of Ps presented in Chapter 2. I propose a configurational syntactic theory of argument structure that endorses a strong parallelism with the upper phase head, C. Moreover, I develop a proposal of lexicalization that takes place at the phase domain.

Section 5 revisits the typologies proposed by the different authors that have studied Talmy's lexicalization patterns and proposes a way to derive them from the account outlined in section 4.

Section 6 explores how manner incorporation is derived in our proposal and how the manner/result complementarity arises, assuming that Manner Incorporation does not involve syntactic incorporation or head movement.

Section 7 discusses some counterarguments to a Manner Incorporation approach not based on movement.

Finally, section 8 concludes this chapter.

3.2 Setting the background

In chapters 1 and 2, I introduced Talmy's typology and I explored the hypothesis that Romance languages are verb-framed because of the specific properties of their path expressions. In brief, I proposed that the path domain is defective in this linguistic family as shown by the syntactic behavior of PPs in expressions of directed motion. However, I have not discussed in detail the role that other semantic components of motion events play in the emergence of these patterns.

As stated in chapter 1, according to Talmy (Talmy 1985, 2000) motion events can be decomposed into different semantic components, namely Motion, Figure, Ground, Path and Manner/Cause. Languages can vary with respect to how they package these components into morphemes: the process by which more than one component is realized in one morpheme is called conflation. As discussed in the introduction, Talmy's typology led to two different types of analysis of lexicalization patterns: one that focuses on the availability of lexicalizing Manner in the verb, which I label as Manner-oriented approaches, and one that focuses on the properties of Path expressions, which I label as Path-oriented analysis. In the next subsections, I discuss them and I elaborate arguments in favor of a Path-oriented

approach. Finally, I discuss a specific Manner-oriented and a Path-oriented approach and point out some problems that I solve in sections 3 and 4.

3.2.1 Manner or Path?

As pointed out before, Talmy's lexicalization patterns have been approached from two different perspectives that can be summarized as follows:

1. Manner-oriented approaches: the satellite-framed pattern emerges from the application of a syntactic or morphological operation that enables a manner component to be expressed in the verb in directed motion expressions, resultative and related constructions.
2. Path-oriented approaches: the satellite-framed pattern and the verb-framed pattern emerge from the morphological/semantic properties of paths across languages.

In this section, I discuss a version of each type of approach and outline possible problems that I address in section §3.3 and section §3.4.

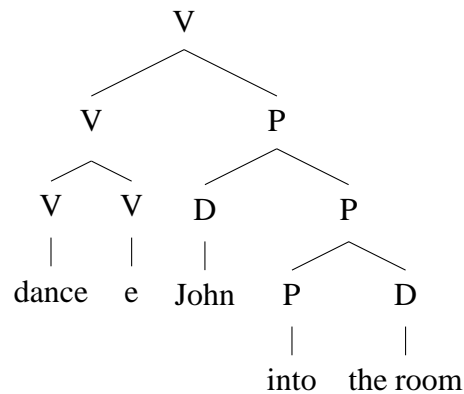
3.2.1.1 A Manner-oriented analysis

This subsection discusses Mateu and Rigau (2002, 2010) approach to lexicalization patterns. In brief, these authors propose that satellite-framed languages allow a conflation³ process by which manner gets expressed into the main verb. This conflation process is presented in two different versions. First, in Mateu and Rigau (2002) manner incorporation is understood as a generalized transformation

³The term conflation has been used by several authors with different meanings and theoretical implementations that are not always equivalent between them. Conflation has been defined as a semantic (Talmy 1985), a syntactic (Hale and Keyser 1998, Mateu and Rigau 2002), and a morphological operation (Acedo-Matellán 2010; Harley 2004; Haugen 2009; Mateu 2010; Mateu and Rigau 2010; Mateu 2011; McIntyre 2004). As the term has been used with so many different meanings I will avoid its use throughout the dissertation and I will specify in which sense I use it when convenient.

by which an unergative verb is adjoined to the main verb that heads the resultative structure. Verb-framed languages do not have a null verb of this sort to which the unergative verb can be adjoined to. In fact, verb-framed languages lack a null verb because the Path is always conflated in the verb. Thus, the satellite-framed pattern emerges from the existence of a phonologically null eventive head with an unaccusative and a causative meaning whose defective phonological properties force a head with phonological content to be conflated into it. The derivation of *John danced into the room* would be as follows:

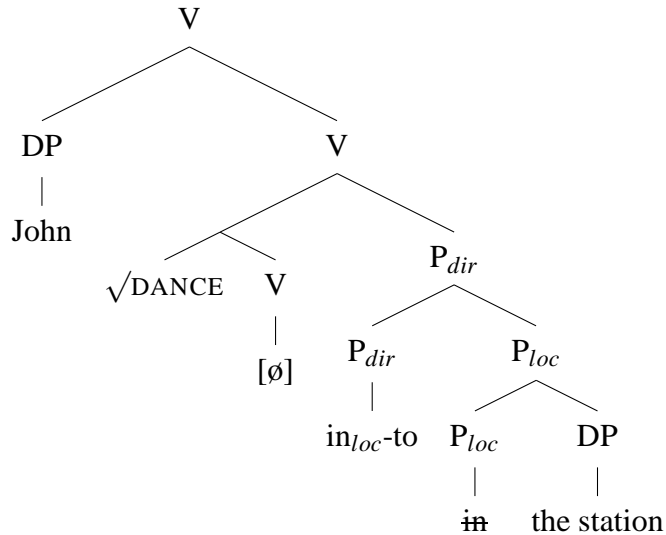
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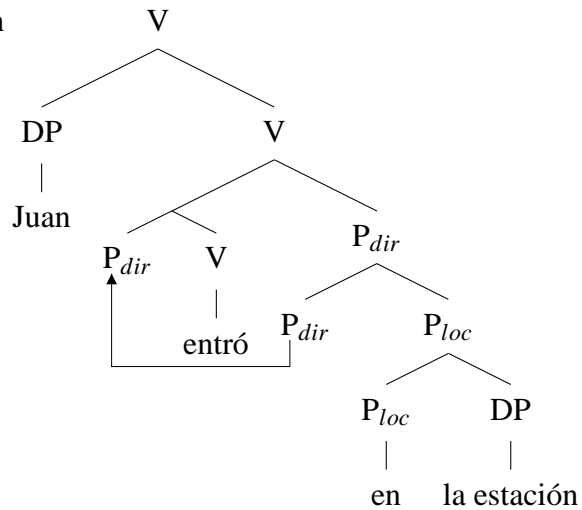
The approach outlined as such has some problems that the authors address in subsequent works. For example, if lexicalization in English seems to take place at the I-syntactic level, it is not clear why in Romance languages or verb-framed languages in general the path conflated into the verb is not I-syntactically derived. If it is, then we must assume that a null causative or unaccusative verb does exist in Romance, and that it gets its phonological realization from the path head located in the complement position. Then, it is not clear what prevents Romance languages licensing the phonological realization of the null verb through merge of a phonological null head.

Therefore, the account is restated in Mateu and Rigau (2010) and Mateu (2010, 2011) so as to overcome these problems. According to this new approach languages can be divided into those that allow the Co-event pattern (160 a) and those that allow the path pattern (160 b):

(160) (a) John danced into the station



(b) Juan entró en la estación



They propose that Germanic languages allow a null verb to undergo (external) merge or compounding with a root, like $\sqrt{\text{DANCE}}$. Thus, the null verb associated with a transitional/unaccusative and causative meaning ends up associated with a root that provides an additional embedded meaning, capturing the idea of co-event of Talmy by which the presence of manner adds a subordinated event to

the main event of change of location, or framing event. On the other hand, Romance languages follow the path pattern by which the directional complex preposition incorporates into a null unaccusative verb in Romance. Crucially, languages that incorporate the path do not add a subevent, while languages allowing conflation/compounding add a subevent of manner subordinated to the main event of change. Following McIntyre (2004) and Zubizarreta and Oh (2007), parametric variation is then linked to the Compounding Parameter proposed in Snyder (2001) that states that the merge of two categories of the same categorial type is not allowed in certain languages, solving the problem of their 2002 account. They do so by defining the process of conflation à la Haugen (2009) that basically equates conflation with compounding, much in line with McIntyre (2004). Thus, Mateu (2010) proposes the existence of two types of languages: languages that allow incorporation and languages that allow conflation.

The problem of the account as stated in this way is that it stipulates two types of syntactic operations that can be parametrized. If conflation and incorporation operations are syntactic we have to face the problem that they violate the Extension Condition⁴. Thus, conflation and incorporation can be thought of as involving External and Internal (head)-Merge and then to be costless for the system. The problem, however, is its well-known incompatibility with certain syntactic properties such as the above-mentioned Extension Condition. This problem can be easily avoided placing head movement at PF, and then extending this rationale to E-Merge as well, by identifying it with the morphological process of compounding. Alternatively we can also adopt the analysis of Matushansky (2006), Vicente (2007), and Roberts (2010) to maintain syntactic head movement, although it seems difficult to be able to recast head Conflation/E-Merge in any of these systems. In the first case it would force merging a root above V yielding a problem of labeling, according to Mateu's assumptions on the non-relational, and hence

⁴The Extension Condition refers to the requirement that syntactic operations (Merge) must target the root of the tree, the root being defined as a syntactic tree that is not dominated by any syntactic object. In other words, syntactic operations must extend the syntactic tree.

non-projecting, nature of the root. And in the second external merge of a head cannot be accounted for in terms of Agree between a probe and a defective goal.

All in all, these problems can be solved if we consider conflation to be a purely morphological process as in McIntyre (2004). However, the account would lose a generalization: if a root is directly compounded with V, and the root is a non-relational category free element, how can the Compounding Parameter of Snyder (2001) that makes reference to categorial type target conflation configurations of the satellite-framed type?⁵ Furthermore, if conflation is a purely morphological process, the idea that it adds a subordinated co-event to the main event of change should be abandoned since it cannot have semantic interpretation (cf. McIntyre 2004). If this is the case, the root in conflated structures will not be interpreted something that does not seem to be the case, according to the fact that not all types of roots can be conflated into an unaccusative verb of change of location (*John danced into the room* vs. **John laughed into the room*) Finally, this proposal does not account for the empirical claim made in Chapter 2 that richness in the inventory of path expressions is linked to the verb-framed pattern, that is, to incorporation of path into the verb. For this reason, I think that an account that relates P incorporation with lack of Manner Incorporation offers more advantages because it gains in explanatory power. In section §3.4, I develop a proposal that tries to solve the theoretical problems of this account while recasting some of its insights like the co-event effect that Mateu and Rigau relate with the process of conflation.

⁵A semantic formulation of Snyder's parameter (Snyder 1995, Beck and Snyder) could be compatible with the conflation account because we can say that merging of the root into V yields complex predicate formation. However, this formulation would force us to consider conflation a syntactic operation, since it has phonological and semantic interpretation, thereby running into the problem of having to ban a syntactic operation from certain languages and not from others, besides the problems for the extension condition that the conflation operation poses.

3.2.1.2 A Path-oriented analysis

In this section I review Acedo-Matellán's (2010) proposal of verb-framed pattern and satellite-framed patterns. His approach follows Mateu and Rigau's (2002, 2010) and Mateu's (2010, 2011) main insights, with substantial changes. Thus he places the burden of variation at the PF side following the Distributed Morphology approach. He endorses a strong version of the Uniformity Hypothesis and states that cross-linguistic variation arises from interpretability conditions at the morphophonological interface. Under this view, syntactic derivations are uniform cross-linguistically and language variation emerges from the morphophonological properties of languages.

His analysis of the verb-framed and satellite-framed pattern focuses on the morphophonological properties of paths. Thus, the output of syntax in directed motion expressions contains an eventive head v that merges with a complex p structure that takes the interpretation of a bounded transition or path at LF. The complement of the lower p , which is interpreted as a preposition of location, is understood as a Ground, while the specifier is understood as a Figure, adopting the Figure-Ground schema that makes up the core schema of motion events according to Talmy (2000). Acedo-Matellán's view of argument structure follows a strong haleandkeyserian view of thematic roles by which the semantic interpretation of arguments is strictly configurational and emerges from the structure.

The syntax-morphophonological interface receives and interprets syntactic representations, yielding a specific output. Following standard assumptions in the Distributed Morphology framework, morphophonological nodes are associated with language specific rules such as vocabulary insertion, conflation, affixation, lowering and fusion, which are ordered in time as follows.

1. Lowering
2. Fusion

3. Vocabulary Insertion
4. Conflation
5. Erasure of unpronounced links

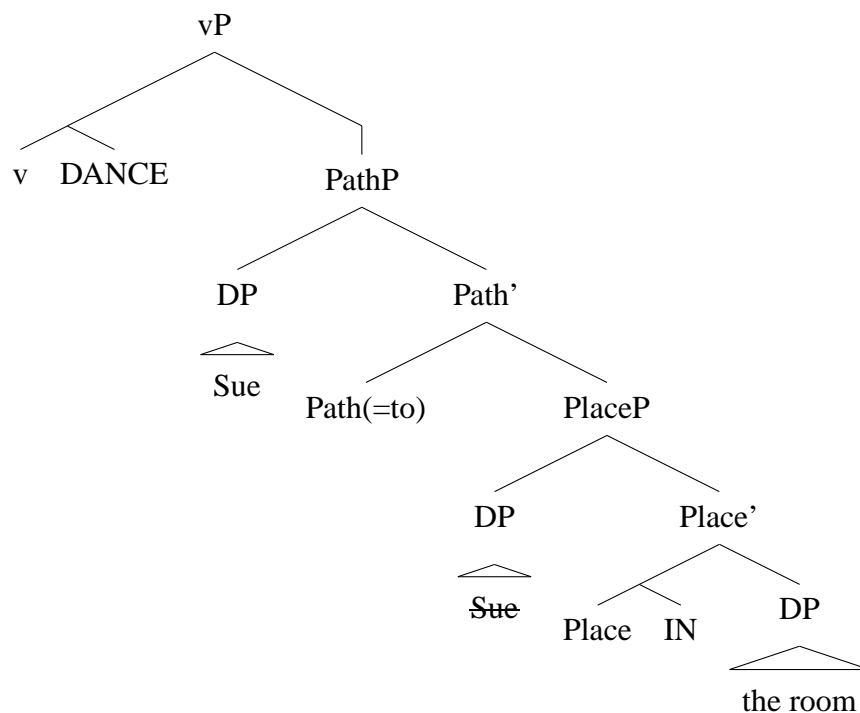
First, the author proposes the application of Lowering and Fusion operations that apply before Vocabulary Insertion since they modify the order and number of nodes or terminals. Lowering takes a head and lowers it to the head of its complement, creating a complex head out of two heads (Embick and Noyer 2001:561, *apud* Acedo-Matellán 2010:78). Second, he proposes that a Fusion operation takes place. This operation takes two single sister heads and creates a novel single head out of them.

The rest of the operations are more assumed in a standard fashion. Thus, Vocabulary Insertion is the general operation by which vocabulary items are inserted at terminal nodes via competition. Conflation is understood, following Hale and Keyser (2002) and Harley (2004), as a repair strategy that provides phonological content to those nodes which have not received interpretation at Vocabulary Insertion. And finally, erasure of unpronounced links makes reference to the non-pronunciation of lower and intermediate copies generated as the result of conflation.

In the case of Romance languages, the derivation of the verb-framed obtains from the process of lowering of *v* into Path and fusion of these two nodes into a single node. The single head that results from these two operations is submitted to Vocabulary insertion and conflation (see Acedo-Matellán 2010, 78). Below we have the derivation of the verb-framed type, in this case a Catalan example:

- (161) *En Joan eixí*
 the Joan left
 Joan left

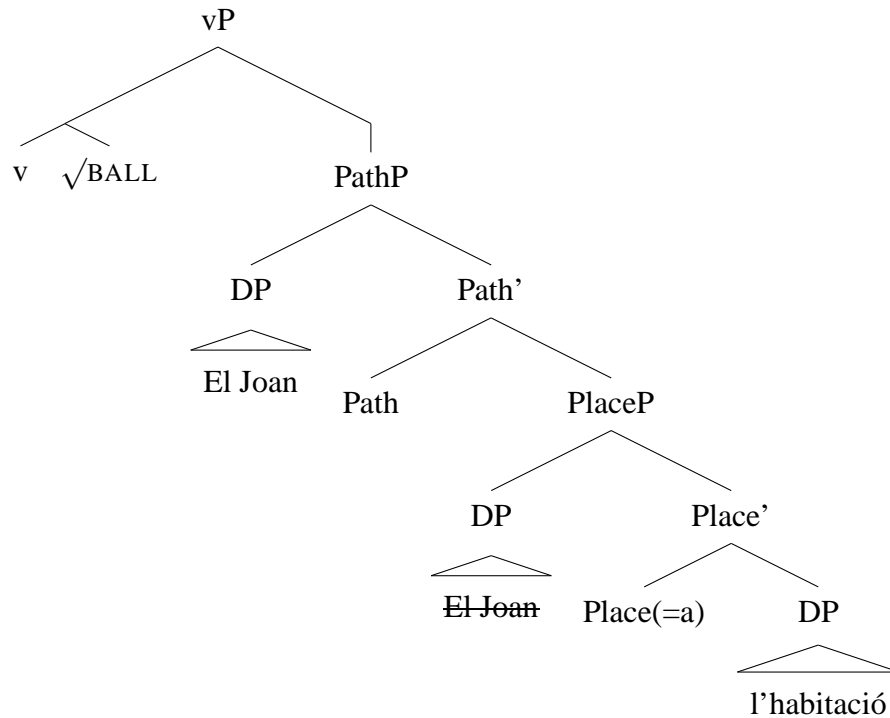
(162) Sue danced into the room



1. Vocabulary Insertion
2. Conflation
3. Erasure of unpronounced links

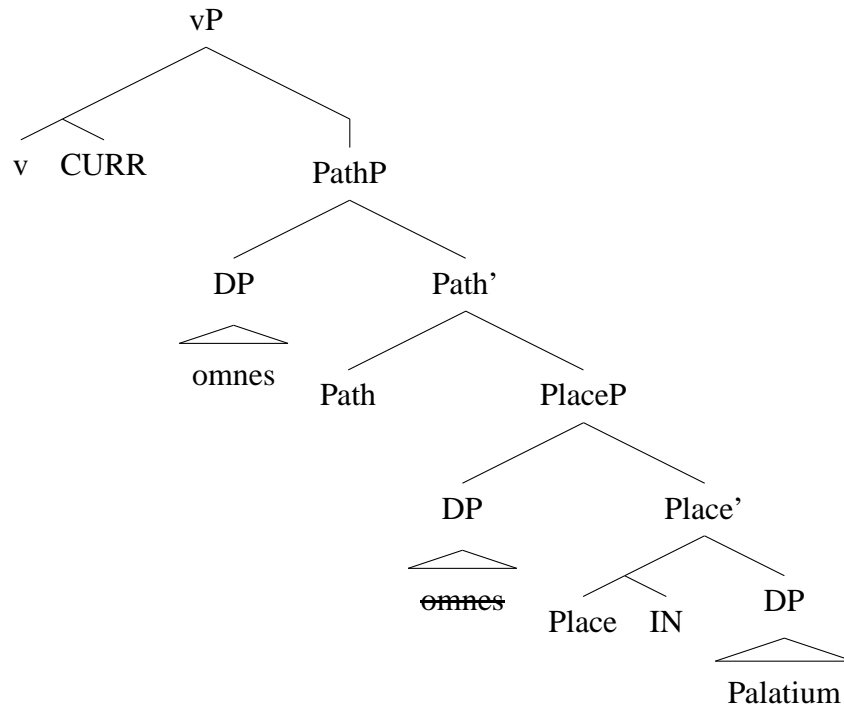
In verb-framed languages, however, if a root is adjoined to *v* the derivation would crash, since the operation of fusion is defined as targeting two simple heads to form a new simple head that is the sum of the two. Thus the presence of a root adjoined to *V* would preclude fusion from applying.

(163) **En Joan va ballar a l' habitació*
 The Joan AUX dance at the room
 * Joan danced into the room



Finally, there is a third type of language: the weak satellite-framed type (Latin and Slavic, for example). In this type of language the operation of lowering takes place but not the operation of fusion. The fact that fusion does not take place and both path and verb are lexicalized by two separate morphs allows adjunction of root into *v* to take place and to be interpreted at PF.

- (164) *Omnes in Palatium cucurrerunt*
 everybody in Palace.acc run.prf.3pl
 Everybody hastened into the Palace



1. v-to-Path lowering
2. Vocabulary Insertion
2. Conflation
- 3.. Erasure of unpronounced links

Thus, according to this account, the satellite/verb framed distinction does not depend on Manner Incorporation which is understood as root adjunction into *v*. According to Acedo-Matellán (2010), languages of the satellite-framed type can be divided into two types: strong satellite-framed languages (English) and weak satellite-framed languages (Latin, Slavic languages). According to his proposal, these linguistic types arise from morphophonological properties of paths (Acedo-Matellán 2010:237):⁶

⁶I simplify his classification since I don't take into account the presence/absence of overt inflectional morphology on predicative APs, something that adds further subtypes to the satellite-framed class. These subtypes are not relevant to our discussion here, but see chapter 6.

Morphological properties of path	Non-fusing	Non-affixal	Strong satellite-framed languages: Icelandic, English, Dutch, German, Hungarian, Finnish.
		Affixal	Weak satellite-framed languages: Latin, Slavic and Ancient Greek
	Fusing		Verb-framed languages: Romance, Modern Greek, Basque, Hebrew, Japanese, Korean

Table 3.2.1: Acedo-Matellán (2010)'s formulation of Talmy's typology

I take this proposal to be superior to a Manner-oriented one because it allows one to account for all expressions of directed movement, even those that do not involve a manner verb. Thus, without a manner verb, we still have three linguistic types that correlate with the satellite-framed and verb-framed patterns described in table 3.2.1.

(165) (a) a. *John went into the room* (English)

(b) *John ex-iiit* (Latin)
 John out-go.3sg
 John went out

(c) *El John va eixir* (Catalan)
 The John aux3sg leave
 John went out

The pattern established in (165 a-165 c) can be described attending solely to the properties of paths that can be defined in terms of synthetic/analytic and bounded/free morpheme (see also Fasanella and Fortuny 2011):

- (166) (a) [go]_V [into]_{PATH} → Strong satellite-framed type-English → independent free path
- (b) [ex]_{PATH}- [ire]_V → Weak satellite-framed type-Latin → independent bound path
- (c) [eixir]_{V+PATH} → Verb-framed type-Romance → synthetic form: the verb expresses the path

However, Acedo-Matellán's (2010) account runs into two problems that affect the operation of adjunction of the root into *v*, that is, the precise formulation of the Manner Incorporation process. The first problem derives from two of the assumptions that the author makes: that roots do not project and a bare phrase syntax. On this view adjunction of root and merge of root in the complement position of a head are configurationally indistinguishable. In the configurational view of argument interpretation, then, it would be impossible to derive the semantic differences noted by the author between adjoined roots to *v*, interpreted as Manner, and roots as complements of *v*, interpreted as Incremental Themes. The differences between them are relevant for semantic interpretation as shown by the fact that the conceptual meaning of the root regarding the mass/count distinction is relevant for aspectual interpretation only when roots are Incremental Themes or are in the complement position of a change of state predicate and not when they are understood as Manner (see also Harley 1999, 2005; but see for a critic, Acedo-Matellán and Real-Puigdollers 2012). This difference is illustrated in the example below in which a denominal verb with a root construed as a mass entity yields an atelic predicate, (167 b), while a root construed as a count entity induces telicity (167 a). However, when the root is understood as Manner, its semantic properties do not induce telicity effects (167 c).⁷

- (167) (a) The mare foaled #*f* for 2 hours / in 2 minutes

⁷However, Acedo-Matellán notes this problem in Acedo-Matellán (2011b) in which he proposes a layered derivation for the conflation process that can solve the ambiguity. I will not comment on this work here for reasons of space.

(b) Susan sweated for 5 minutes/#in 5 minutes

(c) John hammered the metal for/in 5 seconds

Moreover, the fact that a root can be adjoined to a syntactic head would produce a problem of labeling. Thus, adjunction would create a complex head that at the same time is merged with a complex structure, creating a problem of labeling derived from the creation of a symmetric structure that should be solved by movement of one of the constituents (Chomsky 1995; Moro 2000), something that does not seem to be the case according to the data discussed in Acedo-Matellán (2010).

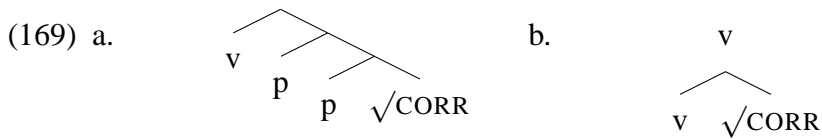
Second, the analysis runs into the problem discussed in section 3.2.1.1 for Mateu and Mateu and Rigau's proposal: adjunction of roots into certain heads violates the extension condition. As roots do not project, an analysis à la Matushansky (2006) would yield an unlabeled, hence uninterpretable, derivation that would crash at the interfaces. The alternative would be to postulate that root adjunction is post-syntactic, but this would go against Acedo-Matellán's assumption that roots are inserted early prior to spell-out.

Finally, another argument can be added from the set of constructions analyzed in Chapter 2: goal of motion constructions that feature an apparent manner verb that is interpreted as path if it appears with a PP complement:

(168) (a) *Gianni è corso a casa*
 Gianni is run at home
 Gianni ran home

(b) *Gianni a corso*
 Gianni has run
 Gianni ran

The only analysis that the structure in (168 a) can have is one in which the root is at the complement position of the complex preposition of change of location and that lexicalizes *v* by a process of conflation. On the other hand, (168 b) is analyzed as a manner verb in which the root appears in the complement position of *v* and conflates into it:



However, the analysis in (169a) predicts that the PP “a casa” in (168 a) is an adjunct of the structure and is not in the complement position as argued in Chapter 2. Moreover, it would predict that an unaccusative use of the intransitive version of *correre* is possible, contrary to the fact that in order to license the unaccusative use of *correre* a particle or a PP is needed:

- (170) (a) *Gianni è corso *(a casa) / *(via)*
 Gianni is run at home / away
 Gianni ran home /away

One way to overcome this problem would be to consider *correre* as a functional verb or auxiliary as proposed in Zubizarreta and Oh (2007). In this case, the verb would be inserted directly into the head that results from fusing verb and path. However, it would be difficult to account for the semantic interpretation of *correre* as a verb of path since univerbation of verb and path is a pure morphophonological process and therefore does not induce semantic effects.

In section §3.4, I develop a proposal that tries to overcome the criticisms that we have raised so far.

3.3 The properties of roots

Grammatical theories in the generative tradition before the Minimalist Program, and even after, were essentially lexicalist. They relied on the hypothesis that syntactic operations do not have access to the internal structure of lexical items. This hypothesis about the architecture of grammar received the name of “The Lexical Integrity Hypothesis”, which proposes that syntactic processes do not have access to subparts of the word. Movement operations, anaphoric relations, etc. cannot

target a part of a word (for example, of a compound). This hypothesis is part of the general Lexicalist Hypothesis (Di Sciullo and Williams 1987).

On the lexicalist view, however, the properties of words have an impact on syntactic derivation through the Projection Principle. Lexical items contain different types of information that is interpretable at the interfaces and formal information (the equivalent of uninterpretable features) that triggers syntactic operations. This lexical information is projected onto the syntax to derive notions such as lexical selection, argument structure information, like object interpretation, categorial selection, etc. Projectionist theories considered syntax to be derived from the lexicon through the Projection Principle and a theory of constituents, the X'-theory.

Two lines of research put into question the lexicalist model by challenging the projectionist principle (Hale and Keyser (1993, 2002)) and the lexical integrity hypothesis (Halle and Marantz 1993). Hale and Keyser's program provides the basis for differentiating theoretically between structural and idiosyncratic meaning. That is to say, to capture the insight that, even if it is true that the realm of idiosyncratic meaning resides in the word –with some exceptions like idiomatic expressions– it is also true that part of the lexical meaning is systematic and predictable from certain semantic properties or primitives. Therefore the systematic meaning of words upon which one can make generalizations is considered to arise from syntactic configuration. However, Hale and Keyser's proposal(s) were still (i) lexicalist and (ii) projectionist and assumed two levels of syntactic computation, one in the lexicon and one at the sentential level. In the *exo-skeletal* and *Distributed Morphology* framework, lexicalism and projectionism are rejected. According to this view, syntax provides the systematic part of meaning and idiosyncratic meaning is provided by atomic elements that enter into the configuration as modifiers but don't play any substantial role in syntactic computation. These elements receive different names: *listemes* (Borer 2005) or *roots* (Pesetsky 1996; *Distributed Morphology* framework).

However, the concept of root includes different phenomena and has been understood in many different ways. First, there is the distinction between root as a syntactic entity (node, position or syntactic head) and root as a pure morphological entity (see Acquaviva 2008; Acquaviva and Panagiotidis 2012; Harley 2011). Syntactic roots have been defined in different ways: as the repository of idiosyncratic underspecified meaning that do not play a role in the syntactic derivation (Borer 2005), as a mere structural positions or root nodes (De Belder and van Craenenbroeck 2011), as indices or labels that allow identifying of structures with lexical words (Acquaviva 2008; Acquaviva and Panagiotidis 2012), and indices that provide instructions for phonological and semantic realization in a certain context (Harley 2011). Roots in the morphological sense can be defined as pairings of sound and meaning associated with conceptual and encyclopaedic information.

The following properties have been attributed to roots in the syntactic sense (although authors that work with roots do not consider that they necessarily have them all):

1. They do not provide syntactic information; they are the repositories of encyclopaedic knowledge
2. They do not project, select or take complements (cf. Distributed Morphology, see Harley 2011)
3. They are category-free
4. They are restricted to certain syntactic positions

Some of these properties are similar or arise from the same principles: thus, properties 1 and 2 can be reduced to the opacity of roots or to the fact that roots are said to be inactive for syntactic computation. If roots as syntactic elements are devoid of any significance for syntax one may question why it is necessary to postulate root nodes in the first place. Some authors are more precise and argue that roots

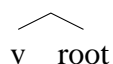
occupy certain structural positions where they are interpreted. Others consider that they act just as modifiers of a part of a derivation and their interpretation in a precise position is not relevant. Finally, property 3 refers to categorization that I define in a configurational way and as an emergent property that arises at the interpretative systems, following Hale and Keyser and Boeckx (2010) respectively, and therefore it cannot be a property of roots but of structures. In the following sections I discuss in more detail properties 1, 2, 3, and 4.

3.3.1 Root positions

As stated above, the notion of root can be used in two ways: roots as exponents and roots as syntactic nodes or positions. However, according to recent approaches of roots, roots are radically underspecified semantically, phonologically and syntactically. Therefore, why do we need to assume the existence of root positions? Is it necessary to keep the notion of syntactic root, (s-root, henceforth) defined as a root position or node? If this is the case, in what kind of positions are s-roots?

Specifically, under the Hale and Keyser's hypothesis⁸ roots can appear in three positions: complement of a head and adjunct of a head:

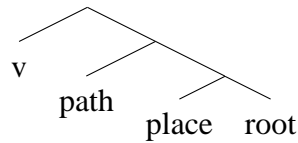
(171) Complement of v:



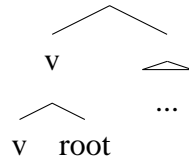
(172) Complement of p⁹ within v

⁸I define this hypothesis as one that says that analytic and synthetic forms of semantically equivalent expressions have the same underlying structure. This hypothesis also proposes that roots occupy the same positions as phrasal arguments of verbs. In the following sections I discuss whether the insights that this hypothesis provide are empirically and theoretically appropriate. If so, a late insertion theory of roots must somehow predict root positions (since they are structurally interpreted at LF).

⁹p here stands for any dynamic preposition that denotes an abstract change of location. We informally assume that p is formed by a path and a place component, with the caveat that the term path can correspond to a cluster of different functional heads at the same time. See chapter 2 in this dissertation for a discussion of the path domain.



(173) Adjunct of v ¹⁰



In these positions s-roots receive three interpretations that mirror the interpretation of phrasal arguments:¹¹

1. Roots can be Incremental Themes: *to foal*
2. Roots can be results: *to shelve*
3. Manner/Instrument interpretation: *to hammer*

In the following sections I discuss some arguments that have been raised to support root positions and the Hale and Keyser hypothesis. I also review two arguments that go against this view.

3.3.1.1 Roots as arguments

This idea is based on the notion that roots receive the same aspectual interpretation as phrasal arguments. If, following Hale and Keyser's theory of thematic roles, aspectual interpretation, and in general, the semantic interpretation of arguments depend on the configuration in which arguments stand, then we can explain the

¹⁰As pointed out by Acedo-Matellán (2011b), the structure in (171) and (173) cannot be structurally distinguished once we assume a bare phrase structure.

¹¹Alternatively, one may consider that the different interpretations of roots do not arise from their position in the structure, but from the existence of semantic root types (Beavers 2010). Some approaches consider a configurational theory of root interpretation restricted through semantic types (Harley 2005; Levinson 2007; Marantz 2011).

interpretation of roots in a straightforward manner by assuming that they occupy the same structural positions.

However, in certain theories roots are assumed to be just in the complement position of a certain head since they cannot be specifiers or head a phrase. This assumption is not shared by all the theories of roots. For example, in Acedo-Matellán (2010); De Belder and van Craenenbroeck (2011); Borer (2005); Mateu (2002), among others, roots cannot project, and hence cannot head their own phrase. Moreover, roots cannot be in the specifier position for different reasons: one of them is their affixal nature, the fact that in order to be interpreted at PF they have to undergo conflation, and the idea that conflation happens under the structural relation of strict complementation. In section 3.3.2.1 I discuss in more detail the projecting and non-projecting nature of roots.

Harley (1999, 2005) states that denominal verbs receive an aspectual interpretation depending on the semantic properties associated with roots: the (un)boundedness of the root determines the (un)boundedness of the verb. Thus, their interpretation parallels the interpretation of phrasal arguments. As pointed out by Dowty (1991) and Tenny (1992), (un)boundedness of arguments within the VP affects the aspectual interpretation of the event. This is shown in Harley (1999) by the following contrast

- (174) (a) Sue ate apples/candy [#]in an hour/for an hour
 (b) Sue ate an apple/the candy in an hour / [#]for an hour

This correlation is also attested with roots:

- (175) (a) The mare foaled in an hour / [#]for an hour
 (b) Mary drooled [#] in an hour / for an hour

These facts are naturally captured in a configurational analysis of verbal meanings that considers roots to be in certain structural positions the same positions where phrasal arguments are located.

3.3.1.2 Roots as modifiers

The idea, outlined in the previous section, that roots are interpreted as phrasal arguments has been challenged by different authors. Marantz (2011) relies on the idea that roots are always modifiers of syntactic structure (also Borer 2005, with a different implementation). Roots, hence, always occupy an adjunct position. In this section I review the arguments provided by Marantz (2011) against the presence of roots in argumental positions.

Re-prefixation This argument is based on the restrictions of *re* prefixation in English. *Re* can only be prefixed to verbs that require a direct object. It cannot be prefixed to intransitive verbs or verbs that select for a small clause configuration; e.g., resultative constructions and obligatory double object verbs. On the other hand, *re* prefixation is possible with unaccusatives and accomplishment verbs and verbs of creation (examples from Marantz 2011).

- (176) (a) *I resmoked, relaughed, resang
 (b) *They reput the book on the table
 (c) *The discussants redrank the teapot empty
 (d) *They regave John the award

- (177) (a) The door reopened
 (b) I repainted the house
 (c) I rebuilt the house

The argument is based on the contrasts in (180): if (178a) and (179a) and (178b) and (179b) have the same underlying syntactic structure (Hale and Keyser's hypothesis), why is *re*-prefixation possible in (180b) and (180c) and not in (180a) and (180d)?

- (178) a. John put the book onto the shelf
 b. John did a dance
- (179) a. John shelved the book
 b. John danced
- (180) a. *John reput the book onto the shelf
 b. John reshelved the book
 c. John redid a dance
 d. *John redanced

For Marantz the puzzle shows that the hypothesis of the uniformity between synthetic and analytic forms is incorrect. He proposes instead that roots act as modifiers of the structure and do not occupy argument positions. For him, *re* categorially selects for a DP but semantically for a change of state event. Thus, *re* modifies and gets scope over the lower event and adds the presupposition that the DP that undergoes the change of state event was at this state before. The final state is semantically filled in these cases by: (i) a predicate of existence in the case of creation verbs, (ii) the root that modifies the change of state subevent, in the case of deadjectival verbs like *open*; and (iii) the root that modifies the upper event, in cases like *paint*, in sentences like *John repainted the wall (red)*.

The analysis therefore denies the hypothesis that the root in “John shelved the books” is syntactically in the complement position of a change of state verbal head, but considers that it can be semantically interpreted as such.¹²

¹²See criticisms of Acedo-Matellán (2011a) of this analysis. Marantz’s hypothesis goes against the hypothesis that assumes a syntax-semantics homomorphism (at least in one of its versions). Marantz assumes that certain aspects of the semantics are not syntactically represented. One of the questions that arises from his analysis of *re*-prefixation is which part of the meaning is structural, and hence emerges from syntactic structure, and which part is not. For Marantz the different interpretations of the final state arise at a non-structural level (at the level of presuppositional meaning). The approach endorsed here wishes to keep the idea that even though the precise semantic contribution of the root is non-structural meaning, the way it is interpreted, or its structural position, is part of the structural meaning and hence occupies a structural position.

However, *re* prefixation data can be recast in a configurational theory of root interpretation if one assumes that the difference between synthetic and analytic forms is linked to a notion of phase. *Re* can get scope over the change of state subevent only if it is within the same phasal domain. If we consider the phase to be the domain of word formation we can explain why *re* cannot get scope over the change of location event in (180a), but it can in (180b).

However, this answer does not explain why (180c) allows *re*-prefixation and (180d) does not. The answer is simple: *re* quantification is licensed under two conditions, (i) if there is a change of state event and if (ii) this change of state event is its scope domain that is defined by the notion of phase. Thus, the sentence in (180c) can be interpreted as a predicate of creation, and hence the direct object is interpreted as linked to an event of change of state (see Chapter 4 for deeper discussion). However, (180d) is an unergative verb that does not contain a change of state event and therefore it does not satisfy the first condition stated above. Therefore, even if the root stays in the same phase domain in (180d), it is not associated to any change of state subevent.

Alternatively, Acedo-Matellán (2011a) points out that the restriction on *re* prefixation may be derived from the fact that *re* occupies the position of Place in a change of state predicate. With this assumption he derives why *re* cannot be prefixed in resultatives and unergative predicates, but it can with verbs of change of state and change of location. Note that Acedo-Matellán (2011a) considers that verbs of creation also involve a change of state predicate (see Chapter 4 for discussion.).

Therefore, the restrictions that *re*-prefixation shows can be accounted for without having to assume that roots are adjuncts of the structure. Thus, the view of root nodes as standing in argumental positions is compatible with the *re*-prefixation data.

Denominal verb formation resists argument interpretation of roots Hale and Keyser’s hypothesis of denominal verbs makes the prediction that roots are interpreted as phrasal elements. However, as discussed by Marantz (2011), denominal verbs do not always have the incorporated noun reading available. For example, in (181) the interpretation of the verb in the incremental theme reading is not readily available (the reading in which John went his way through the meeting by eating an apple) (see Rimell 2012).

- (181) a. John appled his way through the meeting
 b. John booked (not interpreted as “John read a book”; see Acedo-Matellán 2011a)

However, it is not clear that the interpretation that Marantz points out is really predicted by Hale and Keyser’s hypothesis. A more abstract theory of the meanings of null light verbs could give the appropriate semantics and explain why Marantz’s examples are not possible. Thus, Acedo-Matellán (2011a) notes that encyclopaedic meaning affects the availability of these interpretations and that there are examples with the intended interpretations that are actually licensed (*e.g. to wine* ‘to drink wine’). As the licensing of the intended interpretations depend on the root and encyclopaedic knowledge we claim that the counterexamples cannot give us a clue about the (non-)existence of root positions. Moreover, the contrast in (181) can also be accounted for if we assume, with Harley (2011), that roots at the syntactic level are not fully specified for semantic and phonological content. This can be exemplified by the possible meanings of verbs *to hammer* and *to tape* that show the following contrast (from Acquaviva 2008:4):

- (182) (a) #She taped the picture to the wall with pushpins
 (b) He hammered the desk with his shoe

Thus, in (182 a) the verbs seem to contain the meaning of the nominal, the referent of the noun, while in (182 b) the verb contains a more abstract meaning. This is

explained in Arad (2003) who argues that roots can be attached to more than one category assigning head. Thus the difference between *to tape* and *to hammer* can be analyzed as different in the embedding of the root:



Thus, the meaning of *to apple* as meaning ‘to eat an apple’ involves the presence of the nominal categorizer if with Arad (2003) we sustain that the nominal interpretation arises in the presence of a nominalizer. Therefore, the presence of certain interpretations and not others does not constitute in itself an argument against the presence of roots in argumental positions. Actually, the emergence of meaning in word formation depends on different factors: the meaning of the root (which is underspecified), the semantic contribution of functional words that embed the root, and on encyclopaedic meaning that makes certain interpretations more plausible than others. Finally, it can be a matter of the use of language.

Verb compounding always resists argument interpretation of the incorporated root This argument is based on the evidence that verb compounding cannot include complements of the verb. That is, if we assume the incorporated/conflated root hypothesis we would have to explain why covert but not overt interpretation is possible in English.

(184) *to truck-drive, *to apple-bob, *to life-save

However, verbal compounds are licensed if they do not involve an argument of a verb or if they involve “manner incorporation”:

(185) to ninja-walk, to lizard-creep, to stir-fry

This argument against roots in argumental positions is not compelling, since as Acedo-Matellán (2011a) shows roots can appear only in argumental positions from where they can be licensed. Thus, as roots are affixal in nature they need

to conflate, and conflation can only happen under a strict complementation relation. From these assumptions, therefore, the examples in (184) are expected not to be possible compounds, since the direct objects in (184) are generated in the specifier position. Therefore, again, the arguments provided are not compelling since they can be derived on other conditions, such as conditions on externalization for example.

3.3.1.3 Root positions and the problem of cognation

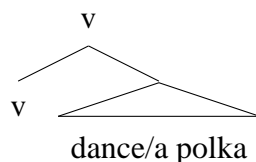
Argument structure theories that follow Hale and Keyser's hypothesis have to deal with and provide an explanation for cognation (for different attempts see Gallego (2012); Hale and Keyser (2002); Haugen (2009) and Chapter 4 of this dissertation). Cognate complements are those that repeat information already denoted by the verbal root or denote an entity that sustains a semantic relation of hyponymy with the verbal root:

(186) John danced a polka

(187) John shelved the books on the top shelf

The problem of cognation can be summarized roughly as follows: if "John danced" has an underlying transitive structure in which the root occupies the complement position of a light verb, where is the direct object in the transitive version of the verb? Are the root and the complement occupying the same syntactic position?

(188)



In other words in "John danced a polka" there are two syntactic objects that occupy the same syntactic position and receive the same interpretation. The first

analysis put forth by Hale and Keyser proposes that the root conflates into *v* leaving a position where the complement can be merged. Therefore, the account violates different syntactic principles like the extension principle or proposes counter-cyclic derivations for cognate structures. An analysis that does not consider roots to be in object position would override this problem.

However, as Haugen (2009) points out, the above-mentioned problem is only a problem if we do not take into account the difference between syntactic roots and morphological roots (*m*-roots, henceforth). Thus in his approach these two concepts are clearly dissociated. He proposes that *m*-roots are inserted late, as are all vocabulary items. Therefore, it is possible that there is more than one root that can be inserted in a certain syntactic position. His analysis follows the spirit of Hale and Keyser's analysis but avoids its problem by assuming late insertion of *m*-roots, taking into account the difference between roots as syntactic positions and roots as morphological objects.¹³

3.3.1.4 Root positions and modification

As defined above, *s*-roots contain underspecified semantic and phonological interpretation that is fully specified at the interfaces in the context of a structural configuration (see Arad 2003; Harley 2011 for more discussion). For this reason, *s*-roots are theoretical constructs that allow us to explain under which conditions *m*-roots are interpreted. Levinson (2007) provides some examples in which roots can be modified and can be specifiers of a predicative relation. In this section I explore whether the examples of Levinson (2007) provide an additional argument in favor of *s*-roots.

(189) Mary braided her hair tight

¹³However, see Chapter 4 for some critiques to Haugen's account of Cognate Objects and an alternative proposal.

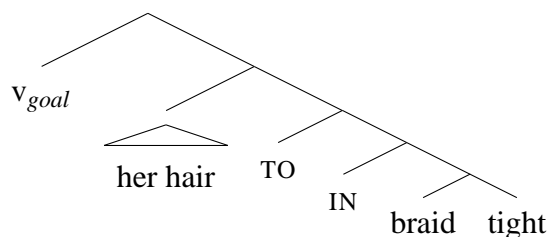
In this example the adjective *tight* does not modify the object *her hair* but the verbal root *braid*. The available reading for (189) is that in which Mary made a tight braid with her hair, and not that in which the hair becomes tight by her braiding activity. Note the different interpretation of (189) and (190), in the example below.

(190) John hammered the metal flat

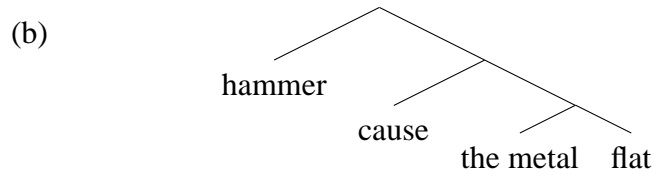
Thus, in (190) the adjective *flat* refers to the complement *the metal*, and the verb specifies the manner by which this change of state is achieved.

A theory that assumes roots to be inserted post-syntactically and that does not provide a mechanism to predict root positions cannot explain examples (189) and (190). In other words, if root positions are structurally present, then the examples above are structurally different and semantic differences can be explained in terms of different interpretations at LF. Thus, in order to account for (189) and (190) we must assume the existence of root positions: in the former case, the root occupies the complement position of a change of state, while in the latter the endstate position is occupied by the AP. Moreover, the root is modified by the adjective, and the two entertain a predicative relation (see Levinson 2007 for more details).¹⁴

(191) (a)



¹⁴The account outlined so far is at odds with the statement that roots cannot be specifiers. However, here we understand that the adjective is predicated of the root, and hence, according to standard assumptions of predication (Bowers 1993) the root must be in the specifier position. I explore later in this chapter and in chapter 4 how roots can entertain predicative relations without contradicting the claim that they cannot appear in the specifier position.



That both examples do not have the same structure is supported by the fact that Romance languages have constructions like (189) but not (190):

(192) *El carnisser va talla-r la carn fin-a*
 the butcher aux.3SG cut.INF the meat thin-FEM[SING]
 The butcher cut the meat thin

(193) **El ferrer va martelleja-r el metall pla*
 the smith aux.3SG hammer-ed the metal flat[MASC][SING]

We have seen that although the precise content of the root is not relevant for syntactic computation, roots can establish predicative relations and get interpreted in certain positions. Therefore, roots in the syntactic sense are relevant to explaining conditions on m-root interpretation.

3.3.2 The syntax of roots

This section deals with the properties of roots as syntactic entities. Thus, in the previous section I argued that there are syntactic positions in which a root will receive interpretation in context, either phonologically or semantically. However, it is frequently argued that roots, although they occupy certain structural positions, do not play any role in syntactic computation: they do not participate in relations such as selection, agree, they don't trigger any syntactic operation, etc. This is frequently associated with the following properties that are related among them:

1. Roots cannot project
2. Roots are non-relational elements, that is, they don't take complements or specifiers.

The property that roots cannot project refers to their inability to merge with another syntactic object and to head its own phrasal domain:

$$(194) \quad \begin{array}{c} \sqrt{P} \\ \diagup \quad \diagdown \\ \sqrt{\quad} \quad XP \end{array}$$

In the following sections I explore each one of the alleged properties of roots in order to see if (194) is an interpretable syntactic object.

3.3.2.1 Can roots project?

The idea that roots cannot take complements or specifiers or head their own phrase has been behind the hypothesis that roots have a special status in syntax. Specifically, there is the notion that root nodes are syntactically deficient or underspecified. This hypothesis endows root nodes with a special status with respect to other syntactic heads. The defectivity of roots is understood, as we have said, as their inability to take complements or specifiers, to be the head of their own constituent and to establish a relation of selection with other syntactic objects. In this section I explore this hypothesis and propose that they can all be reduced to the inability of roots to project. Thus, in the end, the defectiveness of root nodes can be reduced to their defectiveness in the ability to label a structure, something that I argue is an interface condition. I also explore some arguments provided by Harley (2011) against the hypothesis that roots are unspecified.

Among the theories that consider roots to be syntactically underspecified we find Acedo-Matellán (2010); Acquaviva (2008); De Belder and van Craenenbroeck (2011); Borer (2005); Mateu (2002). All of them base the hypothesis on the proposal that it is not the lexical verb that takes or selects certain types of arguments, but functional projections that conform the argument or event structure of the predicate (Borer 2005). Thus, the lexical verb is the combination of conceptual content and structural semantics, associated with functional structure (Mateu

and Amadas 2001). The conceptual content of the verb, the root, is severed from the verbal arguments and the notion of selection is dismissed. Any root can appear in any structural configuration and it is at the interface systems where the semantics of the structure and the conceptual semantics and encyclopaedic knowledge associated with the root are combined and interpreted. The system clearly over-generates, and unattested but possible configurations are obtained, but they are dismissed if there is a mismatch between the structural semantics of the configuration and the semantic content of the root. Root content can be coerced to be accommodated to a certain structural semantics, but crucially structural semantics cannot. As argued in the previous sections, syntactic roots can be defined as syntactic positions or placeholders where m-roots get interpreted at the interfaces in a certain context. However, this proposal still poses an important question: what is the status of these placeholders in the syntactic computation?

Not all authors agree in relating the underspecification of roots with defectivity in syntax. Thus, Harley (2011) provides three empirical arguments in favor of the hypothesis that roots head their own phrases and therefore can take complements: (i) the one-replacement test, (ii) the existence of special interpretations (idioms) that involve only the internal argument and (iii) a case of Ergative Split system and agreement in Hiaki.

The first argument deals with the behavior of one replacement in English with respect to deverbal nominals. One can replace nominals and their arguments (195 a) but not nominals and their adjuncts (195 b). The following contrast illustrates this point:

(195) (a) *The student of chemistry and that one of physics sit together

(b) The student with short hair and this one with long hair sit together

The classical explanation for this contrast is in Jackendoff (1977) who postulates that one is anaphoric to an N' projection and adjuncts can be attached at N' as daughters of N' or sisters of N'. According to Harley, if we want to translate this

analysis to Bare Phrase Structure, a theory that does not accept non-branching nodes, the only option is to make reference to low or high attachment of the complement with respect to the root. Thus, arguments are merged in the complement position of roots, within \sqrt{P} , and adjuncts as adjuncts of the nominalizer, nP. Thus the argument stated by Harley is that the only way to derive Jackendoff's analysis in Bare Phrase Structure is by assuming roots to take complements.

Nevertheless, an analysis that considers roots not to take complements can also capture Jackendoff's analysis and its generalizations. For example, if we consider the internal argument to be related through a relational element with the root, and then substitute the same rationale endorsed by Harley and defend that one is anaphoric for nP, and not for a PredP that stays below. The presence of preposition *of* between the nominal and its complements could be viewed as the spell-out of this PredP, or some such (a linker or a functional projection related with the creation of these predicate structures, see den Dikken 2006). Thus, Jackendoff's insight is compatible with at least one other analysis for this type of nominal that is also compatible with Bare Phrase Structure, and henceforth it does not force us to assume the existence of root complements or root projections.

The second argument is based on the domain of creation of special meaning or idiomatization. If the domain of special meanings only affects internal arguments, it may indicate that internal arguments, unlike external arguments, are arguments of the verbal root (Kratzer 1996). The idea is that creation of special meanings is to be analyzed as arising from a disjunctive set of truth conditions that the verbal predicate imposes when combined with their arguments. The problem is that according to this analysis it would be difficult to explain why particular truth conditions do not arise based on the content of agentive subjects. A natural way to derive these facts is by "severing the external argument from the verb". Verbal predicates only bear a selection relationship with internal arguments. Moreover, specific truth conditions such as the ones present in idiomatization are argued

to be associated with the root, which is the locus of the encyclopaedic and idiosyncratic meaning from which specific truth conditions arise. Therefore the non-compositional meaning only emerges when the object and, necessarily, the root semantically combine via an operation of function application, which implies the existence of a local relation between the root and the internal argument. If the internal object is associated with a functional projection, as is the external argument, the derivation of this external-internal argument asymmetry can not be captured. However, this argument is based on a particular set of assumptions that involve the ideas (i) that idiomatic meanings arise via functional application of the root predicate and the internal argument and (ii) that roots in syntax are more than root positions, since they are semantically specified when accessing the C-I interface. From the assumption in (i), it can be deduced that the domain of creation of special meanings is very local and involves only roots and the elements that are in a strict local relation of complementation. Moreover, the assumption in (ii) seems to be at odds with the assumption, defended in Harley (2011), that roots in the syntactic sense are mere placeholders, radically semantically and phonologically underspecified. This last assumption however could be recast with this argument if we consider that s-roots have access to their m-root counterparts at the moment of Spell-out before accessing the C-I interfaces. I will not focus on this assumption, but I base my argument against Harley (2011) on assumption (i).

Assumption (i) is based on a particular theory that explains how special meanings arise and it takes syntactic adjacency to be the relevant structural relation. However, Marantz (2010) argues that the arising of special meanings should be treated in a similar way as the arising of special phonological forms. Thus, contextual allomorphy is treated in Distributed Morphology as arising in two conditions: (i) in the same phase domain and (ii) under strict phonological adjacency (see Marantz 2010, and references therein for more details). Marantz (2010),

therefore, names the emergence of special meanings as contextual allosemy to reinforce the parallellism with allomorphy. Therefore, contextual allosemy arises under two precise conditions:

1. Structure: contextual allosemy always takes place in the phasal domain.
2. Semantic adjacency

The difference with Harley (2011) however is that in Marantz (2010) semantic adjacency does not imply syntactic adjacency. Thus, as happens with phonological adjacency, in which phonological null elements do not block contextual allomorphy, “semantic nulls will not get in the way of semantic adjacency” (Marantz 2010:16). Therefore, the semantic context of the root where special meaning arises should not be syntactically adjacent, as argued in Harley (2011). A functional projection, semantically¹⁵ null, can mediate between the root and the internal argument. The difference between the external and the internal argument in the creation of special meanings can be recast by assuming that external arguments are out of the a specific phase domain, namely v o Voice. Therefore, as seen, the arising of special meanings and the external-internal argument asymmetry do not necessarily imply that roots should take complements, since the same facts can be accounted for in a theory that does not consider syntactic adjacency and semantic adjacency to be equal. Furthermore, Marantz’s (2010) proposal is superior to Harley’s (2012) because it allows us to explain certain counterexamples to the claim that allosemy arises under strict complementation. For example, there are cases of Japanese nominalizations (Volpe 2005, *apud* Marantz 2010) where the special meanings arise at the nominalizer level created upon the verbalized derived root. This is shown by the presence of the overt verbalizer *-as-*, as can be seen in the examples below:

¹⁵In the relevant sense. See below for the distinction between semantic construal and conceptual content of Mateu and Amadas (2001).

(196) (a) *chir-asu chir-as-i*
 scatter a leafet

(b) *d-asu d-as-i*
 expel soup stock

(c) *nag-asu nag-as-i*
 wash away a sink

From these examples, Marantz argues that overt verbalizers could be semantically null, so they do not block the arising of contextual allosemy, since the root and the nominalizer can be considered to be semantically adjacent, although they are not phonologically, or syntactically. Finally, it allows us to draw a strong parallelism between allosemy and allomorphy, a theoretical insight that has nice empirical outcomes, since it allows us to explain in a natural way phonological and semantic mismatches of the kind discussed in (196 a), (196 b) and (196 c).

Finally, the third argument discussed in Harley (2011) considers a case of ergative split in the agreement pattern in Hiaki. Hiaki shows a suppletive form of agreement that follows an ergative pattern: intransitive suppletive verbs are conditioned by the number of their subject argument, and transitive suppletive verbs by the number of their object number. I reproduce two examples from Harley (2012: 24).

(197) (a) *Aapo weye* (Intransitive pattern)
 3.SG walk.SG
 He/She/It is walking

(b) *Vempo kaate*
 3.PL walk.PL
 They are walking

(198) (a) *Aapo/Vempo uka koowi-ta mea-k* (Transitive pattern)
 3.SG/3.PL the.SG pig-ACC.SG kill.sg-PRF
 He / They killed the pig

- (b) *Aapo/Vempo ume koowi-m sua-k*
 3.SG/3.PL the.PL pig-ACC.PL kill.pl-PRF
 He / They killed the pig

Harley puts forth the hypothesis that this type of number-conditioned suppletion is not agreement but is context-conditioned Vocabulary item competition. The argument follows the theory of agreement of Bobaljik (2008), which makes the generalization that agreement always occurs with the argument bearing unmarked morphological case (Marantz 2000). As Hiaki is a nominative/accusative language, if number conditioned suppletion is agreement, then we cannot explain why agreement in these specific cases does not obey the above-mentioned generalization. However, this can be explained if we consider number-conditioned suppletion as a case of context conditioned root insertion. Harley points out that suppletion in Hiaki is only triggered by the object of transitive verbs and the subject of a type of intransitive verbs, namely, unaccusative verbs.¹⁶ Therefore, root suppletion is also sensitive to the internal/external argument asymmetry, something that shows that the root and the internal argument should stay in a local relation since root competition is conditioned by the local environment at the point roots are inserted. However, this argument does not necessarily show that internal arguments should be complements of roots, since, as pointed out by Marantz (2010), the locality conditions that restrict contextual allomorphy and suppletion can be defined by the phasal domain and by phonological adjacency, which is not necessarily equivalent to strict syntactic complementation. Therefore, Hiaki suppletion patterns can be explained in a theory that postulates a functional/relational head mediating between the root and the internal argument, as long as this functional projection does not constitute a phase boundary and is phonologically null.

¹⁶The set of intransitive verbs that undergo suppletion are verbs of movement, or verbs of body posture, of the type singled out in Chapter 2: apparent manner of motion verbs that appear in goal of motion expressions. These verbs show a variable behavior regarding unaccusativity as shown in Hoekstra and Mulder (1990) and Sorace (2000), among others.

Therefore, Harley's empirical arguments against the radical syntactic underspecification of roots in the form sustained in Acedo-Matellán (2010); Acquaviva (2008); De Belder and van Craenenbroeck (2011); Borer (2005); Mateu (2002) are not conclusive after careful examination, since a theory that considers that roots are unable to take complements or specifiers, and to head their own projecting phrase, can have the same empirical coverage.

All in all, there is a technical problem with how the hypothesis of the underspecification of root positions has been defined. For example, one formulation of this hypothesis states that roots cannot take complements. However, in the definition of complement, there are the following assumptions: an element is a complement of a head, if the complement is a complex syntactic object, and it is a sister of the head. In other words, a complement is a syntactic object that can be merged with a head, and as a result of this merging operation, the head projects and labels the outcome of merge. Moreover, a specifier of a certain constituent can also be defined as the second merge of a complex syntactic object to another syntactic object formed by a head and its complement. The outcome of this operation is labeled through the label of the head. Therefore, the statement that roots cannot take complements or specifiers can be reduced, assuming that roots as syntactic objects can undergo merge, to the statement that the roots cannot label the outcome of merge. That is, roots are unable to project. Alternatively, one may consider the option to restate the banning of roots taking complements and specifiers in the following terms: roots cannot be heads. If roots cannot be heads, roots should always be complex syntactic objects. This last option is explored in Kayne (2009) who actually considers both assumptions to be intimately related, since only heads can label the structure.

However, why cannot s-roots project? The nature of roots as non-projecting categories can be viewed as a theoretical assumption, as in Acedo-Matellán

(2010); Borer (2005); Mateu (2002),¹⁷ or it can be analyzed as a derived property. In a radical non-lexicalist theory of argument structure, like the one we want to pursue here, the latter option should be preferred, since the former option would need some kind of lexicalization of this property and this would separate root from non-root positions.

The different theories that derive the non-relational properties of roots can be classified according to two ideas: (i) the non-projecting nature of roots depends on the nature of the first merge operation and (ii) labeling is not a relevant syntactic operation but is only important for externalization. In the first group there are De Belder and van Craenenbroeck (2011) and Kayne (2009) proposals; in the second group, we find Boeckx (2010) and Kayne (2009). Boeckx's (2010) proposal is not about roots, but about non-relational categories, that is categories that cannot project their own phrasal projection. In this sense his conception of non-relational category is similar to our view of s-roots, and therefore, I consider that his way to derive the properties of non-relational categories is relevant for us, in trying to develop a proposal about the non-projecting nature of roots. Thus, Kayne (2009) shares assumptions of both models. In the next sections I discuss and evaluate these three models as ways to derive the defectivity of s-roots. Before reviewing these three proposals, we must revise the relation between the concept of root and the concept of non-relational head, as defined in Mateu and Amadas (2001) and Mateu (2005).

3.3.2.2 Roots and the distinction between relational and non-relational heads

¹⁷De Belder and van Craenenbroeck (2011) argue that defending the idea that roots have the special status of being non-relational or defective is incompatible with a true non-lexicalist approach. The same is implied in Boeckx (2010). This is not a problem for a lexicalist theory of argument structure like the one defended in Mateu (2002), but it could be for a neo-constructionist approach, such as Acedo-Matellán (2010) and Borer (2005).

Hale and Keyser (1993, 2002) propose a theory of categories that also aims to explain why there are a limited number of argument structure patterns and of argument interpretations (theta-roles).¹⁸ Lexical Categories can be derived from the syntactic relations defined in head-complement and specifier-head configurations. Thus, the possibility of combining with a complement characterizes both P(repositions) and V(erbs), while A(djectives) and N(ouns) can be characterized as not allowing them. On the other side, Ps and As both allow a specifier, while Vs and Ns pattern alike in that they cannot establish this structural relation. In table 3.3.1 we see the different lexical categories that they propose, where (a) corresponds with V, (b) with A, (c) with P and (d) with N.

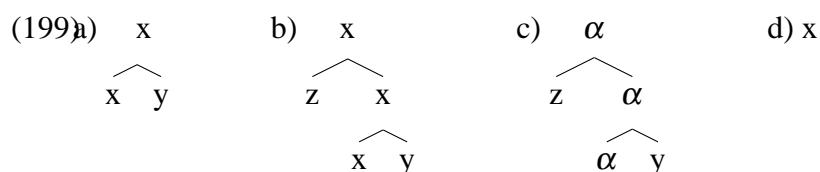


Table 3.3.1: Hale and Keyser's categories

Mateu and Amadas (2001) propose a reduction of Hale and Keyser's system by unifying structures b) and c) in table 3.3.1. For these authors adjectives are similar to adpositions, the difference being reduced to the specific nature of y in b) of table 3.3.2. One of the particularities of this analysis is the presence of a non-relational head at the bottom-most level of the structure of transitive and intransitive verbs. Although Mateu and Amadas (2001) reduce Hale and Keyser's categories to three, P, V and N, they are actually distinguishing two kinds of heads, relational heads (P and V) and non-relational heads (N).

¹⁸“This is entirely consistent with the view that argument structure and diathesis alternations are limited by the essential nature of the lexical categories (Hale and Keyser 1994: 23)”

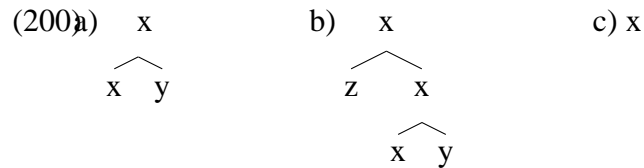


Table 3.3.2: Mateu and Amada's categories

One of the main contributions of Mateu and Amadas (2001) is the difference between “(non-syntactically transparent) conceptual content and (syntactically transparent) semantic construal.” Thus, they defend the view that syntactically-relevant semantics is directly derived from syntax in a configurational way: the semantic interpretation is read off from the configuration, much as in Constructionist, and above all Neo-Constructionist, approaches.

(201) Meaning is a function of both (non-syntactically transparent) *conceptual content* and (syntactically transparent) *semantic construal* (Mateu and Amadas 2001: 1)

In the theory they develop, both types of meaning are associated with the two types of heads that appear in argument structure configurations: relational heads encode semantic construal and non-relational heads contain conceptual content that is not relevant or transparent for syntactic computation. The opacity of the conceptual content with respect to syntax is not explained explicitly in their paper, but it can be argued as deriving from its non-relational nature, characterized formally as the inability to take a complement or a specifier.

However, despite their claim that syntax and semantics are homomorphic (see also Mateu 2002), semantic construal is not entirely configurational. Thus, there are two types of semantic construal: one that is read off from the mere structure and one that emerges from a system of binary features associated with relational heads. Thus, the difference between relational and non-relational heads is

their contribution to the semantic construal that is explained by the fact that non-relational heads cannot entertain the appropriate configurations and are not associated with semantic features that are contentful for construal. The set of features associated with relational heads, eventive and non-eventive are the following:

- (202) (a) CAUSE: positive/dynamic semantic value associated with a source relation
- (b) HAVE: negative/static semantic value associated with a source relation
- (c) GO: positive/dynamic semantic value associated with the transitional relation
- (d) BE: negative/static semantic value associated with the transitional relation
- (e) TCR (stands for Terminal Coincidence Relation): positive/dynamic semantic value associated with the non-eventive relation
- (f) CCR (stands for Central Coincidence Relation): negative/stative semantic value associated with the non-eventive relation

Their system runs into some problems since it overgenerates and predicts impossible unattested argument structure configurations. First, they must assume that unaccusative verbs, that is, verbs associated with a transitional eventive relation, always select as complement a non-eventive relation, but never a non-relational head, as is the case with eventive heads associated to a source relation (i.e., unergative predicates). Moreover, a transitional relation with a stative meaning or a source static relation (a stative transitive or unaccusative verb) (see chapter 5 for a discussion of stative predicates) cannot select a dynamic semantic value associated with a non-eventive relation (a preposition of terminal coincidence, or path), while a dynamic transitional relation or dynamic source relation (a non-stative transitive or unaccusative verb) can select both types of non-eventive relations, terminal and central coincidence relation. Therefore, the system is redundant

since unaccusativity is associated with three features: (i) having a non-eventive relation, (ii) a transitional eventive relation, and (iii) a functional projection that introduces the external argument, namely *v* or Voice.

For this reason, Acedo-Matellán (2010) proposes a review of Mateu's system (Mateu and Amadas 2001; Mateu 2002, among others) that is completely configurational and that overcomes the problems that we have pointed out. First, he gets rid of the TCR/CCR opposition and derives it from a configurational approach by assuming that the difference between these two types of non-eventive relational heads can be reduced to complexity in the structure. Therefore, following Hale and Keyser (2002) a preposition of terminal coincidence can be redefined as a complex preposition that includes a preposition of central coincidence. A TCR preposition arises from a complex P+P preposition, while a CCR preposition is just a simple P. Viewed this way, the opposition between Terminal and Central coincidence relation can be identified with the difference between Path and Place and common assumptions about the structure of them.¹⁹

As far as the incompatibility between heads that denote a static eventive relation and heads associated with a dynamic non-eventive relation, Acedo-Matellán (2010) solves this problem by removing the static/dynamic opposition from the head associated with the eventive relation. This opposition static/dynamic in Mateu's system can actually be broken down into two features: agentivity if associated to an eventive relation and (a)telicity if associated with a non-eventive relation. Therefore, as Acedo-Matellán (2010) shows agentivity is not represented linguistically (see Acedo-Matellán (2010) for more details) so the problem disappears. As for the second case, atelic interpretation of a non-eventive relation is due to the presence of a single p-projection and telic interpretation to a complex one. Therefore, dynamic unaccusative predicates are eventive heads associated with a non-eventive relation, telic, that is to say, a double p-projection or simple, that is, a simple p-projection.

¹⁹Although the concepts are not entirely equivalent. See Chapter 2.

Accordingly, removing features from the account and relying only on configurational semantics, most of the problems of Mateu's theory of argument structure are solved, and the claim in (201) becomes stronger since semantic construal now only emerges from strict structural configurationality, much more in the spirit of Hale and Keyser's original proposal. By this move, as well, the difference between relational and non-relational heads is also configurational and can be reduced to the inability of non-relational heads to take complements and to be specifiers.²⁰, ²¹ Under a radical configurational theory of argument structure, the identity of non-relational heads with roots is made stronger, since roots as non-relational heads are those elements that convey the idiosyncratic, encyclopaedic and conceptual meaning that is not relevant for syntactic computation. In the following sections, I review three models that derive the non-relational status of roots, characterized as defectivity in projecting a label.

3.3.3 A derivational theory of roots: Kayne (2009)

Kayne (2009) considers that the existence of projecting and non-projecting heads is a consequence of antisymmetry (and antioptionality, cf. Chomsky (1995); Moro (2000)). Thus, a non-relational head cannot take complements because it belongs to a class of elements that take part in an operation called Self-Merge. The outcome of this operation is a complex object that in combination with another head leads to the projection of the simple head by antisymmetry. A non-relational element can be defined as a head that does not have unvalued features and for this reason can undergo self-merge. Under this approach the difference between relational

²⁰Both problems can be reduced to just one since as roots are heads, at least in the proposals that we are discussing now, a root in a specifier position and a root in a head position taking a phrasal constituent as complement are structurally indistinguishable, at least if we assume bare phrase structure.

²¹In Acedo-Matellán (2010) roots can occupy two positions: complements of a relational head and adjuncts of a relational head. I discuss this difference in section 3.4.1.

and non-relational heads depends on the presence of unvalued/uninterpretable features of the heads in question. The ban on roots taking complements is a consequence of it.²²

Thus, in Kayne's system it seems that roots cannot be heads and project from structural conditions (antisymmetry). In this approach, roots are syntactically inactive because they do not contain active syntactic features. In Kayne (2009) this property should be lexically marked before entering in the derivation (cf. De Belder and van Craenenbroeck 2011, next section). The approach outlined in Kayne (2009) requires the existence of a distinction between lexical and functional heads in terms of endowment with unvalued features, something that weakens the approach and his effort to derive the non-relational nature of nouns from the structural relation of labeling.

Although, Kayne (2009) aims to derive the non-projecting nature of non-relational elements from the structure it actually needs to stipulate a certain degree of lexical marking: that is, non-relational heads do not project because they undergo Self-Merge (an operation defined in Guimarães 2000, *apud* Kayne 2009), defined as singleton set formation, an operation that only targets heads that do not contain unvalued syntactic features. If a head that contains unvalued features

²²Another issue would be the ban of the root in specifier position as argued by Acedo-Matellán (2011a). This author argues that this ban is purely a licensing condition at PF, but nothing in the syntax prevents a root being in specifier position of a certain head. The condition is linked to the affixal nature of roots in the theory of this author that makes them defective and forces them to be pronounced in the functional projection that takes them as complements, via a conflation process (in the sense of Harley 2004). The ban on roots in specifier position can also be derived from antisymmetry since the merge of a head y to the left of another head x within the maximal projection of x would be ruled out by the LCA. Again another ban on roots in the specifier position that comes from a PF condition on the externalization of the structure.

In Kayne's system however this is not that simple since roots are first merged with themselves and therefore are complex in the syntactic derivation. The problem with a root being merged in a specifier position is that we would have merge of two complex objects and we would have a problem of labeling that cannot be solved in Kayne's framework due to antioptionality. But it could be overcome in dynamic antisymmetry of Moro, or in Chomsky's (1995) proposal that conflicting structures would force movement of one of the constituents plus modification of the LCA as not including non-pronounceable elements, ie. traces. Therefore, the ban on roots in specifier position is a specific scenario of the general case of not allowing specifiers in Kayne's framework.

undergoes singleton set formation, then it will have no way to value its features, assuming that unvalued features need to be valued immediately upon entering in the derivation (an idea from Chomsky 2001, *apud* Kayne 2009). The account hence requires the existence of a lexical distinction between relational and non-relational heads, or open class vs closed class type of words, nouns and verbs in Kayne's terms, and cannot dispense with a certain degree of lexicalism.

As in De Belder and van Craenenbroeck's (2011) approach, Kayne (2009) considers that non-relational elements originate at the moment of the first Merge, which is an instance of Self Merge in Kayne (2009) and Primary Merge in De Belder and van Craenenbroeck (2011) (see next section). The consequence of this is that roots always appear at the bottom of every derivation, an idea that is present in other approaches that endorse the hypothesis of the syntactical underspecification of roots (Acedo-Matellán 2010; Borer 2005; Mateu 2002). However, these latter approaches assume that roots occupy these particular positions without deriving them from other principles, or providing a justification for this, something that is one of the goals of this chapter.

3.3.4 A structural theory of root positions: De Belder and van Craenenbroeck (2011)

De Belder and van Craenenbroeck (2011) propose a theory that derives the hypothesis that roots are syntactically underspecified. For them, roots can be argued to have the following properties (De Belder and van Craenenbroeck 2011: 1):

- (a) Roots have no grammatical features
- (b) Roots have no grammatical category
- (c) Roots are defined structurally, not lexically
- (d) Roots are merged lower than functional material.

These properties except for (a) and (b) have been discussed in the previous sections. Property (a) runs into problems if we assume that syntactic objects can undergo merge if they are endowed with an appropriate grammatical feature, namely, the edge feature (see Chomsky 2008). According to this assumption about merge and syntactic objects, roots can at least have an edge feature, and therefore, property (a) is not a property of roots. Property (b) has not been discussed since categorization is not a property of certain heads but arises at externalization, as will be argued in section §3.4, and therefore it is not a specific property of roots, but of all syntactic objects. Property (c) has been reduced to the distinction between m-roots and s-roots. As argued, s-roots or root positions should be defined structurally, and not lexically, since in our view the only relevant notion of lexicon is the distributed post-syntactic lexicon put forth in the Distributive Morphology framework. Finally, property (d) has also been assumed throughout the different approaches revised here. The account developed in De Belder and van Craenenbroeck (2011) aims precisely to derive these properties, specifically properties (c) and (d), since as argued neither property (a) or (b) are *bona fide* root properties.

De Belder and van Craenenbroeck (2011) argue that a strict non-lexicalist theory of roots should derive root properties from the structure, and not from their feature specification. In order to do this, a true non-lexicalist theory of roots must necessarily assume that roots are inserted late in the derivation in certain positions structurally derived. However, if roots are inserted early as other syntactic elements in the numeration, then the only way to derive their syntactic underspecification is by means of lexical marking as in Kayne's (2009) approach. In contrast, De Belder and van Craenenbroeck (2011) propose that root positions are syntactically underspecified because of how syntactic derivations proceed.

Thus, these authors propose, following Fortuny (2008), that syntactic derivations create empty positions (i.e., root positions) at the bottom of every derivation, because of formal conditions on Primary Merge and the nature of Asymmetric

Merge (Zwart 2011). De Belder and van Craenenbroeck (2011) make the following assumptions following Zwart (2011), which I summarize below:

- (a) Derivations go top-down; subderivations are built bottom-up
- (b) Asymmetric Merge : $\text{Merge}(\alpha, \beta) = \{\alpha, \{\alpha, \beta\}\} = \langle \alpha, \beta \rangle$ (under a simplified definition).
- (c) Unary Merge (adapted from Zwart): Merge selects a single subset from a resource (e.g. $\{\alpha\}$), includes it in the derivation under construction (δ), and yields an ordered pair (e.g. $\langle \{\alpha\}, \delta \rangle$, assuming $\{\alpha\}$ projects).
- (d) Primary Merge (follows from a, b and c): if we consider a(n abstract) derivation (δ), with the resource $R = \{\alpha, \beta\}$ as the input for a derivation, then first instance of Unary Merge, according to the definition must be subset of R , say $\{\alpha\}$; $\{\alpha\}$ must be included in the object under construction. As there are no elements in the derivational workspace, then $\{\alpha\}$ merges with \emptyset , yielding $\langle \{\alpha\}, \emptyset \rangle$
- (e) One Derivation One Root (ODOR): For every derivation there is exactly one root, and for every root there is exactly one derivation (De Belder and van Craenenbroeck (2011):16).
- (f) Layered derivations (Zwart 2009): the output of one derivation can appear as an atom in the next one (similar to PIC). To implement this idea De Belder and van Craenenbroeck (2011) propose that the end result of one derivation is to be readmitted to the resource from which its members were originally drawn. They show that their proposal derives opacity effects and the subject/object asymmetry on extraction.

During Spell Out, Vocabulary Items are inserted into terminals that contain grammatical features. The one-to-one relation between morphemes and VIs may

be disrupted by different morphological processes: fission of morphemes, removal of features (Impoverishment), and local displacements by Morphological merger. De Belder and van Craenenbroeck (2011) propose that roots and f-morphemes are not different in nature, and that the only difference is that roots are not associated with grammatical features, while f-morphemes are. Roots and functional vocabulary items are inserted in terminals through competition and following the Subset Principle of Halle. According to the assumptions outlined before l-morphemes, m-roots, in our terminology, will be inserted in nodes that contain exactly an empty set, and f-morphemes in terminals containing syntactic features via competition.²³ Therefore, De Belder and van Craenenbroeck (2011) can derive the properties of root positions, and the existence of a root as the most embedded element in the derivation and the presence of one root per derivation, which they label as the ODOR.

However their account faces two important problems. The first one deals with the ODOR generalization that is not derived from their specific assumptions on unary merge and syntactic derivations. Actually, according to their definition of Unary Merge, they not only don't predict the ODOR, but they wrongly predict the opposite, that is, they predict that roots can appear in different places, not only in the bottom-most position of the derivation, and that there can be more than one per derivation. Unary Merge is defined as follows:

(203) Unary Merge:

Merge selects a single subset from a resource (e.g. $\{\alpha\}$), includes it in the derivation under construction (δ), and yields an ordered pair (e.g. $\langle\{\alpha\}, \delta\rangle$, assuming $\{\alpha\}$ projects).

According to this definition, the operation of Merge selects a single subset from a resource. As the empty set has the property of being a subset of all sets, nothing

²³See De Belder and van Craenenbroeck (2011) for more details about Vocabulary Insertion and the modified version of the Subset Principle of Halle.

prevents Merge from taking the empty set and including it in the derivation under construction. Therefore, the ODOR is not derived by their assumptions unless Unary Merge is restricted as follows:

(204) Unary Merge (restricted version):

Merge selects a single subset from a resource (e.g. $\{\alpha\}$), except the empty set, includes it in the derivation under construction (δ), and yields an ordered pair (e.g. $\langle\{\alpha\}, \delta\rangle$, assuming $\{\alpha\}$ projects).

The restricted version of Unary Merge would yield a more sophisticated version of the operation of Unary Merge, an operation that is already modified in De Belder and van Craenenbroeck (2011) with respect to the classic formulation of Merge defined in several works of Chomsky. De Belder and van Craenenbroeck (2011) follow Zwart's (2011) critiques about the Chomskyan definition of Merge and the specificity of the initial merge operation with respect to the successive applications of merge. The asymmetry associated with the initial merge is based on the fact that initial merge takes two elements from the numeration, while successive applications of merge always take one element, from the numeration or the derivation, and merge with an already created object. To overcome this asymmetry Zwart proposes to redefine the operation of Merge as Unary Merge, explicitly defined as follows:

(205) Unary Merge (Zwart's 2009 version)

Merge selects a single element from a resource and includes it in the object under construction.

Therefore, the theory already manipulates a modified version of Merge. As pointed out by Chomsky, Merge in its simplest case should be defined as an operation that combines two syntactic objects. Here I maintain that the problem pointed out by Zwart is not a real problem of the Merge operation as defined in Chomsky, and the asymmetry between First Merge and successive applications of merge can

be solved by widening the domain of the function defined by Merge, without having to add any further stipulation on the nature of the operation. Actually, merge in the simplest case defined in Chomsky does not make reference to its domain, and it is only defined as an operation that takes two elements, without making any reference to the origin of these objects. If Merge is defined in this way, the asymmetry between first merge and the other instances of merge does not arise since in both cases there is an operation that combines two syntactic objects. In any case, if Merge is to be defined formally as a function then the only modification that Merge has to undergo to overcome the alleged asymmetry would be a widening in the domain of application of the function, and not in the operation itself. Therefore, Merge is a binary function that combines two elements that belong to a domain, a set that includes both N and D , N being a set that contains all the elements of a numeration and D the set formed with the previous stages of the derivation. Therefore, both versions of Unary Merge (De Belder and van Craenenbroeck's and Zwart's) can be defined as Merge (specifically, pair-Merge) in the Chomskyan sense, and the problem of the first merge as the source of asymmetry does not even make sense under a strict definition of this operation as an operation that combines two elements. Therefore, as shown before, Unary Merge not only does not solve the (nonexistent) problem of first merge, but it also cannot derive the ODOR, that is, it cannot derive the existence of root positions at the bottom of every phase or subderivation (a phrase), and actually creates the possibility of having derivations that contain more than one root position. De Belder and van Craenenbroeck (2011) cannot derive root positions and root properties from mere structural considerations and would need to add further complications in basic operations.

3.3.5 Roots and categories: Boeckx (2010)

The point of departure for Boeckx (2010) is the critical review of some of the assumptions about the lexicon that current minimalist approaches hold. According to this author, the main problem of minimalist works is rooted in the lexicocentrism they endorse, explicitly or implicitly. Thus, it is often assumed that derivations are feature-driven, that syntax operates with lexical items defined as bundles of features, that the source of parametric variation can be reduced to specific lexical features, and so on and so forth. These accounts fail to provide an explicit account of the nature of features, the number of them, or the formation of feature bundles. The fact that lexical items are assumed to be structured and to enter into the syntactic derivation as non-atomic elements poses the question of how these elements are built, if not in the syntax. Therefore, one may be drawn to assume that there are two different generative engines that deliver structured objects, something that makes the theory more complex, but that constitutes an endeavour that is not explicitly tackled.

The main problem of lexicocentrism is the assumption that the lexicon drives syntactic derivations. This assumption is also behind the approaches that treat parametric variation along the Borer-Chomsky Conjecture, since variation is said to be derived from particular properties of lexical items, specifically in the functional inventory, and that these differences trigger different syntactic derivations. Moreover, syntax is argued to be feature-driven since syntactic operations, such as Merge and Move (and others), are triggered by the feature content present in lexical items. All these assumptions pose problems for minimalism in the biolinguistic project since they consider syntax to be dependent on words that are at least partially cultural objects, and therefore, entirely biological. If we rely on the lexical/functional divide to overcome this problem, we need to face the theoretical problem of primitives. That is, what counts as a functional head and what is the number of functional categories that one must postulate in the theory. If we take

seriously the Borer-Chomsky Conjecture, in order to build a truly restrictive theory of linguistic variation we need to know the number of functional items that UG has and the number of lexical features that they can be endowed with. Moreover, this view also departs from the Strong Minimalist Thesis in that derivations are feature driven and therefore must rely on different operations other than Merge, since Merge (External and Internal Merge) is triggered by features, such as Agree, Check, Value, a certain notion of selection, etc. The solution for Boeckx (2010) is to propose a radical syntactocentric system that places specific lexical properties outside the syntax and divides the concept of Lexicon into parts across different modules, much in the spirit of *exo-skeletal* approaches (Borer 2005) or the *Distributed Morphology* framework.

The solution therefore is the assumption of a limited presyntactic lexicon that contains only conceptual addressees. These conceptual addressees are neither functional nor lexical items. They are elements that point to concepts in a different cognitive module and that enable these concepts to be combined between them. The specific content of these conceptual addressees cannot be seen by syntax as these elements are atoms and unstructured. On this account, therefore, they are not features at syntax and they cannot be considered triggers of syntactic operations. By this move, the number of syntactic operations is also drastically reduced to just one, Merge, in either of its variants, external or internal merge. Merge is free and is not constrained by any operation or feature.

In this theory, syntax only deals with conceptual addressees that are defined as opaque elements, which are equal as far as syntax is concerned. Successive application of merge to these elements yields a symmetric structure: an unordered set. However, there are two problems with the idea that the outcome of syntax is a symmetric object. First, there is empirical evidence that languages show asymmetric traits, and second, a symmetric structure such as the one generated by Merge is uninformative according to Shannon's theory of information. The solution is *Cyclic Transfer*, that is to say, points at which the external interpretative

systems SEM and PHON get access to the syntactic derivation and “impose differences to make the most of them, informatively speaking” (Boeckx 2010: 38).

Asymmetry, therefore, is not a feature of syntax but is imposed by the modules that interpret syntactic objects. The only way to get an asymmetric structure (an ordered set) is by means of cyclic spell-out. Asymmetry is then an empirical trait of language related with externalization, much in the spirit of Kayne (1994).

Boeckx (2010) also proposes a theory of lexical categories that departs from the distinction between relational and non-relational categories discussed in previous sections. Lexical categories emerge from Cyclic Transfer or Cyclic Spell-Out. Therefore, the distinction is not a basic trait of the Faculty of Language in the Narrow Sense but is a consequence of externalization. In Kayne (2009) the distinction arises from the labeling algorithm that imposes asymmetry in the syntactic structure. Therefore, the two approaches, although different in their implementation, are not that different since in both cases asymmetry and categories emerge from conditions imposed by the interfaces. The difference is that Kayne (2009) must assume a certain amount of lexicalism since ultimately the difference between nouns and verbs boils down to the presence vs. absence of unvalued/uninterpretable features.

In the theory outlined in Boeckx (2010) phase heads play an important role: phase heads are anchor points of externalization. Cyclic Spell-out takes place at the phase head, transferring the complement and the head to the interfaces which impose asymmetric structure to a syntactic unordered set of computationally identical elements that are, however, differentiable by the external interpretative systems. Boeckx (2010) also advocates a pairwise composition of phases as defended in Boeckx (2009); Richards (2007, 2011) (see section 3.4.4 below) in which phase heads are followed by non-phase heads.

From his point of view, pairwise composition would be an optimal solution for a system of categorization by phase outlined in his proposal. Thus, if Transfer happened at every instance of Merge, then there would be a process of re-categorization at each stage of the derivation. For example, let's suppose that we merge α and β forming $\{\alpha, \beta\}$, and we spell out β . According to the theory of categories, the category noun, or a non-relational category, can be defined as conceptual addressees transferred as units. Therefore, the outcome of transferring $\{\alpha, \beta\}$ would be a non-relational element, β , and a categorizing element, α . Then, if we apply merge again on α , say with γ forming $\{\gamma, \alpha\}$, and we transfer again, we create a new non-relational category, namely α , that now has to be recategorized as a non-relational element, and not as a categorizer element. Therefore, to avoid losing information and creating new information at every stage of the derivation, transfer points should not happen at every stage of the derivation, but should be delayed at least until the transferred domain contains two elements. This approach implies that roots can only be placed at the bottom-most position of the derivation, that is to say, at first Merge, because if not, it yields the recategorization problem outlined before.

There are two kinds of categories in Boeckx (2010): Nouns and Adpositions. Nouns as explained before emerge from the process of transferring a single unit at the moment of first merge. Adpositions are the output of transfer, more structured than a singleton. Thus, we find that these two categories correspond with transitive and intransitive phase patterns, that is to say, transferred singletons and transferred pairs, respectively.

According to Boeckx (2010) there are two kinds of phases, transitive and intransitive phases, which can be formally summarized as follows:

(206) (a) $\{\alpha, \beta\} \Rightarrow \text{Transfer} \Rightarrow \{\beta\}$ Unitary set

(b) $\{\gamma, \{\alpha, \beta\}\} \Rightarrow \text{Transfer} \Rightarrow \{\alpha, \beta\}$ Set with two elements

In the first case, the outcome of Transfer is a unitary set, and in the second case, the outcome of Transfer is a set that contains two elements. Given a tree representation of sets, the outcome of (206 a) and (206 b) will be as follows:

- (207) (a) β
 (b) $\widehat{\alpha \beta}$

First, I consider the case in which in (207 b) β is complex. In this case it can be a nominal, a non-relational head, that is a root, or it can be DP/NP. Therefore the structure must be as follows:

- (208) (a) $\{\gamma, \{\alpha, \{\delta, \varepsilon\}\}\}$
 (b) Transfer 1 at $\delta \Rightarrow \{\varepsilon\}$ unitary set ;
 (c) ε
 (d) Transfer 2 at $\gamma \Rightarrow \{\alpha, \{\delta\}\}$ set with two elements
 (e) $\widehat{\alpha \{\delta\}}$

The categories of noun and adposition do not have to be mistaken with the categories N, A, P and V in the morphological sense found in the inventory of languages. Each language would morphologically interpret each category in a certain way. The crucial distinction therefore is between relational and non-relational heads, much in the spirit of Kayne (2009) and Mateu and Amadas (2001); Mateu (2002).

This approach is therefore very different from what has been said before especially models such as the one developed in De Belder and van Craenenbroeck (2011) in which non-relational elements or roots have a special status in syntax. Those models were meant to explain the invisibility of conceptual semantics or encyclopaedic knowledge for syntactic computation by claiming that syntax can not handle these elements, because they do not play any role at the level of syntactic computation. In Boeckx (2010) this is explained in quite different terms:

syntax combines elements from the presyntactic lexicon which is formed entirely by roots.²⁴ Syntax is free and as far as syntax is concerned these roots are opaque and unstructured; they are not bundles of features. Therefore, what Boeckx (2010) is assuming is quite the opposite: what is not accessible to syntax are functional elements; syntax does not operate with these categories. The distinction between functional and lexical emerges during the externalization process at the moment of spell-out, when all the conceptual information of roots gets interpreted.

However, this proposal has the problem of delinking the notion of phase from the process of lexicalization or interpretation of roots. That is, with Marantz, we assume that the creation of special meanings and word-formation must be restricted to the domain of the phase. However this is incompatible with the account outlined in Boeckx (2010) since roots can be identified with intransitive phases and constitute a phase in themselves. Moreover, the notion of root overlaps with the notion of non-relational category in an unclear way. Thus, all elements that enter in the syntactic computation are roots in a sense; they are atomic elements that contain syntactically opaque information. At the same time, the notion of non-relational element emerges at the moment of externalization. Moreover, if we consider a transitive phase that contains a set of two elements $\{\alpha, \beta\}$ it is not clear if α and β count as roots or not. I don't see how this account is directly translatable to a Hale and Keyserian view of categories. Moreover, the occurrence of non-relational elements is restricted to a single position in the structure: that of the first merge, since any instance of intransitive phase after this moment would run into the recategorization problem discussed before. If non-relational elements must be identified with roots, it is possible in this theory to have a derivation that contains no root in the structure. For example, a derivation that contains an adposition, a transitive phase, at the beginning of the derivation.

²⁴For our purposes they can be understood as concepts or roots in the terminology we have been using throughout the dissertation; but see Boeckx (2010) for a discussion of why it is better to talk about conceptual addressees and not concepts.

For all these reasons, I do not follow Boeckx's account of relational and non-relational categories, although I take his view of proposing a theory of categories and labeling that is configurational and only relevant to the interfaces, at the moment of externalization. I also agree with his view of considering phase heads as anchoring points of externalization: points of access of the interfaces to the syntactic derivation. Moreover, I follow the idea proposed by Boeckx (2010); Kayne (2009); Mateu and Amadas (2001) that the inventory of complex functional categories can be derived from the existence of relational and non-relational categories, providing a theoretical view of what counts as a primitive in the syntactic derivation. Thus, I propose a radical configurational theory of traditional functional projections, C, T, *v*, V, *p*(ath), *p*(lace), based on the one proposed in Acedo-Matellán (2010), and following the Hale and Keyser programmatic research.

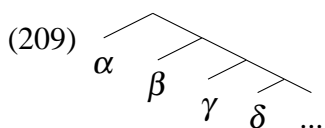
3.4 The proposal

This section lays out the main proposal of the dissertation: the development of a strong version of the Hale and Keyser hypothesis. This section is organized as follows: in section 3.4.1 I develop a proposal about how root positions are created in the structure. In section 3.4.2 I propose a theory of categories following Hale and Keyser's idea of integrating a theory of categories with a theory of argument structure patterns. Then section 3.4.3 outlines a proposal that focuses on the parallelism between the CP-domain and the vP-domain and restates Hale and Keyser's hypothesis in a stronger way. Finally, section 3.4.4 proposes that lexicalization operates at the phase level and that cross-linguistic variation depends on the timing of spell-out that is fixed in the access that interfaces have to the syntactic derivation, that is, phase heads.

3.4.1 Deriving root positions

As discussed in the previous section, it is assumed by some theories about roots that all categories have a nominal, non-relational or root head at the bottom-most position. This was not evident in Hale and Keyser's (table 3.3.1) proposal itself but it is clear in Mateu and Amadas's (2001) version of haleandkeyserian categories (table 3.3.2) and further works (Acedo-Matellán 2010). It is also assumed in theoretical approaches like De Belder and van Craenenbroeck (2011) and Kayne (2009) since nouns or roots can only be generated by the operation of First Merge. The same restriction was also implicated in Boeckx's (2010) account of non-relational categories. In this section I endorse a similar view and propose that root positions can only be generated at first merge because of restrictions on labeling. Moreover, I extend this view to also cover the first merge position after a phase head. Therefore, the proposal states that root positions can appear at the bottom-most position of a derivation and of a sub-derivation. This restriction is similar to the ODOR proposed by De Belder and van Craenenbroeck (2011), but in different terms (see section 3.3.4 for a critical review).

As discussed in section 3.3.5, Boeckx (2010) proposes that categories are created at the moment of Spell-out. Here, I endorse Hale and Keyser's view that categories are defined configurationally. However, configurations only seem relevant at the interfaces since if we take one derivation as a whole there are no distinct configurations *a priori*. The structure in (209) is uniform and is not translatable in principle to a configurational theory of categories. To do so, we would need to have access to a notion of specifier or complement, and some notion of labeling or projection. Thus, categories, defined in the configurational sense make reference to specific chunks of structure and the creation of asymmetric relations created by projecting or non-projecting syntactic objects. Therefore, as proposed in Boeckx (2010) and Kayne (2009), categories, in the configurational sense, emerge at the moment of Spell-out.



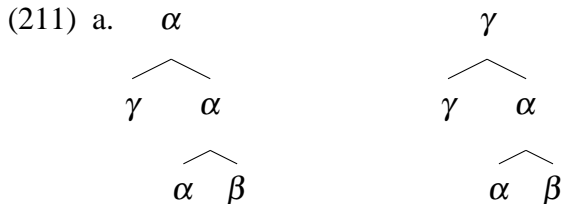
I propose that the difference between projecting and non-projecting heads is equivalent to the difference between relational and non-relational head. A non-relational head is defined by the fact that “it cannot take a complement or a specifier,” that is to say, it is a head that cannot project its own phrase. The projecting property of a syntactic object can be defined by its ability to label a structure. Therefore, a relational and a non-relational head can also be defined configurationally: if α and β merge, either one or the other labels the structure. For now, I will not consider antioptionality (cf. Kayne 2009), but I consider that either option is available.



Thus, a non-relational element is the element that does not label the structure and is defined structurally in a certain position. One might consider that there is nothing specific in α or β to make them able to label a structure or not, but they are a non-relational category in virtue of the position they occupy: thus, α is a non-relational category in (210b) but not in (210a); in contrast, β is a relational category in (210b) but not in (210a), in which it is a non-relational head, that is, a root. Therefore, I propose a non-lexicalist view of relational and non-relational categories: the difference must be stated in purely configurational terms. That is, non-relational categories are created in certain configurations, as those positions that do not label the structure in which they are merged.

A root position can be defined as the only position at which a head cannot label a structure. That is, a complement or a specifier, which are the two non-projecting positions. Thus, we say that γ is a specifier in (211a) because it does not label the structure, while it is a head, a relational head, that takes a complement in (211b)

because it labels the structure. The difference between (211a) and (211b) can be reduced to labeling.



Acedo-Matellán (2010) and Kayne (2009) consider that non-projecting heads, or roots, cannot be in the specifier position because of interface conditions. In Acedo-Matellán (2010) the properties of roots force them to conflate with some “functional [that is, a projecting head] node” and it follows from these two assumptions (Acedo-Matellán 2010: 76) that:

1. Roots always have a non-defective (null or not) phonological matrix (only functional heads may have a defective phonological matrix).
2. Non-conflated roots are not PF-interpretable (roots must conflate into some (functional) node).

From these two assumptions and the definition of conflation as a repair strategy, he concludes that specifiers cannot conflate with their complements because the complement of a specifier is always a phonologically non-defective phrase, since it includes a root in its bottom-most position. Therefore, roots in a specifier position cannot meet the legibility conditions stated in condition 2 above. This condition can be easily restated in our terms and follows from the configurational definitions of complement and specifier as first-merged and second-merged element (Chomsky 2007). Thus, a non-relational head in specifier position is always merged with a complement that contains a non-relational head in its domain. Therefore, I agree with Acedo-Matellán (2010) that if conflation provides PF interpretation, roots in the specifier position cannot be PF-interpreted because their complement is already a non-defective PF phrase.

The impossibility of conflation from a specifier position bans the presence of a non-relational element in the specifier position of a certain derivation. Thus, if roots are banned in a specifier position, they can only appear in the complement position. Concretely, they can only appear in the complement position generated at first merge since the other positions available are always specifier positions (recall Chomsky's configurational definition of complement and specifier, as first merge and later merge). Therefore, root positions can easily be derived from standard assumptions on labeling and configurational definitions about specifiers and complements. At the same time, nothing else is needed to derive the bottom-most position for roots in the structure and the particularity that roots can only appear once in a derivation.

In the next section I develop a configurational theory of argument structure patterns built on Acedo-Matellán's (2010) proposal. Then, in section 3.4.4 I come back to the ban on roots in the specifier position and propose an exception to the generalization stated above that follows from the claim that conflation, which I label as "feature percolation", operates within the limits of a phase. This new definition of conflation predicts that roots can appear in other positions than the complement created at first merge: they can appear after a phase head. We will see that a more relativized notion of label is needed to establish a coherent model of root positions, categories and lexicalization.

3.4.2 Argument structure patterns

One of the goals of Hale and Keyser's (1993) proposal is to develop a theory of categories that also provides an answer to argument structure regularities. On this view the question of how many categories there are and the question of why we only have a finite set of argument structure configurations are part of the same problem (see Mateu and Amadas 2001 for more discussion.).

In Kayne (2009) and De Belder and van Craenenbroeck (2011), there are only two basic categories, reproducing the classical divide between lexical and functional heads. In these theories, however, the differences between them are derivationally defined. We have discussed these in section 3.3.2.1 and section 3.3.3. However these authors do not take the Hale and Keyser project to the end and do not elaborate the relation that exists between these two different categories and the limited argument structure patterns found across languages. Although Boeckx (2010) also develops a configurational view of categories and points out that more complex categories can emerge configurationally from this system, he does not explore in detail how the different patterns observed in Hale and Keyser, but refined in Acedo-Matellán (2010); Mateu and Amadas (2001); Mateu (2002) (see section 3.3.2.2), can be derived from his system. In this section I propose a view of complex categories and argument structure patterns in strict configurational terms following these previous proposals.

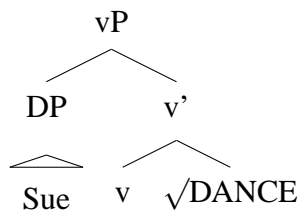
The difference between v and p is indeed configurational in Hale and Keyser (1993, 2002); Mateu and Amadas (2001); Mateu (2002). According to these authors, v can be defined as the functional/relational head that only takes a complement, while p can take both a complement and a specifier. However, that the difference between v and p is purely configurational can only be sustained if we maintain the distinction between v , the introducer of the external argument, and V , a pure eventive head associated with category V . If not, it is difficult to claim that the difference between v and p is that p can take a complement and specifier, while v only takes a complement. Thus, if there is no V , as in Acedo-Matellán (2010), the difference between v and p in configurational terms cannot be maintained anymore since v can license a specifier if it is not an unaccusative v . However, this is not a problem for the theory since it allows us to reduce the list of categories to just two: relational and non-relational categories.

As said before, the theory of categories and the theory of argument structure patterns go hand in hand in Hale and Keyser's program. Thus Acedo-Matellán

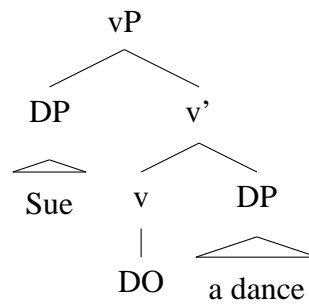
(2010) proposes a restricted set of argument structure patterns, based on simplification of the argument types defined by Mateu (2002)²⁵ that emerge from the combination of a restricted set of categories that comprise the category of v , p and root.

(212) Unergative/Transitive creation/consumption event: $v^* + \sqrt{\text{root}}/\text{DP}$

a. Sue danced

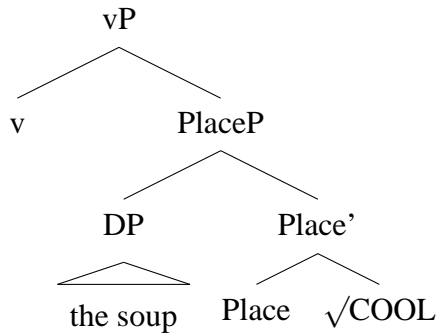


b. Sue did a dance

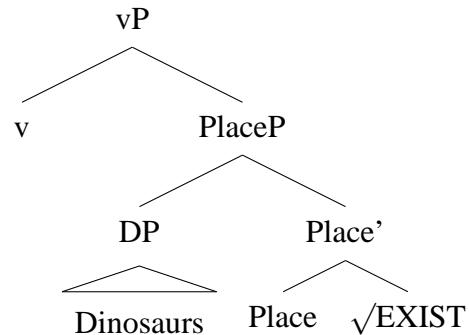


(213) Atelic unaccusative event: $v + p + \sqrt{\text{root}}/\text{DP}$

a. The soup cooled for an hour

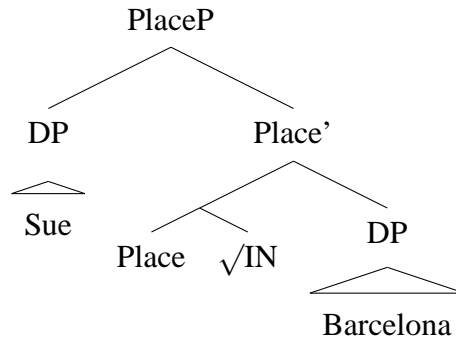


b. Dinosaurs existed for a long time



c. Sue is in Barcelona

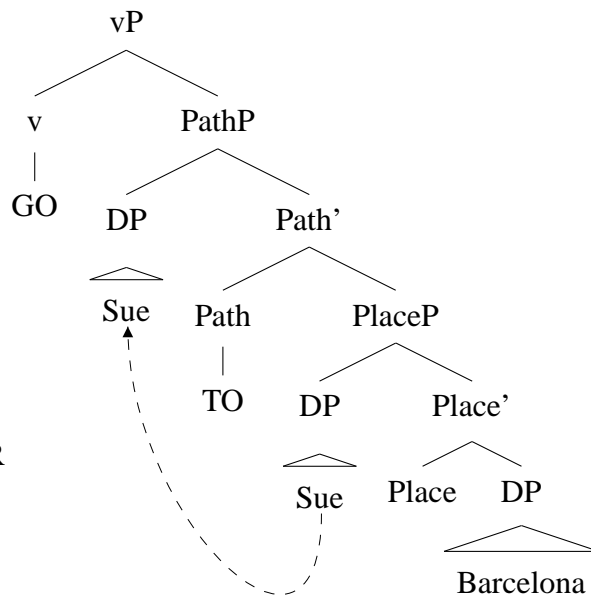
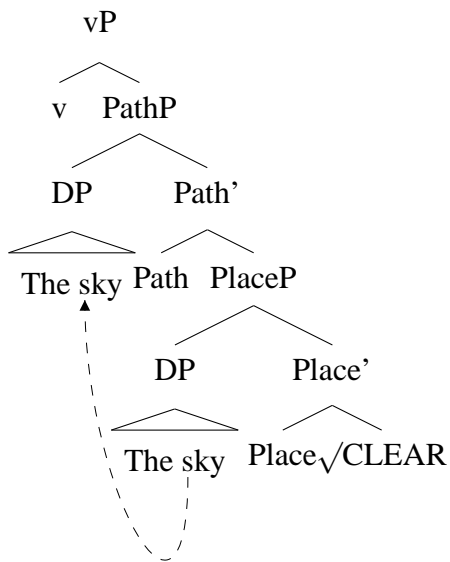
²⁵Note that in Acedo-Matellan's system roots can appear only as complements or as adjuncts of the heads. Some verbs in the examples are light verbs and do not have to be taken for roots. They are inserted as functional vocabulary items at the moment of vocabulary insertion; this is the case of verbs DO, GO, KEEP and PUT, and preposition TO in the examples below. I represent the difference between roots and these functional verbs or prepositions by $\sqrt{\text{ }}$.



(214) Unaccusative event of change of state/location: $v + p + p + \sqrt{\text{root}}/\text{DP}$

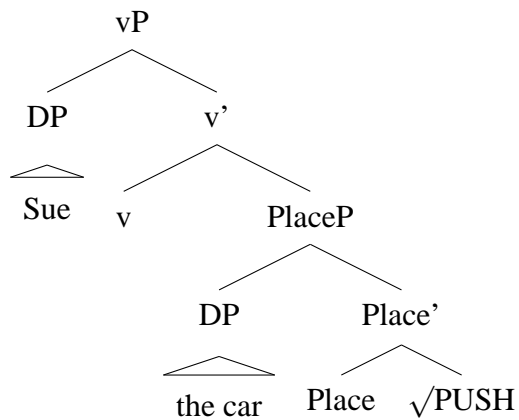
a. The sky cleared (in five minutes)

b. Sue went to Barcelona

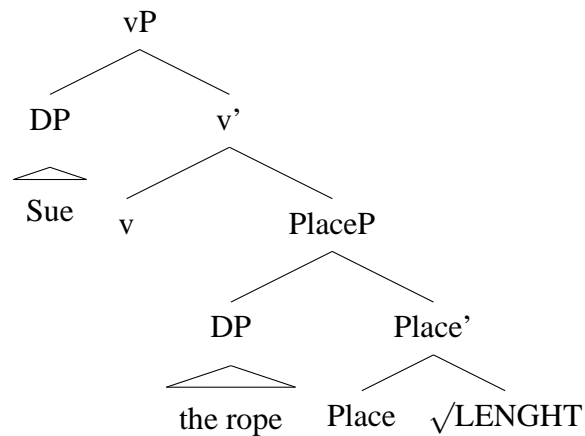


(215) Atelic transitive event: $v^* + p + \sqrt{\text{root}}/\text{DP}$

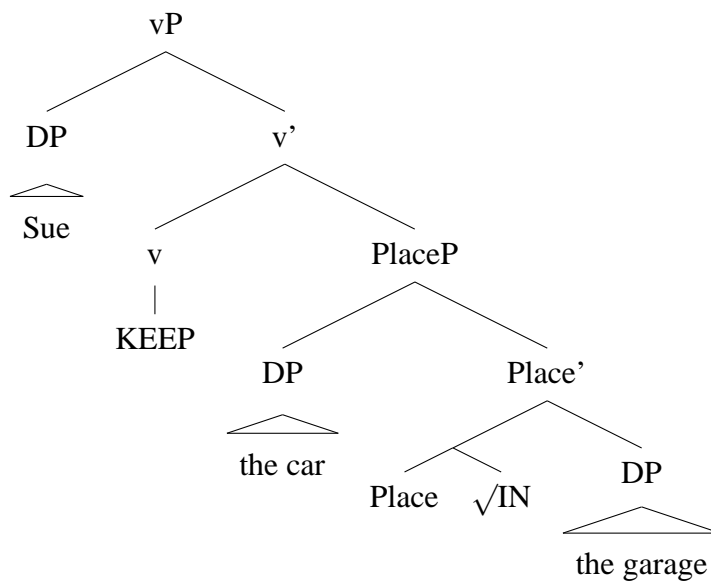
a. Sue pushed the car



b. Sue lengthened the rope (for five minutes)



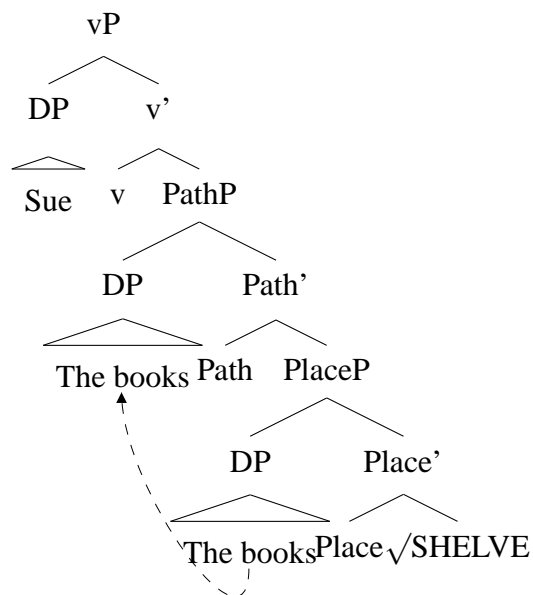
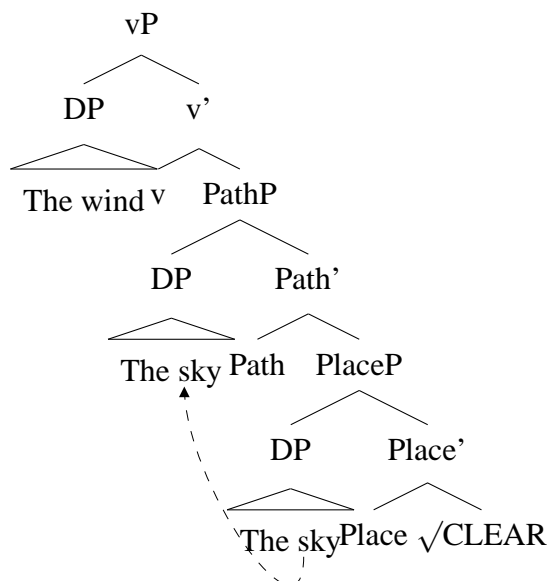
c. Sue kept the car in the garage (for five minutes)



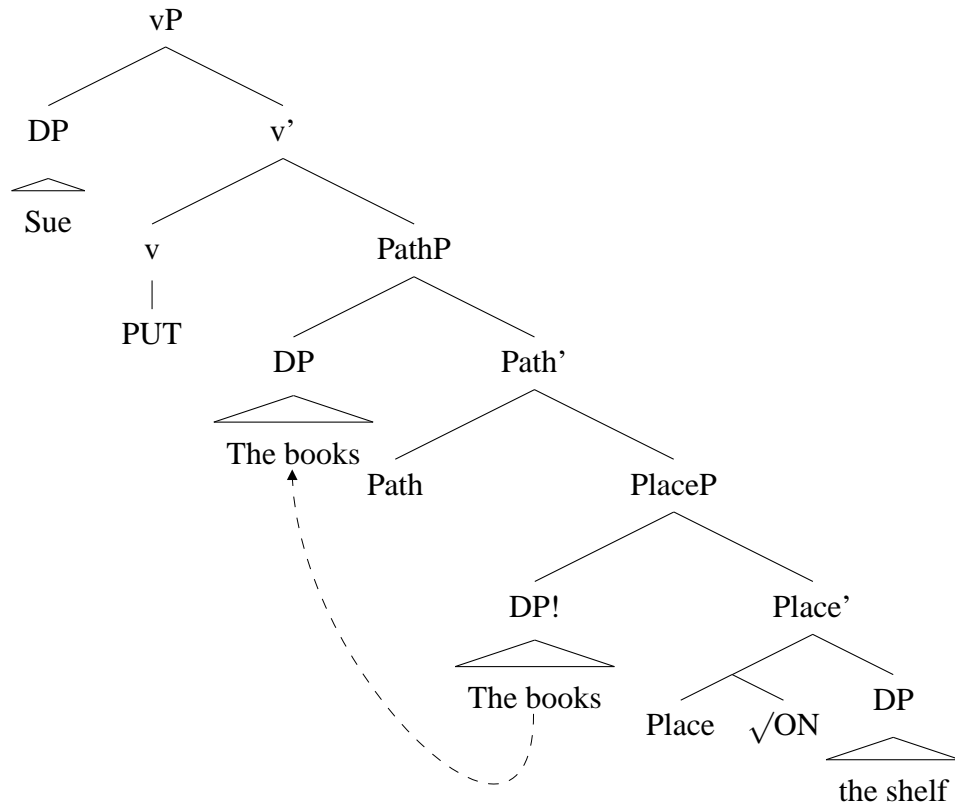
(216) Transitive event of change of state/location: $v^* + p + p + \sqrt{\text{root}}/\text{DP}$

a. The wind cleared the sky

b. Sue shelved the books



c. Sue put the books on the shelf



Therefore, Acedo-Matellán's (2010) system has five patterns, depending on the following features:²⁶

- the type of complement that *v* takes: (i) unergative/transitive ($v^{*+}\sqrt{\text{root}}/\text{DP}$); (ii) atelic transitive/unaccusative ($v^{(*)+} p + \sqrt{\text{root}}/\text{DP}$) and (iii) telic transitive/unaccusative ($v^{(*)+} p + p + \sqrt{\text{root}}/\text{DP}$).

- the type of *v*: *v* and *v**

²⁶There is still an unattested but logically possible pattern: if *v* takes a root or DP as complement, why is not *v* unaccusative? That is, why is $v + \sqrt{\text{root}}/\text{DP}$ configuration not possible? The answer to this is that normally unergatives are hidden transitives and that in classical accounts of unaccusatives the derived subject occupies the object position. But this is not the case anymore in haleandkeyserian accounts of unaccusatives, where derived subjects occupy the specifier position of a change of state predicate, a preposition in Mateu-Acedo-Matellán's approach. The solution could be that this structure would be ruled out at LF since it would be a case of vacuous predication, since unaccusative *v* cannot introduce a subject. Therefore, *v* is only an LF appropriate object if it selects a small clause, a predication. I leave this idea out of the discussion for now.

- the type of p : complex or simple p .

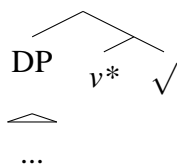
The two types of v have been analyzed in terms of defectivity. Thus, as assumed in “classical” accounts of unaccusativity we can distinguish two sorts of v : a complete v^* that can assign accusative case and licenses an External Argument, and a defective v that can be characterized as lacking an External Argument and is not able to assign accusative case to the object. In general, it is assumed that defective phase heads can be characterised according to these two properties:

1. They lack Case-Agreement
2. They lack External Argument

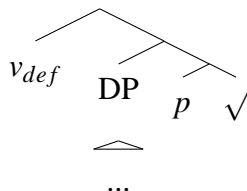
Path and Place heads are simple relational heads that can also come in these two flavors, defective and non-defective. However, they are defined in terms of complexity: a Path is a complex p , that is, it emerges from embedding a p head into a p head. Two relational ps merged successively are interpreted at LF as two successive locations, something that can be interpreted as creating a path. Adding a third point of location would be interpreted as the semantics of source, obtaining therefore motivation for the cartographic account put forth by Pantcheva (2008) and discussed in Chapter 2.

Therefore, the types of argument structure patterns can be derived from a reduced theory of categories of only two elements: relational and non-relational heads, and combinations between them. As discussed in section 3.4.1, non-relational heads are restricted to a particular position in the structure: the bottom-most position. However, a relational head can come in two flavors depending on whether it allows a specifier or not. Embedding of two relational heads leads to the Path/Place distinction, yielding the five argument structure patterns.

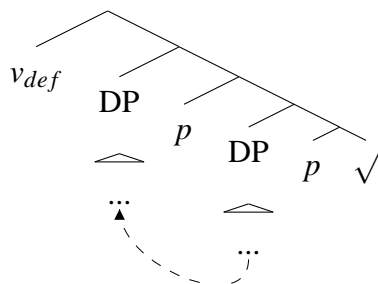
(217) Unergative/Transitive creation/consumption event: $v^* + \text{Root/DP}$



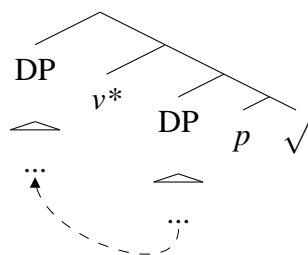
(218) Atelic unaccusative event: $v_{def} + p$



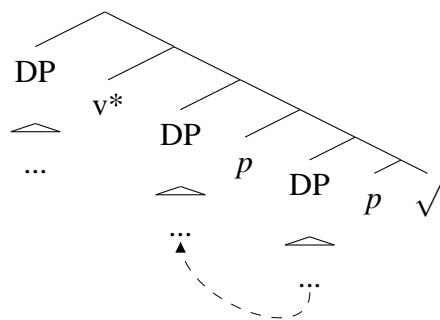
(219) Unaccusative event of change of state/location: $v_{def} + p + p$



(220) Atelic transitive event: $v^* + p$



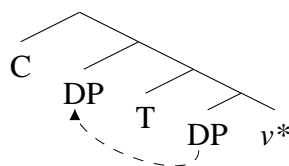
(221) Transitive event of change of state/location: $v^* + p+p$



3.4.3 The parallelism between the CP and the ν P domain

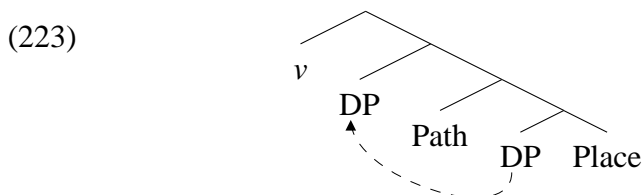
In the trees above, we note a particularity of PathPs that I will discuss in this section: the specifier of Path is always obtained by I(nternal)-Merge; the difference between PlaceP and PathP is that in PathP the Figure moves to the Specifier of Path to get the interpretation of Measurer, an interpretation linked to the telicity of the predicate that we leave out of the discussion now.²⁷ Thus, Path has this property in common with another functional head located in the sentential domain: T. Both heads have the particularity that their specifier is derived from below. In the case of T this has been formulated as the VP-internal subject hypothesis, which establishes that the subject originates somewhere within the ν P, in the specifier of ν^* as the external argument or below ν , in unaccusative configurations. The subject arrives at the Specifier of T where it gets nominative case and is interpreted in relation with T, that is, it receives a temporal interpretation.

(222)



A similar effect seems to happen between Path and Place. Thus the specifier of Path always arrives from below, internal-merge from the specifier of Place. As happens with T, the specifier of Path can get a temporal interpretation, a measurer of the event, and receives accusative case. The relationship between accusative case marking and the specifier of Path position seems to depend on the properties of ν , whether it is defective or non-defective (unaccusative). A similar relation has been attributed to the C-T domain, that has been accounted for by the feature inheritance theory (Chomsky 2008) that establishes that ϕ -features are generated in C and inherited in T.

²⁷But see Chapter 2 about the link between telicity and Path.



Therefore, the parallelism between the CP and the v P domains is based on these two factors: (i) the derived nature of the specifier of T/Path, and (ii) the intimate relation that exists between properties of C/v and properties of T/Path. In order to further explore the parallelism we would need to assume that Path belongs to the v phase as T belongs to the C phase, something that is not standardly assumed. The inventory of core functional categories will be (C, v and p)²⁸ and three phase domains can be distinguished:

- (224) (a) C - T
 (b) v - $p(ath)$
 (c) $p(lace)$ - Root

²⁸The three phase categories C, v and p can be defective and non-defective. Defective p will not allow a specifier and will be what Svenonius (2003) and Acedo-Matellán (2010) call intransitive prepositions or particles (see also Kayne 1985). However, if intransitive prepositions are to be identified with particles, particles are more likely to be instances of Path prepositions, something unexpected in our account. I try to give an answer to this puzzle in section 3.4.4; I think it is intimately linked with the nature of variation at the lexicalization level. Actually, the existence of particles of the Germanic sort is linked to the satellite/verb-framed distinction: the parametrization of what counts as a phase in each language. Thus, if $p(ath)$ can be the phase head in some languages, it can be defective and non-defective as well as the other core functional categories. Recall that I am not arguing that the core of functional categories varies across languages: actually it is assumed that $p(ath)$ and $p(lace)$, and ultimately, C and v , are the same type of category, namely, non-relational categories with a similar endowment with respect to features, ϕ -features and the edge-feature. The different interpretations that these categories receive emerge at the C-I interface and are related with the degree of embedding. Thus, one p is interpreted as a location, two p s receive the interpretation of a path, a third p (namely, v) receives a source/external argument interpretation, a fourth p (T) locates the predication in time, a fifth p (C) places the tensed predication in a discourse, and so forth. Thus, languages always have the same set of core functional categories but can vary regarding the point at which they externalize certain chunks of structure. For now, I leave this as an idea that needs to be elaborated in further research.

However, these are not the phase domains as they are standardly assumed. Thus, the ν P contains a V head and, as discussed in Chapter 2, it seems that Place and Path stand in a closer relation than what is inferred by (224 b) and (224 c). Usually, it is assumed that there are two phase domains, namely, ν P and CP:

(225) (a) C - T

(b) ν - V

But can we dispense with the V category? This category has been argued for as the category that contains the lexical information of the verb. However, in a proposal like the one outlined here, all syntactically non-relevant information and idiosyncratic meaning that is part of a verb is contained in the root. Therefore, the existence of a category V is redundant in this system and must be replaced by the concept of root. In this sense, it is true that ν can combine directly with a root (yielding the ν -V configuration), but it is also true that ν can combine with p and yield a different syntactic configuration. Therefore, the set of possible phase domains are the ones defined in (224 a), (224 b), (224 c) and (225 b), depending on the complexity and the degree of embedding of the root.

The parallelism between the CP domain and the ν P domain reinforces the Hale and Keyser hypothesis by which sentential and “so-called” lexical syntax are not different in nature. Actually, on the basis of this parallelism, I would endorse a stronger version of this hypothesis that can be formulated as follows: there are no differences between the C-T domain and the ν -V/Path domain.

However, Chomsky (2007) enumerates some asymmetries between these two phasal domains (Chomsky 2007:21). For example, ν -to-V movement is obligatory but C-to-T movement is not; ν is a categorizing element whereas C is not; V has lexical/semantic content, while it is not clear that T has semantic content (that is, that it is a root), and finally, ν is generally an affixal element if it has morphological content, while it is not clear if we can draw the same parallelism with C. Some of these asymmetries seem to be solved under the account outlined here,

since T and Path seem to be more alike than T and V/Root. The fact is that *v* can appear with a root or a more complex syntactic object, a PP, something that it is a desirable outcome if we understand Merge as being free. The fact that the possible combinations are restricted to four or five fixed types can emerge from conditions on interpretation at the interface. Thus, nothing would prevent C appearing with a root as its complement. However, the C-Root configuration is interpreted at the interfaces as a prepositional or verbal type of word, and not as a complementizer, since the notion of complementizer would require the presence of a more structured object, and of a higher degree of embedding of the root (see footnote (28), and Chapter 6 for discussion).

In conclusion, I propose that the CP and the vP domains are parallel domains that establish similar structural relations, something that can be viewed as a natural outcome of a strong formulation of Hale and Keyser hypothesis about the syntactic nature of lexical meaning and argument structure regularities. Thus, with Richards (2007) and Boeckx (2010), among others, I maintain that phase domains are similar between them and that all of them have “at least” a pairwise composition. The particular semantic interpretation associated between the different core functional categories may arise at the C-I interfaces and depends on the degree of embedding; it yields different types of semantic interpretation associated with a core abstract semantic value of location.

3.4.4 Lexicalization by Phase

In this section I develop, first, a proposal about the lexicalization process and, second, a proposal about cross-linguistic variation at the lexicalization level. As is standardly assumed in the Distributed Morphology framework, in lexicalization, we must consider the process of Vocabulary Insertion. Vocabulary insertion yields a correspondence between a syntactic terminal and an association of phonological and semantic content. The difference between functional vocabulary items (f-VI)

and lexical vocabulary items (l-VI) at the morphological level depends on their association with grammatical features.²⁹ Therefore, as a preliminary characterization, l-VIs, what we have also called, m(orphological)-roots are not associated with grammatical features, while f-VIs are.

- (226) (a) Cat. *dormia* ‘I/he/she slept’
 (b) / *dorm* / $\rightarrow \phi$
 (c) / *-ia* / \rightarrow [imperfect, singular , past]
 (d) / *a* / \rightarrow [place]

As discussed in Chapter 2, path expression in Romance languages is restricted to the verbal domain, something that has been identified as the verb-framed typology. In order to account for this lexicalization pattern, we need to explain why the root is not lexicalized as a preposition, but rather as a verb. Therefore, it seems that the *path* node, besides receiving a specific morphological interpretation at PF, ends up being categorized as a verb. I outline a proposal of lexicalization in the following sections to derive this pattern and, in general, the possible structures that verbs can lexicalize following Hale and Keyser’s Hypothesis.

However, first a revision of Acedo-Matellán’s linguistic types discussed in previous sections is in order. As shown in the examples below, these types are parallel to the unergative verb types defined by Hale and Keyser (1998).³⁰

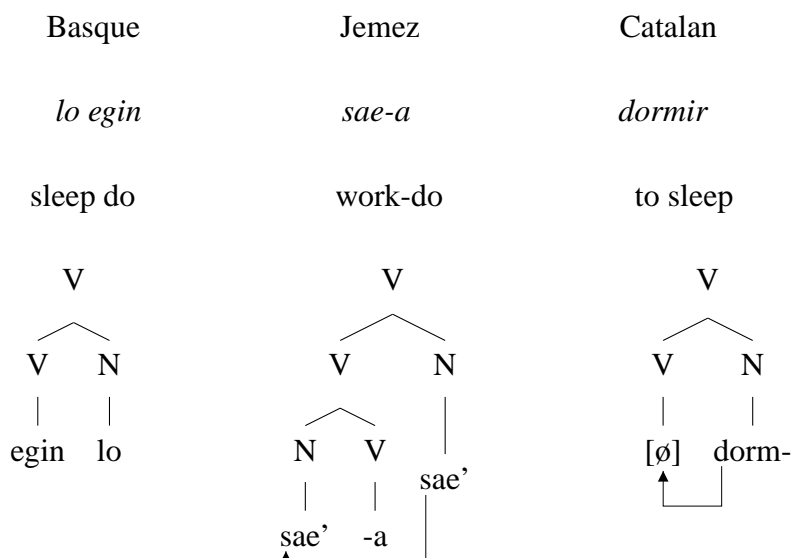
- (227) Patterns of motion verbs
 a. John went out (English)
 b. *Iohannes ex-iiit* (Latin)
 Iohannes out-went

²⁹Recall from the discussion before, and with Boeckx (2010), that lexical and functional vocabulary items as morphological items may not correspond with the divide between lexical and functional heads at the syntactic level. This mismatch is also noted and accounted for in Nanosyntactic theories and in Distributed Morphology approaches.

³⁰I am grateful to Cedric Boeckx for pointing out this parallelism to me.

- c. *El Joan eix-í* (Catalan)
The Joan went.out-PAST

(228) Patterns of unergative verbs



It seems that we can derive the three types of patterns from just two rules Vocabulary Insertion and Move + a notion of rule order that can be parametrized

- (229) 1. Basque type: Vocabulary Insertion (analytic form)
2. Jemez type: Vocabulary Insertion + Move (analytic form+affixation)
3. Catalan type: Move + Vocabulary Insertion (synthetic form)

The satellite vs. verb-framed types

- (230) 1. English type: Vocabulary Insertion
2. Latin type: Vocabulary Insertion + Move
3. Romance type: Move + Vocabulary Insertion

Crosslinguistic differences regarding lexicalization patterns could be expressed in terms of head-movement before or after Spell out (similar to syntactic parameters that express the overt vs. covert movement distinction, but on the PF side).

However, if languages vary in the order of the application of morphological rules, how can we derive intra-linguistic variation of synthetic and analytic patterns? ³¹

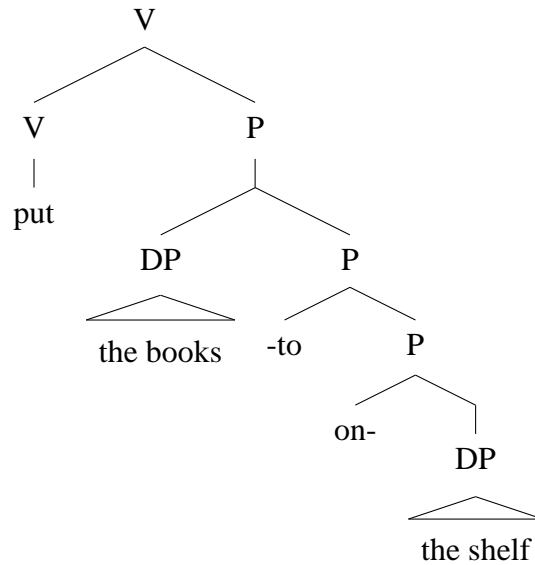
- (231) (a) *El Joan badalla*
 the Joan yawn
 Joan yawns/is yawning
- (b) *El Joan fa badalls*
 The Joan do yawn.pl
 Joan do yawns/is doing yawns

How are locatum/location verbs derived? Despite the fact that English has overt forms of *path* and *place* they can be covert if there is a non-phrasal element at the complement position of P.³² Analytic and synthetic forms, then, coexist in languages. The difference adopting a proposal in the spirit of ? could be as follows (see also Mateu 2002).

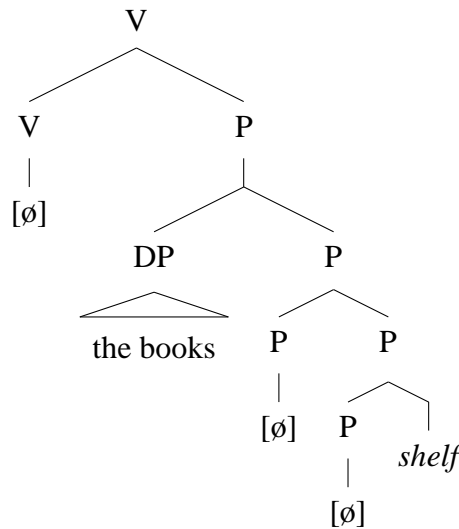
- (232) a. John put the books onto the shelf

³¹Assuming Hale and Keyser's hypothesis is on the right track.

³²Alternatively, one could assume that in certain syntactic contexts these heads are silent; silent elements arise from different conditions on linearization (*e.g.*: the Double-Filled Comp condition of Collins 2007; see also Kayne 2005). For reasons of space I am not going to consider this option in the dissertation.



b. John shelved the books

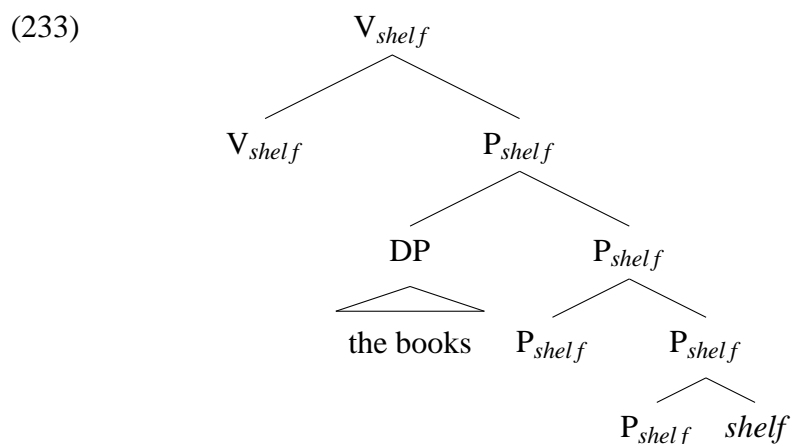


It is frequently assumed that when we have a root at the complement of P, then this root undergoes *conflation* and ends up being spelled-out as a verb. The mechanism of conflation has been understood in different ways (see footnote (3) for discussion) but in general the theories that follow Hale and Keyser's hypothesis consider that a root is some kind of affixal element that needs to be spelled-out in

the verbal head. This is achieved through conflation, seen as an operation that is part of the general syntactic operation of Merge, and follows from the assumptions below (from Harley 2004: 2):

1. Assumption on labeling: labels of constituents involve all the features of a head including some representation of the phonological matrix that is called the p(honological)-signature of the head.
2. Conflation occurs when a constituent α is merged with a sister head β whose p-signature is defective. Then the p-signature of α is merged into the defective p-signature of β .
3. An economy principle that says that the copied p-signature is only pronounced once, in the uppermost position.

From these assumptions the example in (232) would yield the following after conflation:



Crucially, the empirical observation is that synthetic verbs emerge when V has a defective p-signature. Alternatively, one may think that V has a defective p-signature because it takes a root element, that is to say, a non-phase head, as its

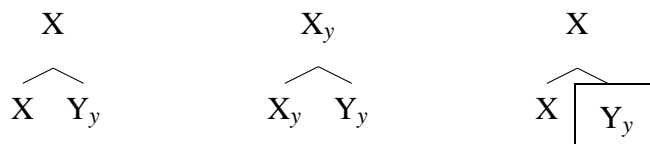
complement. Then, *v* has its own phonological interpretation (via insertion of a *f-VI*) if it takes as a complement a phrasal element. Thus, one can analyse structures in (228) following two different hypotheses:

- (i) covertness of *V* causes conflation, or
- (ii) the nature of the complement (whether it is phrasal or not) affects interpretation at PF.

If *v* takes a complex element, that is to say, a phrasal element, then direct Vocabulary Insertion applies to *v* via the general mechanism of vocabulary insertion. If the complement of *v* does not take a phrasal complement, then a root is inserted and *V* receives its phonological content by a mechanism similar to *conflation*, which I label P(honological)-signature Percolation to avoid confusion, and that I define in similar ways as Hale and Keyser's version of conflation, but with two modifications. First, contrary to Hale and Keyser's approach, *conflation* is not part of Merge but is a purely morphological operation as claimed by Harley (2004) and therefore takes place at the PF interface, where phonological features get interpreted. Second, as argued in Chapter 1, I assume that interfaces have access to syntactic derivation cyclically, at the phase head level. From this assumption, some authors have proposed that the domain of word formation is also sensitive to the notion of phase (Marantz 2007a; Marvin 2002). Crucially, I assume that words are created at the phase level and therefore P-signature Percolation applies at a certain phasal domain. With all this in mind I define P-signature Percolation as in (234).

- (234) P-signature Percolation: a node transmits its phonological features to the uppermost node in the morphological phase. If *X* and *Y* are in different morphological domains or phases P-signature Percolation does not take place.³³

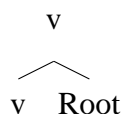
³³Another way to solve this problem would be to define contexts for insertion of functional words (see Acedo-Matellán 2010). Then a preposition like *to* is defined as follows. If the condition in (235) is not met then the realization of Path is null.



Therefore, one can say that if in the complement position we have a phase head then v cannot receive a phonological interpretation via P-signature Percolation, at which point Vocabulary Insertion applies to give an interpretation of the sequence. An example of how this operation applies would be the emergence of unergative verbs, in their synthetic and analytic forms.

For example, an unergative verb such as Eng. *to sleep* receives its phonological realization from vocabulary insertion of the terminal where the non-phase head, the s-root, is located. As v and V/Root are part of the same phase, P-signature Percolation applies and we obtain the verb *sleep*.³⁴

(237) Sleep

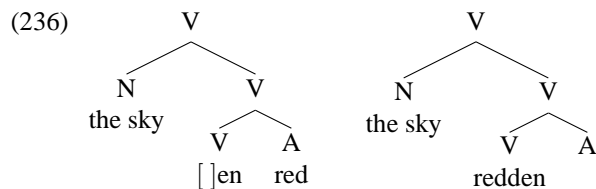


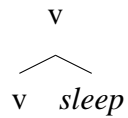
(238) a. Vocabulary insertion of the first node: free-choice of root by the Subset Principle

(235) / to / \rightarrow [Path [Place DP]]

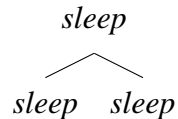
This account would imply redundant listing of each functional vocabulary item and it would lose the generalisation that one can establish from the cases listed above.

³⁴In other languages v is argued to have a phonological realization. Thus, some authors have argued that the thematic vowel present in Romance languages lexicalizes v . In these cases, P-signature Percolation works in the same way as the conflation operation in the Hale and Keyser proposal, to derive for example deadjectival verbs. To cover these cases we must assume, however, that roots must be phonologically interpreted in a functional projection, as proposed in Acedo-Matellán (2010).

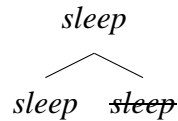




b. P-signature Percolation



c. Erasure/pronunciation of the upper copy

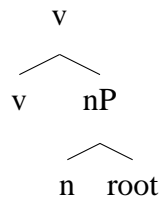


Now, how to derive analytic forms of activity verbs such as, for example, Eng. *to make sweat* as in the example from Harley(2005: 8)

(239) The athlete *made sweat*

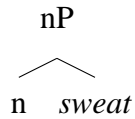
The structure of this analytic form would be the following, abstracting away from detail.

(240)

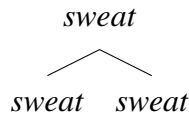


According to our assumptions, *n* is a phase head and therefore P-signature percolation cannot access *v* since its interpretation at PF proceeds sequentially in a phase. In this case, *v* would be interpreted separately and would have to receive an interpretation via Vocabulary insertion.

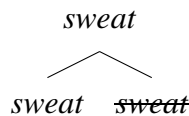
(241) a. Vocabulary insertion of the first node: free-choice of root by the Subset Principle



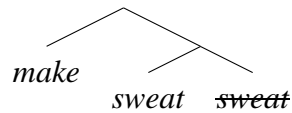
b. P-signature Percolation



c. Erasure/pronunciation of the upper copy

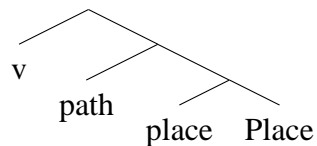


(242) Vocabulary insertion



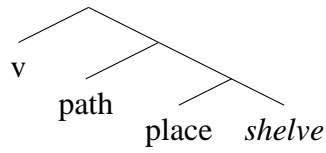
Following this rationale, we can derive the different types of Hale and Keyser synthetic verbs. For brevity's sake I only consider the transitive versions of the denominal location verb *to shelve* and deadjectival change of state verbs like *to break* (intransitive unaccusative versions of these verbs depend on features in *v*). Both of them receive the same analysis here, following Mateu (2002).³⁵

(243) Denominal Change of state transitive verb *to shelve*

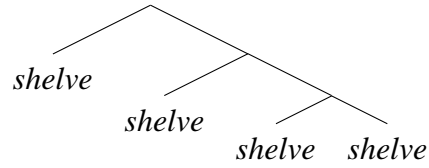


a. Vocabulary insertion of the first node: free-choice of root by the Subset Principle

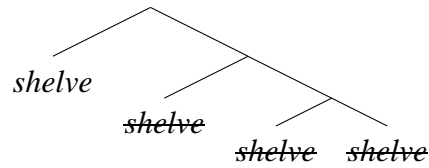
³⁵I refer the reader to this work for a justification.



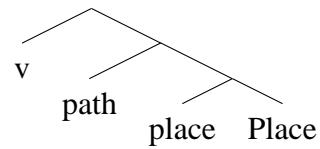
b. P-signature Percolation



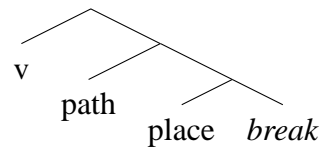
c. Erasure/pronunciation of the upper copy



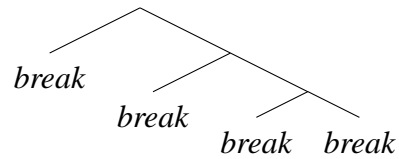
(244) Deadjectival change of state transitive verb *to break*



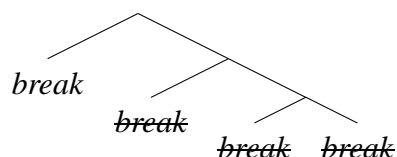
Vocabulary insertion of the first node: free-choice of root by the Subset Principle



b. P-signature Percolation



c. Erasure/pronunciation of the upper copy



From the approach just outlined in this section

Having these derivations in mind I outline the rest of the proposal in order to derive the verb and satellite-framed patterns. Thus, lexicalization which can be decomposed as a PF procedure that is formed at least by the process of Vocabulary Insertion and P-signature Percolation takes place within the domain of a phase. This fact has the following consequence regarding the distribution of roots within the derivation.

As argued in section 3.4.1, root positions can be defined as positions where there is a non-projecting head, and non-projecting heads can appear at first-merge, in the complement position, or at later-merge, in a specifier position. However, roots in the specifier position cannot receive a phonological interpretation since, following Acedo-Matellán's (2010) phonological properties of roots, in order to be interpretable roots must be conflated in functional nodes via conflation. But conflation can only take place if the sister of the root is a functional node, that is, it is phonologically defective. By definition, specifiers are always merged with a complex object, and there is necessarily one non-projecting head in the outcome of the first merge of two heads. Then, specifiers are never merged with a phonologically defective head, and cannot conflate. However, our relativization of the process of conflation to the phase domain has a consequence for the phonological interpretation of roots in a non-complement position. Thus, roots can be merged to a complex syntactic object if this syntactic object constitutes a phase domain, since the p-signature of the complement of the root will not be accessible. Thus, the p-signature of the root will be able to percolate up to the next phase head. In this situation, non-projecting elements can also be phonologically interpreted in this configuration. Therefore, root positions are predicted to appear

in the first-merge position of any derivation and after a phase domain, namely, at the first-merge position of any subderivation.

However, there is a problem with the definition of root position that we have been using so far. Root positions were defined based on the labeling of the structure: a root position is therefore the complement of a projecting/labeling head. However, we have said that roots can emerge in two positions: in the first merge of a derivation and in a sub-derivation. In this latter case, we must assume that a root can merge with a complex syntactic object if it constitutes a phase domain. However, what will the label of the structure be in these situations?



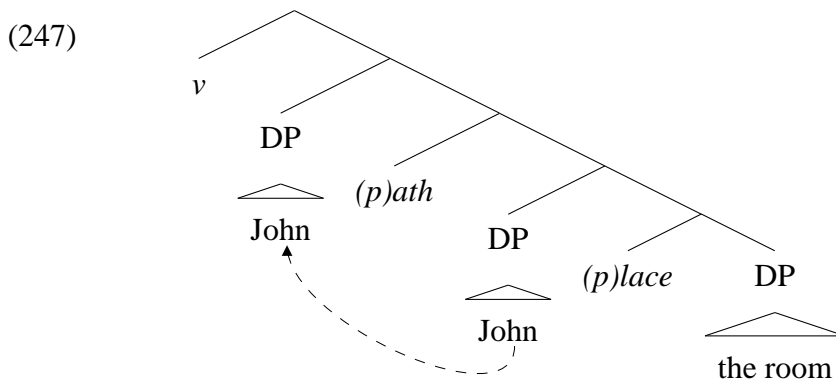
The structure in (245) can have two possible labelings. The solution in (246a) is incompatible with our configurational definition of roots as non-projecting elements and the solution in (246b) implies that the root is within the phase domain, more concretely, at the edge of a phase head.



A way to solve this problem is to weaken our initial claim that roots are non-projecting heads, defined as their capacity to label a structure. A way to do this is to restrict labeling interpretation to the phase domain. Thus, root positions will be non-projecting positions defined as those heads whose label is invisible to the interfaces. This means that a root can also take a complement if the complement of the root is a Phase domain. Thus, the solution in (246a) is an optimal solution and the root position is a non-projecting head in the relevant sense.

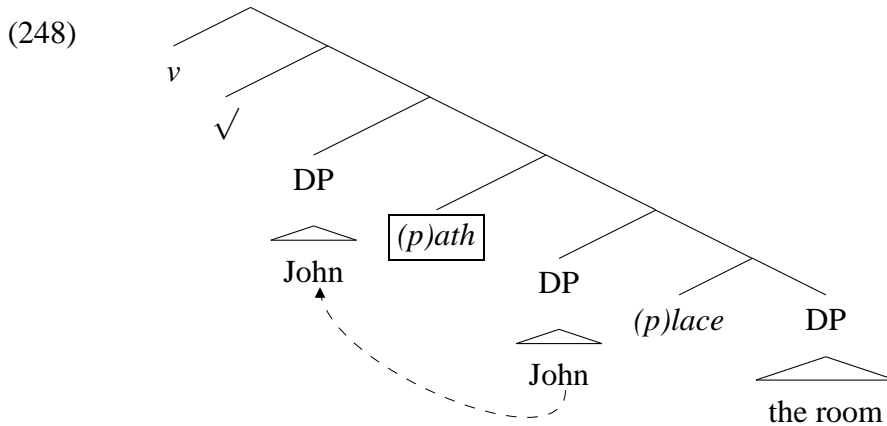
3.4.5 Deriving lexicalization patterns

As discussed in Chapter 2 the basic structure of a goal of motion event contains a path, that is, a complex preposition, and a verb. The structure of a basic analytic goal of motion construction such as “John went into the room” can be analyzed as follows:



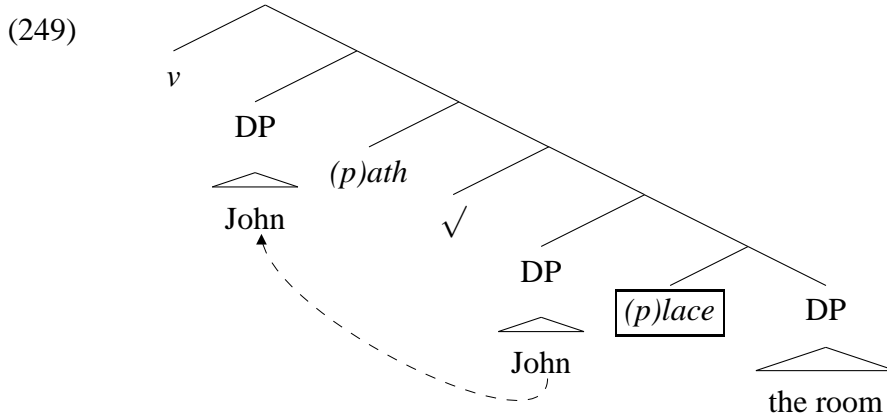
According to the proposal outlined before, lexicalization operates at the phase level. Thus, I propose that in a satellite-framed language the Path constitutes a Phase head. That is, in satellite-framed languages the interfaces have access to the syntactic derivations at the moment of the *p(ath)* head, not before. In contrast, verb-framed languages show a different pattern: interfaces have access to the derivation at an earlier point, concretely at the *p(lace)* head.

However, the difference in the points of access of the interface to the derivation affects the derivation in the following way. If *p(ath)* is a phase head in a satellite-framed language, then if the derivation proceeds by merging a *v*, a phase head itself, the derivation will crash for the reasons provided in Richards (2007, 2011), by which phases have a pairwise composition. Here I argue that phases have “at least” a pairwise composition, but not only. Thus there can be more than two non-phase heads in a phase. The derivation requires that an element be merged between *v* and *p(ath)*. Otherwise the derivation will crash. As stated in section 3.4.1, and by the generalization outlined before, the head merged after a phase domain can be a non-projecting head, that is, a root.



Therefore, in a satellite-framed language a root can appear after a Path preposition, since path constitutes a phase head and PathP a phasal domain.

In contrast, in verb-framed languages, it is $p(lace)$ and not $p(ath)$ which is a phase head. As was the case in the satellite-framed case, the phasehood of $p(lace)$ predicts that a root can also appear in the position after $p(lace)P$; embedded between $p(ath)$ and $p(lace)$.



As may be seen, the root in a verb-framed configuration is interpreted within the phase domain delimited by *v* and $p(ath)$. Thus, in verb framed languages, the path belongs to the verbal phase, and by our view of lexicalization this explains why path expressions are always lexicalized in the verb. Moreover, the verbal roots that can appear in goal of motion expressions receive a path interpretation because the root is dominated by a path and a verbal head.

In this account, languages vary at which specific points the interfaces can have access to the syntactic derivation. Thus, the syntactic structure being the same, the timing at which the interfaces have access to chunks of the structure would yield superficial differences at the lexicalization level. A similar account has been proposed for differences in the sentential domain in Romance and Germanic, as put forth in Gallego (2007, 2010). In that account the difference in phase domains is produced by a process of phase sliding that is a consequence of head movement. A similar approach could be entertained here to explain the difference between Romance and Germanic: satellite-framed languages undergo a movement from *place* to *path* that extends the phase to cover the *path* phrase. Thus, the process of Manner Incorporation is a consequence of the properties of the prepositional domain, concretely, the properties of the path domain. Languages that have a phasal path domain allow a root to be merged in the verbal phase domain. However, in languages of the verb-framed type, a root is only allowed to be present after a place head that defines a phase domain. Therefore, if a root is present it will be interpreted as a path if we agree with Arad (2003) that roots get interpreted in a local domain, specifically the domain of a phase. In verb framed languages roots are always dominated by a path head and therefore receive their interpretation from the context defined by path and verb. In the next section I will develop this idea to account for the manner/result complementarity.

3.5 Manner Incorporation: the manner and result complementarity

As discussed in Chapter 2, some manner of motion verbs appear in goal of motion constructions in Romance languages to express directed movement.

- (250) (a) *La moneta è scivolata nel buco*
 the coin be.aux slid in.the hole
 The coin slid in the hole

- (b) *Gianni è corso in casa*
 Gianni be.aux run in house
 Gianni ran into his house
- (c) *Le poisson a nagé dans la mer*
 the fish have.aux swum in the sea
 The fish swam in(to) the sea

As seen, the examples contain verbs that also appear in non-directed events of motion as manner of motion verbs and show a different auxiliary in perfective forms.

- (251) (a) *Gianni ha corso*
 Gianni have run
 Gianni ran
- (b) *Gianni è corso in casa*
 Gianni be.aux run in house
 Gianni ran into his house

After reviewing the examples from (250 a) to (250 c), Folli (2001) proposes that there is a third verbal type that encodes manner and result. This third verbal type challenges another well known generalization of how events are cross-linguistically expressed: the result-manner complementarity proposed in Levin and Rappaport (2013), among others.

According to the approach outlined in section 3.4.5, the difference between verb-framed and satellite-framed languages can be reduced to the timing at which the interface has access to syntactic derivation and is a consequence on the cyclic nature of Spell-Out. Thus, the third class of verbs singled out by Folli (2001) can be naturally accounted for in the proposal outlined in this chapter. Following Arad (2003), roots receive their interpretation locally. Thus, in Romance languages the root receives its interpretation from within this configuration, in which it is interpreted as path.



However, does the analysis in (252) imply that these verbs violate the manner/result complementarity? In order to answer this question we first need a theoretical notion of Manner, which I also define configurationally following the same principles of interpretation of roots as stated above.

(253) Manner interpretation arises when a root is c-commanded by *v* and belongs to the same phase domain with no intervening heads between them.

Thus, manner is a composite concept that defines a cluster of properties formed by the root that contains the encyclopaedic meaning and the structural meaning contributed by the *v* head. The manner result/complementarity in the examples above is respected since in the verbs analyzed in (252) *path* intervenes between *v* and the root. Moreover, the root receives its interpretation locally from the *path* head above. In contrast, in satellite-framed languages a manner interpretation is ensured since the root stays in the complement position of *v* with no head standing between them.

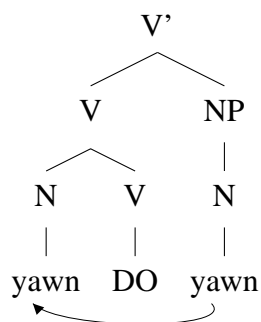


Therefore, in Romance goal of motion expressions, the root always lexicalizes [*v* [*path* [*√*]]] and the root receives its interpretation in this context. In the theory assumed here, m-root insertion is constrained by the possibilities of coercion of these roots to be interpreted as paths. Crucially, the roots that appear in these constructions are very limited and are those that denote a linear type of movement. The encyclopaedic knowledge and idiosyncratic information associated with roots prevent some of them from lexicalizing in the above-mentioned configuration. The proposal also has the welcome outcome that it can account for the high degree of cross-speaker variability in the acceptability of certain roots to be interpreted as paths (see den Dikken 2010a and Thomas 2001).

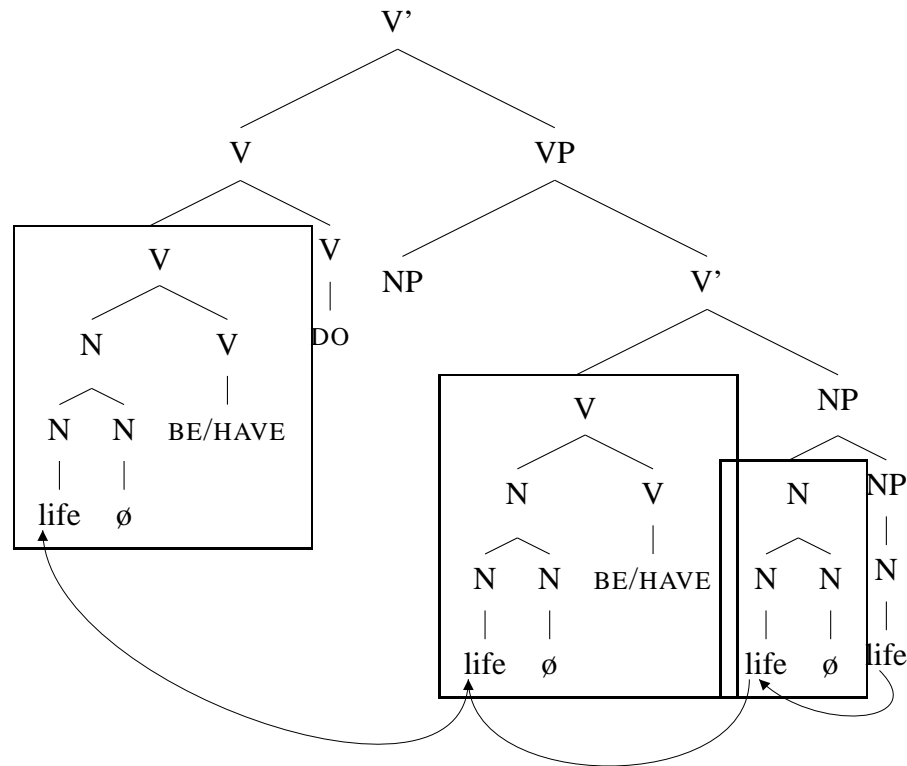
3.6 Manner incorporation does not involve actual incorporation

Arsenijevic (2010) argues that manner incorporation is syntactic in nature and proposes that it undergoes the same mechanism as normal conflated/incorporated structures. For example, both the derivation of a simple unergative verb and of a manner incorporated verb are derived by a process of successive syntactic head movement à la Baker (1988). Below I provide his account of Manner Incorporation in terms of syntactic incorporation. On his view cognate objects are generated by means of this operation:

(255) Unergative verb



(256) Manner- incorporation



In this section I discuss some of the arguments he provides and add a fourth argument based on inherent quantification of Bosque and Masullo (1998) that shows that our view of manner incorporation could account for these data once a specific definition of manner is provided.

Non-bridging verbs This argument is based on the fact that verbs of manner of saying behave in a different way from verbs of saying in which the manner is not specified. Non-bridge verbs are characterized by not allowing that-deletion, and the sentence that appears as the complement of the bridge verb is an island for extraction (Erteschik-Shir 1973). For Arsenijevic (2010) this fact is an argument against an approach of manner incorporation that does not involve syntactic head movement.

However, if the process of Manner Incorporation is the same for manner of saying verbs and other manner verbs, one needs to explain why in Romance languages the first type of verb is attested to trigger the same syntactic effects and why manner verbs in constructions of result are impossible. It seems therefore that the case of non-bridge verbs is a different case even if it involves a process of root insertion into a verbal domain.

- (257) (a) *Juan me dijo que María bes-ó a Pedro*
 Juan cl.1SG said that María kiss-ed at Pedro
 "Juan told me that María kissed Pedro"
- (b) *Juan me susurr-ó que María bes-ó a Pedro*
 Juan cl.1SG whisper-ed that María kiss-ed to Pedro
 Juan whispered that María kissed Pedro
- (c) *Who did Juan whisper me that María kissed?
- (d) **A quién me susurr-ó Juan que bes-ó María? A*
 to who cl.1SG whisper-ed Juan that kiss-ed María To
quién me dijo Juan que bes-ó María?
 who cl.1SG told Juan that kiss-ed María?
 Who did Juan tell me that María kissed?

These data could be explained in our account since as CP is a phase, then the verb phase domain can contain a root, since roots are allowed at the first merge of any sub-derivation.

Proportional quantification *Half* modifier can have an ambiguous interpretation with certain predicates: *half* is a proportional modifier that can be interpreted as referring to the scale implied by the result predicate and as quantifying over a scale that represents the evaluative degree of the event as an event of a certain kind. For example, in (258) two interpretations are possible. In the result quantification *half* quantifies over the scale provided by the amount of washed dishes. On the manner quantification one, *half* quantifies over the evaluative scale provided

by the event of washing as an event of this type. Hence in one of the possible meanings of (258), this sentence would be true if John washed the whole set of dishes, but did so in such a way that one can consider that the event of washing does not qualify totally as an event of washing.

(258) John half washed the dishes

Evaluative interpretations are equivalent to a paraphrase where there is a light verb and the incorporated element

(259) John was half washing the dishes

Evaluative readings are not possible with verbs with incorporated goals or incorporated objects. Evaluative readings are only possible with manner incorporated verbs.

(260) ?John half broke the dishes

(261) *John half ate/swept

The argument of Arsenijevic (2010) considers that if *half* can have scope over manner, and *half* quantification is restricted by the verbal type, and hence argument structure, quantification over manner means that a manner component is structurally present, and hence Manner incorporation should also be syntactic. Moreover ambiguity of example (258) means that in this case manner and result interpretation are available at the same time, challenging the manner/result complementarity.

However it is not clear that the two readings are possible at the same time. Actually, *wash* is a verb that can have two readings, a change of state reading that is telic and equivalent to “become washed”, and an atelic reading in which “the dishes” are not interpreted as undergoers of a change of state. The aspectual interpretation of the verb, hence, is atelic. Actually, *half* modification gets

disambiguated with adverbial modifiers: the atelic reading only allows the manner interpretation while the result reading only allows for the telic reading. The following contrast illustrates this point

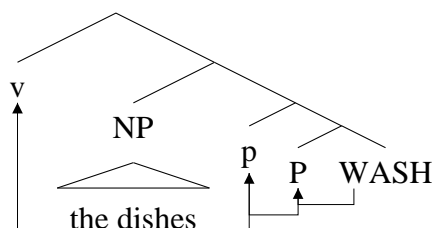
- (262) (a) John half washed the dishes in an hour/*for an hour (result reading)
 (b) John half washed the dishes for an hour/*in an hour (manner reading)

Moreover, if we look at other examples in which Manner Incorporation takes place, as in resultative constructions or goal of motion expressions, *half* modification does not give rise to ambiguity. The evaluative readings are the only possible readings for these examples, showing that *half* cannot have scope over the Result Phrase.

- (263) (a) John half danced into the room [int: half < danced; *half < into the room]
 (b) ?John half drank himself silly [int: half < drink; *half < silly]

The examples above show that *half* modification is sensitive to the lexicalization of the result. Thus, example (258) allows result modification because *wash* contains the structure of a change of state verb where the end-state is identified with the verbal root. I propose the following analysis for the telic reading of (258):

(264)



Therefore the modifier can have scope over *v* (yielding the manner reading) and over *p* (yielding the result reading) because they are both in the same domain (or phase). In contrast, in examples (263 a) and (263 b) the modifier does not have access to the result because the *pathP* constitutes an opaque domain. *Half*

modification does not provide an argument for manner incorporation as a syntactic operation but gives evidence about the existence of different phasal domains, and quantification is sensitive to them.

On the perspective endorsed here, the manner interpretation of *half* is obtained by the fact that it modifies *v*. Thus, manner is the interpretation of *v* at the semantic interface, without taking into account the precise lexicalization of this head. Modification of both manner and result is possible when they are in the same phasal domain and both the change of state head (*p*) and manner (*v*) form a chain, and the two subevents are identified, in line with Kratzer (1996).

Cognate arguments This argument is based on the distinction that there are three types of cognates: cognates of normal direct objects, cognates of result arguments, and adjunct cognates (see Chapter 4 for a deeper discussion on Cognate Objects). If cognate objects and cognate results can be analysed as incorporation, one must assume that cognate adjuncts are also generated in a similar way. The manner component incorporates at a lexical-syntax level and hence one can insert a phrasal argument at the level of sentential syntax.

(265) (a) a. John lived a happy live

(b) b. John shelved the book onto the top shelf

(c) Serbo-Croatian

Jovan je voleo ogromnom ljubalju
 Jovan aux loved great.inst love.inst
 Jovan loved with a great love

However, as we have seen before, Cognate Objects also constitute a problem for the incorporation approach of unergative verbs. Moreover, the argument that Manner Incorporation is syntactic incorporation and that cognates are merged in syntactic positions where the incorporated elements are base-generated, is weakened

by the fact that Instrumental Cognate Objects can appear trivially in languages where the Manner Incorporation process is not allowed, as in Catalan.

(266) *El Joan va martellejar la taula amb un martell de plàstic*
 the Joan aux hammer the table with a hammer of plastic
 Joan hammered the table with a plastic hammer

(267) **El Joan va martellejar la taula plana*
 the Joan aux hammer the table flat
 Joan hammered the table flat

Inherent Quantification Finally here I offer an argument that gives evidence that Manner Incorporation and Incorporation are crucially different processes. The argument is based on the concept of inherent quantification of Bosque and Masullo (1998). These authors study the different interpretations that degree modifiers have with verbs. They propose that there is a reading with denominal predicates in which the modifier quantifies³⁶ over the alleged incorporated noun. Thus, the example below is equivalent to the paraphrase from “Juan *did*³⁷ a lot of blood”.³⁸

(268) *Juan sangr-ó bastante*
 Juan bleed-ed enough

³⁶Inherent Quantification poses problems to theories that assume the atomicity of the word or the Lexical Integrity Hypothesis. Recall that *half*³⁶ modifier can also have access to the different layers of a word.

³⁷Stative use of *do*, in which *Juan* is conceived as originator.

³⁸Bosque and Masullo (1998) distinguish four types of readings regarding verbal quantification: event-quantification (quantification over the event), inherent quantification (over the incorporated nominal), argumental quantification (over the implicit argument of the verb) and a durative interpretation (over the duration of the event). For example, the sentence Sp. *Juan corre mucho* “John runs a lot”, can have the four readings (Bosque and Masullo (1998): 31) :

- eventive: Juan runs very often
- argumental: Juan runs long distances
- inherent: Juan goes very fast
- durative: Juan runs during a very long time

Juan bled a lot

Inherent quantification is interesting because it yields different results in incorporated and manner incorporated structures. Thus, constructions that involve manner incorporation (such as resultatives) do not allow inherent quantification. The degree quantifier cannot quantify over the incorporated manner since the root is out of the scope of the quantifier. The example in (269 a) cannot mean that John became silly by doing a lot of drinking.³⁹ Crucially, the quantifier cannot quantify the root in these structures.

(269) (a) *John drank a lot himself silly

(b) John drank a lot (John did a lot of drinking)

In conclusion, the arguments provided in Arsenijevic (2010) are not compelling since a manner incorporation account that does not involve syntactic head movement could explain the data. Moreover, the inherent quantification argument poses problems for a theory that considers Manner Incorporation to be similar to object incorporation since it cannot explain why inherent quantification is not allowed in the former case, but it is in the latter.

3.7 Conclusion

This chapter has explored a strong version of what I have called the Hale and Keyser Hypothesis and the consequences it has for the study of linguistic variation in the lexical domain. To do so, I have explored a syntactic theory of argument structure based on different proposals such as Acedo-Matellán (2010); Borer (2005); Hale and Keyser (1993); Mateu and Amadas (2001); Mateu (2002). I began with the idea sustained in Mateu and Amadas (2001) that meaning is a function of conceptual and encyclopaedic content that is not relevant for syntax

³⁹Eventive quantification is possible (269 a) if the quantifier is at the end of the sentence (taking scope over v): John drank himself silly a lot.

and syntactically transparent semantic construal. A way to theoretically tackle this claim is by proposing the existence of non-relational elements or roots that contains the non-syntactically relevant information. Thus, in section §3.3 I have discussed the theoretical notion of root in some of their different definitions and proposals, arriving at the conclusion that syntax operates with root positions that are semantically and phonologically underspecified (Harley 2011) and different from the notion of morphological root. Thus I explore three theories that account for the emergence of root positions in the derivation and develop my own account in section §3.4. I propose that root positions can be defined as non-projecting, ie., non-labeling syntactic heads, and by general syntactic principles this can only occur in two positions: at the bottom, first merge positions, of every (sub)derivation.

The chapter has also explored how lexicalization proceeds and how it varies across languages. Lexicalization hence takes place at PF and operates within the domain of a phase (Marantz (2007a)). Phase domains establish domains for lexicalization and allow feature percolation or vocabulary insertion as two ways of phonologically interpreting syntactic representations. By assuming that PF interpretation occurs within the domain of a phase, the restriction about root interpretation defined in Acedo-Matellán (2010) can be overcome in certain contexts: at the bottom-most position of every phase domain, roots can be interpretable.

Thus, the difference between languages that show a satellite-framed pattern and those that show a verb-framed pattern can be accounted for in similar terms as other well-known parameters that define cross-linguistic differences in the sentential domain. Therefore, the account gives support for a stronger version of Hale and Keyser's hypothesis by which lexicalization processes are syntactically driven.

Moreover, by allowing roots to be merged in more positions than the strict first-merge complement position I can propose an analysis of the Manner Incorporation process that does not involve any special or particular operation, and which

overcomes some of the problems of the approaches discussed in section 3.2.1.1 and section 3.3.1.

Thus, in section §3.5 I put forth that Manner Incorporation obtains when a root is immediately dominated by v and both are in the same phasal domain. However, in verb-framed languages this cannot happen because *path* is never a phase head. Therefore, the root is always dominated by *path* and v in the same phase domain and receives a path interpretation, if we assume with Arad (2003) that roots receive a semantic interpretation locally. The Manner/result complementarity is thus obtained after a configurational theory of manner is provided: the presence of any intervening head, ie., a path head, avoids the manner interpretation that can only be obtained if v locally domains the root. Finally, section §3.6 provided some arguments against a view of Manner Incorporation involving head movement, that is to say, syntactic incorporation (cf. Arsenijevic 2010).

However, as argued in Chapter 1, there are still some counterexamples and loose-ends that go against the Path-based approach, as endorsed here, and some arguments that favor the Manner Incorporation approach. Moreover, I need to explore whether the account outlined in this chapter can handle some constructions that are not directly goal of motion constructions, but which seem to be distributed following the satellite/verb-framed divide (Acedo-Matellán 2010). In chapter 4, I will study these constructions and provide some further arguments in favor of a path-based approach. In chapter 6 I will also discuss some consequences of the approach in the establishment of linguistic typologies, specifically in the division between verb-framed and satellite-framed languages.

Chapter 4

On Cognation

4.1 Introduction

In chapter 3, I discussed the property of verbal elasticity and its theoretical study. Verbal elasticity has been defined as the possibility for some types of verbs to appear in certain specific constructions. Normally, it is argued that some verbs, such as resultative verbs, show a rigid pattern, while unergative verbs or verbs of activity show an elastic pattern. Moreover, cross-linguistically one can say that some languages have more elastic verbs than others. For example, in some descriptive analyses the difference between English and Spanish has been defined by claiming that English is a construction based language and Spanish is a lexical based language. That is to say, in English, verbs can be accommodated in different types of constructions with different semantic construals, while Spanish verbs are more specified with respect to the type of constructions they can appear in. In chapter 3 I proposed an approach that seeks to account theoretically for cross-linguistic differences in the process of lexicalization, which can be compatible with a non-lexicalist approach. In this chapter, I discuss some counterexamples to the claim assumed before that Romance languages do not show verbal elasticity. For this

reason I examine the cognate object construction, some examples of resultative constructions, verb particle constructions and prefixed verbs.

Moreover, the chapter discusses some counterexamples to the Path-based approach to Talmy's lexicalization patterns developed in the previous chapter. These counterexamples can also provide arguments in favor of a Manner Incorporation approach, namely, the existence of simple resultative constructions in Romance languages, which involve a resultative AP or PP but no verb of manner, and the absence of effected object constructions, which involve a manner verb but not a path, at least apparently.

This chapter is structured in 6 sections. Section 2 studies two cases of verbal elasticity in Romance where an intransitive verb of activity takes an object or a small clause as a complement. Section 3 summarizes two arguments in favor of the Manner Incorporation approach: the existence of simple resultatives and the absence of effected object constructions in Romance languages. Section 4 analyzes cognate objects in Romance, English, and Icelandic. Section 5 accounts for some apparent counterexamples to the v-framedness of Romance languages, namely, the existence of some complex resultative constructions, verb-particle constructions, and prefixed verbs. Finally, section 6 concludes this chapter.

4.2 Elasticity in Romance: manner verbs in Romance can take objects, but what kind of objects?

In chapter 3, I discussed verbal elasticity in Germanic and Romance languages exploring why in Romance languages unergative verbs cannot combine with resultative predicates. Is verbal elasticity, however, totally absent from the Romance group?

Verbal elasticity can be defined as the ability of a particular verb to enter into different constructions that are associated with different meanings. While the core conceptual meaning of the verb, the non-syntactically relevant part of meaning, remains constant, the semantic construal associated with the construction varies. A verb is said to be elastic if it can accommodate its meaning to different semantic construals. As seen, “elastic” verbs belong to the aspectual class of activities and to the syntactic class of unergative predicates. As argued in Chapter 3, unergative predicates are the simplest form of verbs since they arise from the combination of a relational head and a non-relational head. All other types involve considering more complexity (see section 3.4.2). The reason for this is the requirement for verbal predicates to contain, at least one non-relational head. This non-relational head cannot take complements, at least in its phase domain. The prediction would be that in order for non-relational heads to take a complement the complement should be in another phase domain.

Understood in this way, the question about Romance and the availability of verbal elasticity in these languages is now more concrete. In which cases can unergative verbs take complements in Romance? The answer is in two cases: the case of cognate objects and some examples of complex resultative constructions.

COs are a case of verbal elasticity in Romance, if we understand verbal elasticity to be a case in which an unergative verb that is intransitive is able to take a complement. These complements can be intuitively characterized as being optional and as having a poor semantic contribution to the meaning of the event since the verbal root already implies the existence of this type of object.

(270) (a) *La Maria escrivia (una carta)* (Catalan)

The Maria wrote (a letter)

Maria was writing (a letter)

(b) *Marie fume (une cigarette)* (French)

Marie smoke (a cigarette)

Marie is smoking a cigarette

- (c) *Gianni balla (una tarantella)* (Italian)
 Gianni dance (a tarantella)
 Gianni dances a tarantella
- (d) *Juan está leyendo (un libro)* (Spanish)
 Juan is reading (a book)
 Juan is reading (a book)

Napoli (1992) argues that Romance languages do exhibit PP and AP resultatives like English. However, Romance resultatives, concretely Italian resultatives, are subject to a restriction on the semantic interpretation of such constructions. Thus, according to her, AP resultatives must be interpreted as focusing on the endpoint of the activity that the verb denotes. The examples she offers are the following:

- (271) (a) *Ho tagliato la carne in piccoli pezzi* (PP resultative)
 Have cut the meat in small pieces
 I cut the meat in small pieces
- (b) *Caterina è saltata nel garage* (Manner of motion + Goal)
 Caterina is jumped in the garage
 Caterina jumped into the garage
- (c) *Mia figlia ha cucito la gonna troppo stretta*
 My daughter has sewed the skirt too tight
 (AP resultative)

 My daughter sewed the skirt too tight
- (d) *Ho stirato la camicia piatta piatta* (AP resultative)
 Have ironed the shirt flat flat
 I ironed the shirt very flat

In chapter 2 I discussed constructions like the one in (271 b) and I argued that the verb is not a manner of motion verb like the English type, but is a root that is coerced to denote a path. Constructions like the ones in (271 a), (271 c) and (271 d) will be discussed in section 4.5.1. These constructions are present in Romance

languages in general, in Catalan (Mateu 2000) and in Spanish (Armstrong 2012; Demonte 1991; Masullo and Demonte 1999) in particular.

- (272) (a) *M' he lligat els cordons de les sabates ben estrets*
 me-DAT have tied the laces of the shoes very tight-PL
 (Catalan)

I tied the laces of my shoes very tight

(Examples from Mateu 2000)

- (b) *Lavó la camisa bien lavadita* (Spanish)
 Washed the shirt well washed-DIM.FEM
 She washed the shirt well washed

(Example from Armstrong 2012, *apud* Demonte 1991)

However they are not resultatives of the English type. For this reason in section §4.5 I discuss this type of resultative in light of the typology of resultatives of Washio (1997) and the interpretation of Mateu (2011).

According to the analysis of unergative verbs provided in Chapter 3, unergatives are hidden transitives that contain a non-relational head in the complement position of a relational head that is interpreted as verbal. Non-relational heads have been defined as heads that cannot project because of their structural position, namely, the bottom-most position in the derivation or in a sub-derivation, a phase. But, why does Romance allow a non-relational element to combine with a complement, a CO? In chapter 3 we saw that Germanic languages allow this possibility because the relational head that denotes a change of state event heads its own phase, and then labels the structure. This is not possible in Romance because path does not constitute a phase and for this reason we have shown that PPs, NPs or APs with a resultative meaning independent of the verb, are not possible in this group of languages. However, Cognate NPs, APs and PPs are. The question now is why?

4.3 Examples in favor of a Manner Incorporation approach

In Chapter 3 we argued that an account of Talmy's lexicalization patterns and related constructions based on the properties of paths is superior to an approach based on the presence/absence of a Manner component in certain constructions. I labeled the analysis that assumes the latter view the Manner Incorporation approach and I have considered it to be uniform, for brevity's sake. In any case, this approach considers that the relevant locus of variation involves a process of complex predicate formation or composition by which a Manner verb is integrated in a construction of result ¹.

However, an approach based on the properties of adpositions cannot account for the existence/absence of two types of constructions. First, Romance languages have simple resultative constructions, that is, light verbs can combine with APs and PPs that receive a resultative interpretation. A proposal based on the properties of paths cannot account for the fact that in certain cases the result can be expressed outside the verb through an AP or a PP. Precisely, in these cases Manner Incorporation has not taken place, something that can be explained and predicted by a Manner Incorporation account.

- (273) (a) *Juan puso a María nerviosa* (Spanish; from Mateu 2010)
 Juan put María nervous
 Juan made María nervous
- (b) *Juan volvió loca a María*
 Juan turned crazy to María
 Juan drove María crazy

Second, Romance languages lack a type of construction that is pervasive in Germanic languages, that is, reaction objects and effected object constructions. These

¹See chapter 1 for a summary, and chapter 3 for a critique of one of these approaches, namely Mateu and Rigau (2002, 2010); Mateu (2011)

constructions never involve a preposition and they do not show any morphological evidence of a path component cross-linguistically. However, they involve a manner verb that takes a DP object that gets interpreted as a result, and therefore is similar to other resultative constructions. Moreover, cross-linguistic distribution of this type of construction is similar to the one shown by resultatives and like constructions.

- (274) (a) Mary baked a cake
 (b) Suzie dug a hole
 (c) John smiled his thanks

A Manner Incorporation approach can account in a unified way for all types of resultatives, APs, PPs and also NPs, understood as Effected Objects. However, it is not evident how a Path incorporation approach would handle such examples.

In the next sections I am going to show that both Simple Resultatives and Effected Object Constructions do not pose problems to the Path Incorporation analysis and that they actually give evidence in its favor.

4.3.1 Simple resultatives

Simple resultatives are resultatives that do not involve a manner verb, but a light verb. Some examples in Spanish (from Mateu 2010:11) and Catalan (from Acedo-Matellán 2010:170) are the following:

- (275) (a) *Juan volvió loca a María* (Spanish)
 Juan turned crazy to María
 Juan drove María crazy
 (b) *Juan cayó enfermo* (Spanish)
 Juan fell sick
 Juan fell sick

- (276) (a) *La Sue va fer la taula neta*² (Catalan)
 the Sue AUX.3SG make the table clean
 Sue made the table clean
- (b) *La Sue deixà la taula neta* (Catalan)
 the Sue leave.PRF.3SG the table clean
 Sue left the table clean

These constructions are also present in French and Italian:

- (277) (a) *Marie a mis fort en colère Jean* (French)
 Marie has put very in rage Jean
 Marie made Jean very angry
- (b) *Talvolta la stampa ci lascia perplessi*
 sometimes the press us causes-to-remain puzzled
 (Italian; adapted from Cattaneo 2008:2)

Sometimes the press leaves us puzzled

All the light verbs that appear in this type of constructions have features in common: they convey a meaning of change or result. The resultative meaning of the construction belongs to the verb. Thus, as argued in Chapter 2, , as these light verbs can appear in directional constructions with non-directional prepositions, the directional meaning must be included in the semantics of the verb (see also Mateu 2010 for the same reasoning following den Dikken 2010b).

- (278) (a) *María puso las cartas en el cajón* (Spanish)
 María put the letters in the drawer
 María put the letters in the drawer
- (b) *Juan cayó en un pozo*
 Juan fell in a well
 Juan fell into a well

²This construction with a resultative meaning is not acceptable for all speakers of Catalan. See below for a possible analysis.

- (c) *La Sue deixà les claus en un prestatge* (Catalan)
 The Sue left the keys on a shelf
 Sue left her keys on a shelf

For this reason, Mateu (2000, 2010) argues that they involve incorporation of the Path component associated with the resultative predication. Therefore, this kind of simple resultative also shows the need to postulate a mechanism of path incorporation to be able to predict its semantic properties. Actually, this type of simple resultative is similar to the one discussed in Chapter 2 in which a directional verb of movement can appear with a locative preposition to form a goal of motion construction. Thus, in simple resultatives a resultative verb can combine with a predicative adjective to derive a resultative construction.

Actually the account runs into a problem with *fer* type of simple resultative construction because it features a light verb that does not seem to involve a path component in its meaning. Actually, the verb *fer* is usually analyzed as the pure causative verb *par excellence* in Romance languages. There are other examples of resultative *fer* in Catalan:

- (279) (a) *Això que li has dut el farà content*
 This that cl.DAT take cl.ACC make.FUT happy
 This thing that you brought him/her will make him/her happy
- (b) *He fet el formatge a rodanxes*
 have made the cheese at slices
 I have cut cheese in slices
- (c) *Hem fet la Maria presidenta*
 have done the Maria president
 We have made Maria president

Actually, Catalan verb *fer* appears in many more contexts than its Spanish and French cognates. It can acquire a great variety of semantic values that surpass the lexicalization of a causative *v* head. For example in Catalan, *fer* can appear with a causative meaning (280 a), a stative meaning, (280 b) and (280 c), as a weather

predicate (280 d), as a verb of saying (280 e), and as an epistemic verb (280 f, from Ramos 2002:2027).

- (280) (a) *El professor va fer sortir l' alumne de classe*
 The teacher aux make leave the student from class
 The teacher made the student leave the class
- (b) *Aquest pollastre fa dos quilos*
 This chicken makes two kilos
 This chicken weights two kilos
- (c) *Això fa pudor*
 This makes bad smell
 This stinks
- (d) *A Barcelona fa xafogor*
 In Barcelona makes stifling heat
 In Barcelona the heat is stifling
- (e) *Aleshores va fer que no amb el cap*
 Then AUX make that no with the head
 Then he/she nodded with his/her head
- (f) *La veritat és que feia ta mare més jove*
 the truth is that made your mother more young
 The truth is that I thought your mother was younger

Therefore, it seems clear that *fer* in Catalan encodes more semantic values than the realization of a pure causative *v*. Therefore, I propose that *fer* in Catalan can lexicalize different flavors of *v*, and can also be used in certain contexts to lexicalize *v+p*, that is to say, the combination of a causative relational head and a resultative relational head, path in the account.

All in all, simple resultative constructions do not favor a Manner Incorporation approach since the light verb that appears in these constructions is always aspectually specified. Actually, the existence of simple resultatives of this kind is another case for the manner/result complementarity. Thus, the fact that these light

verbs are resultative blocks the expression of manner in these verbs, accounting for the lack of complex resultatives but the existence of simple resultatives in this family of languages. On this perspective, simple resultatives not only do not argue in favor of a Manner Incorporation account, but they also give support to the path approach endorsed in this dissertation and provide another example of the manner/result complementarity discussed in Chapter 3.

4.3.2 Effected object constructions

Effected Object constructions constitute an argument for a Manner Incorporation approach because they involve a manner verb and an object that is created as a result of some activity denoted by the main verb. These constructions are not present in v-framed languages as argued by Acedo-Matellán (2010) and Mateu (2002, 2003). As argued in Marantz (2005) there is no compelling evidence to posit the existence of a resultative/path head in this type of construction, since there is no morphological evidence of a path component cross-linguistically. If this is true, how can we account for the lack of effected constructions in v-framed languages, assuming that a Path approach is on the right track? This type of example poses problems to path incorporation approaches, since a path is not involved. However, this argument is based on two assumptions: that effected objects are not present in v-framed languages, and that effected objects do not involve a path in their structure.

Regarding the first assumption, it is not clear at first sight that Effected Objects are never present in v-framed languages. Thus, we find some dubious examples in Spanish:

(281) (a) *Juan cav-ó un hoyo*
 Juan dig-PAST.3SG a hole
 Juan dug a hole

(b) *Juan le cocin-ó un-a paella*
 Juan CL.DAT.SG cook-PAST.3SG a-FEM[SG] paella

Juan cooked him/her a paella

- (c) *Juan escribi-ó un-a carta*
 Juan write-PAST.3SG a-FEM[SG] letter
 Juan wrote a letter

In the next section I argue that these examples are not effected objects. Therefore we may maintain the claim that they are absent from *v*-framed languages.

As for the second assumption, some authors have argued that these constructions involve more complex semantics than the one proposed in Mateu (2002) and Marantz (2005). Basically, Mateu (2002) and Marantz (2005) propose that these manner verbs take an object that is interpreted as an Incremental Theme. For Mateu (2002) creation objects are in the same position as hyponymic objects. The only difference between them is the position of the root. In hyponymic objects the root and the complement originate in the same structural position, and as the root incorporates into *v*, the object can be the spell-out of the trace that the root has left behind. Conversely, in creation verbs the root is introduced into *v* via the process of lexical subordination, or conflation, in the terminology of Mateu (2010) and Mateu and Rigau (2010), and the object of creation remains in an Incremental Theme position of an agentive relational head, *v*. For Marantz (2005), creation objects are understood as change of state events by themselves. Thus, the result state is denoted by a DP and this interpretation is obtained by coercion of the object. In this section I am going to discuss two proposals that defend the notion that Effected Objects involve a change of state head: Dobler (2008) and Acedo-Matellán (2010).

Dobler (2008) argues that creation verbs do not pattern as change of state verbs but as verbs of change of location. Taking the decomposition view of von Stechow (1996), she uses the test *again* to show that verbs of change of state and verbs of creation and change of location give rise to different readings, apart from the two readings discussed in von Stechow (1996). Crucially, with causative change of state predicates *again* can have two readings: the repetitive reading in

which it is understood that an action is repeated, and the restitutive reading in which it is implied that a state is restored (Nissenbaum 2006). Thus, apart from the restitutive and the repetitive reading, *again* can quantify over and under the existential quantifier that binds the direct object. However, in change of state verbs, restitutive *again* can never take scope over the existential operator. This is illustrated below³ :

(282) John painted a shell in pink again (Change of State predicate)

= John performed the activity of painting in pink a shell again. Repetitive reading.

= John took a shell and painted it in pink and there is the presupposition that this shell was painted in pink before. $\exists >$ Restitutive reading

= John took a new shell and painted it in pink and there is the presupposition that there was another shell that was painted in pink before.
*Restitutive reading $> \exists$

(283) Italians built a leaning tower again (Creation verbs)

=Italians performed the event of building a leaning tower again. Repetitive reading

= Italians made a leaning tower to be built again, and this leaning tower was built before. $\exists >$ Restitutive reading

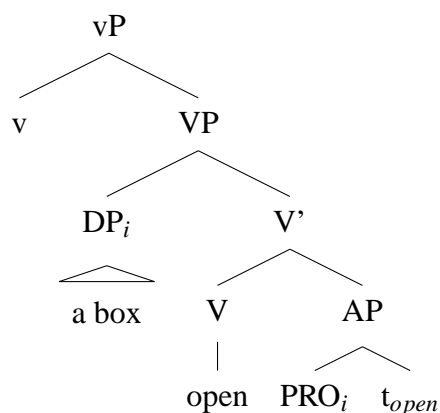
= Italians made a leaning tower and a new leaning tower was built before.
Restitutive reading $> \exists$

According to this ambiguity Dobler (2008) concludes that verbs of creation contain more structure than change of state predicates. Concretely, they contain a

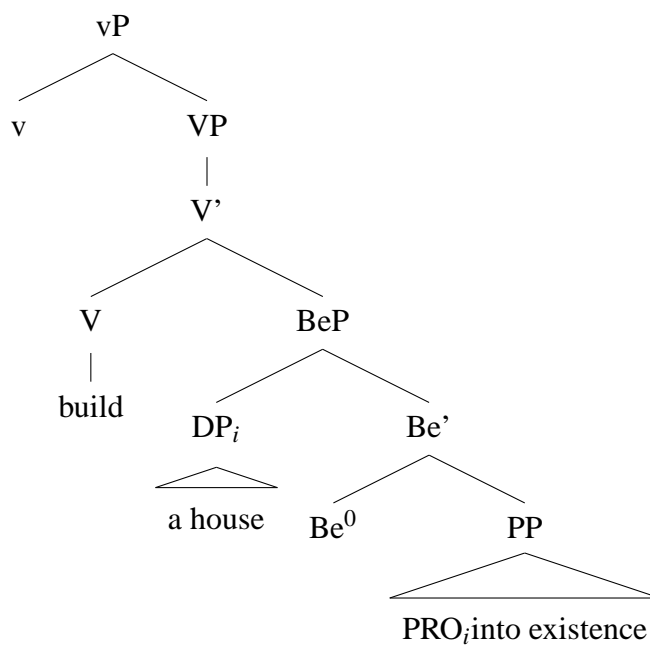
³I dismiss the interaction between the existential operator and repetitive *again* because it is not important for our purposes here, to establish a test that allows us to distinguish between change of state verbs and creation verbs. See Nissenbaum (2006) for more discussion.

predicative layer of location that anchors the object of creation in space and time. Therefore, the semantics of a verb of creation would be something like “to bring something into existence”. Although she does not explicitly represent the structure, the derivation would be as follows:

(284) Change of state verb: *open a box*



(285) Verb of creation: *build a house*



Creation verbs have access to readings in which the existential has narrow scope over *again* because *again* has two attachment sites: a high attachment reading at BeP and a low attachment reading below PP. Conversely, the existential in change of state verbs only has a wide scope reading because *again* can only be attached low under the restitutive reading. High attachment of *again* in these cases would be at VP and this would yield a repetitive reading.

The problem with Dobler's (2008) account is that it is not clear if creation verbs have wide scope readings of existentials with *again* operators (von Stechow 2001). Thus it is difficult to imagine a reading for (283) in which the leaning tower was restored into existence and that the leaning tower existed before. Therefore, contrary to change of state verbs, creation verbs do not carry the presupposition of existence. As a matter of fact, creation verbs presuppose that the object did not exist before the action was carried out. This cannot be reflected in Dobler's (2008) analysis since for her both readings are possible.

Moreover, Dobler's (2008) analysis is at odds with our view of change of state verbs, since for us a change of state relational head always includes a predicative layer in which the final state is asserted of the direct object. Therefore we would predict two attachment sites for *again* as well, in change of state and change of location predicates. However, in Dobler's analysis the lower layer of the creation verb is not a predicative layer; it is not a stative predicate of the BE sort. Actually, for Dobler this predicative layer contains a resultative predicate, namely, "into existence" which is what in our view induces the restitutive reading of *again*. Quantification of the predicative layer by *again* would not induce a restitutive reading but only quantification of the resultative head above. However, if this is the case, nothing prevents a narrow scope reading since for us the DO is base-generated in the specifier position of this predicative head. For now, I dismiss Dobler's analysis since it does not account for the real semantic properties of creation verbs: it predicts a reading that it is not available, the wide scope reading. The question is whether the presupposition of existence or the lack of it should

be represented in structural terms, or it is part of the conceptual semantics of this type of verbs.

However, Dobler's analysis brings into question the analysis of Mateu (2002) and Marantz (2005) in which creation objects are not linked to any subevent. The existence of restitutive readings (of any type) shows that more structure is needed if we assume the structural theory of *again* of von Stechow (1996) to be on the right track. Therefore, I assume with Beck and Johnson (2004), Dobler (2008) and von Stechow (2001) that creation verbs imply a change of state predicate in their inner structure.

Having stated that creation verbs involve a change of state and that this change of state must be structurally represented (cf. Marantz 2005), I am going to review now Acedo-Matellán's (2010) analysis of Effected Object Constructions. This author assumes that creation verbs involve a change of state predicate that in his theory is represented as a Path projection. The object of creation is generated as the complement of Place, and therefore receives the interpretation of a ground object, a result state. The author proposes that the object of creation moves to the specifier of Path, where it is also interpreted as a measurer of the event. Effected Object Constructions receive the same analysis as Ground Unselected Object constructions, since they express a transition without a figure and with a measurer ground. The object is interpreted as a figure in Ground Unselected Objects, since it behaves as a measurer of the event, as shown by the example below (from Acedo-Matellán 2010: 141, *apud* Levin and Sells 2009:316), where the quantity status of the object ground determines the (a)telicity of the predicate.

(286) (a) She wiped the counter off in/[#]for ten minutes

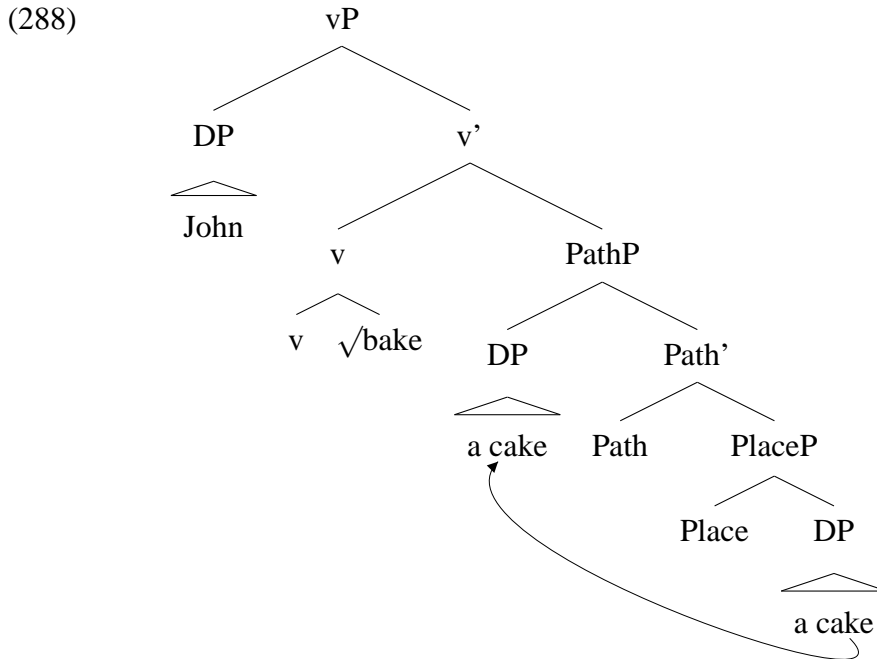
(b) She wiped glass off [#]in/ for ten minutes

The same is argued for creation verbs because they also show the same effects regarding quantity and telicity:

(287) (a) John baked a cake in an hour / [#]for an hour

(b) John baked cakes [#]in / for an hour

The derivation proposed by Acedo-Matellán (2010) for a sentence like “John baked a cake” would be the following:



In this derivation the object can't have a landing position in the specifier of Place, since it is an intransitive Place that according to the definition provided in Chapter 3 is a defective relational head without specifier.

This analysis derives nicely the lack of presupposition of existence of creation objects since they are directly originated as result states, and therefore *again* always has scope over the existential quantifier, if it is assumed that the restitutive reading of *again* targets PathP. This analysis, hence, could explain the temporal opacity noted by Beck and Johnson (2004) and von Stechow (2001) and that we have analysed in terms of scope relations between *again* and the existential quantifier, following Dobler (2008) and Nissenbaum (2006). Therefore, this analysis is superior to the ones that do not involve any structural position of change of state. However, it does not explain the cross-linguistic distribution of creation verbs and

resultative-like expressions. An account in line with (288) allows us to explain both issues, and gives a unified solution for the distribution of these constructions cross-linguistically.

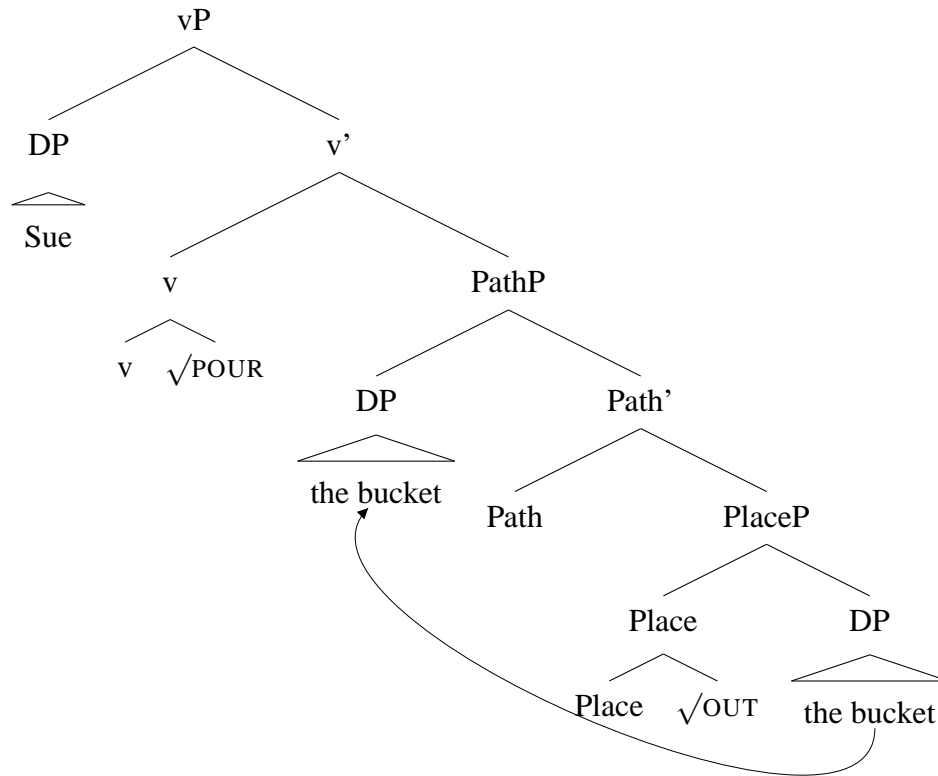
The only problem is the lack of morphological evidence for the existence of a Path or of a resultative predicate cross-linguistically. As far as is known, in no language do verbs of creation show a path morpheme or any incremental affix or particle with a resultative meaning. This is explained by Acedo-Matellán (2010) by the fact that the resultative predicate is identified with the Ground. Therefore, no resultative morpheme can appear since resultativity is expressed in the object itself. Although we agree with the intuition behind this proposal, there is a difficulty that Acedo-Matellán (2010) does not address: if creation objects pattern with ground unselected objects and they also undergo movement to a specifier of Path, why do unselected objects appear with particles or prefixes in German and Latin respectively? Why doesn't the ground object prevent the existence of a resultative morpheme, despite appearing in the same structural position? Here I provide two examples from Acedo-Matellán (2010), *apud* McIntyre (2004:538) and Svenonius(1996:32).

(289) (a) Pour the bucket *(out)

(b) *Tjeneren tørket bordet *(af)* (Danish)
 waiter-DEF wipes table-DEF off
 The waiter wipes the table off

The analysis of unselected ground objects is exactly the same as for the creation objects with the only difference that there is no root attached to Place in the latter case:

(290) Sue poured the bucket out



However, if we follow the analysis proposed in Chapter 2, a nominal element like “out of the bucket” must be analysed as a complex location in which the ground is expressed by *out* and this preposition is further specified by the DP “the bucket”. Instead in the case of creation objects the ground is expressed directly by the DP “the cake”, and so Place cannot be further specified by any preposition. Certainly, this is the intuition behind Acedo’s analysis. Nonetheless, although his account allows root adjunction to any functional head, it is not clear how to account for it. Therefore, it is precisely the existence of a particle or locative morphology that prevents a creation reading of the object, explaining why cross-linguistically creation verbs do not show any locative morphology whatsoever.

To conclude this section, let us review some examples of creation in Romance. Romance languages have been argued to have creation verbs because some verbs

have a creation semantics in the non-technical sense. Thus, they can coincide with the conceptual content of bringing something into existence. I repeat the examples here:

- (291) (a) *Juan escribió una carta*
 Juan wrote a letter
 Juan wrote a letter
- (b) *Juan cav-ó un agujero*
 Juan dig-PAST.3SG a hole
 Juan dug a hole
- (c) *Juan le cocin-ó un-a paella*
 Juan CL.DAT.SG cook-PAST.3SG a-FEM.SG paella
 Juan cooked him/her a paella

However, these verbs do not pattern as their English equivalents since they do not involve a subevent of change of state, as shown by Acedo-Matellán (2010) and Mateu (2003). For example, (291 c) cannot pass the test of Marantz (2005) (the example below is based in the example (213) of Acedo-Matellán 2010:149).

- (292) #*Juan cocinó una paella pero no le gustó, así que*
 Juan cooked a paella but not DAT.3SG liked, so that
la tiró y la cocinó de nuevo
 ACC.SG.FEM threw away and ACC.SG.FEM cooked again
 Juan cooked a paella but he didn't like it so he threw it away and cooked it again

Thus a verb like *cocinar* is not a creation verb. However, verbs like *escribir* and *cavar* can pass the test in (292), so they do seem to behave like creation verbs.

- (293) (a) *Juan escribió una carta pero no le gustó, así que*
 Juan wrote a letter but not DAT.3SG liked, so that
la tiró y la escribió de nuevo
 ACC.SG.FEM threw away and ACC.SG.FEM wrote again
nuevo

Juan wrote a letter but he didn't like it so he threw it away and wrote it again

- (b) *Juan cavó un hoyo pero no le gustó, así que*
 Juan dug a hole but not DAT.3SG liked, so that
lo destruyó y lo cavó de nuevo
 ACC.SG.FEM destroyed and ACC.SG.FEM dug again
 Juan dug a hole but he didn't like it so he destroyed it and dug it again

However, these verbs do no pattern alike since they do not arise restitutive readings with the prefix *re*. Instead a repetitive reading is obtained, contrary to what happens in English. Repetitive readings are possible in Romance with some unergative verbs.

- (294) (a) #*Juan escribió una carta pero no le gustó, así que*
 Juan wrote a letter but not DAT.3SG liked, so that
la tiró y la reescribió
 ACC.SG.FEM threw away and ACC.SG.FEM wrote again
- (b) # *Juan cavó un hoyo pero no le gustó, así*
 Juan dug a hole but not DAT.3SG liked, so that
que lo destruyó y lo ?recavó de
 ACC.SG.FEM destroyed and ACC.SG.FEM dug again
nuevo

The only interpretation possible in (294 a) is the one in which *re* is understood as repeating the activity of write a letter. Therefore, we can only interpret *reescribir* as an activity that modifies the letter, but without a restitution of the missing letter. In the case of *cavar re* prefixation is plainly bad, because *cavar* seems incompatible with the repetitive reading of (294 a) . Thus, *re* cannot have access to the subevent of change of state but only to the upper subevent, *v*. This is because

there is no subevent of change of state. In section §4.4 I explore this type of object in line with other examples of hyponymic objects.⁴

4.4 Cognate Objects

The name of cognate object refers to a kind of complement that bears a morphologically and/or semantic relation with the root of the verb it appears with. Examples of cognate objects are in (295 a) and (295 b) (from Jones 1988: 89):

- (295) (a) John died a gruesome death
 (b) Harry lived an uneventful life

Cognate Objects received widespread attention in the argument structure literature mostly during the nineteen eighties and nineties period. The discussion focused on the difficulty in classifying COs as arguments or adjuncts. In general terms, three analyses have been put forth: (i) that COs are arguments (Hale and Keyser 1997; Massam 1990; Pham 1999), (ii) that COs are adjuncts (Jones 1988; Mittwoch 1998; Moltmann 1989; Zubizarreta 1987) and (iii) that there are two kinds of COs, adjunct and argument COs (Nakajima 2006; Pereltsvaig 1999a,b, 2002).

One of the problems with the above-mentioned discussion resides in the multiple meanings that the term *cognate* receives. As has been pointed out (for instance in Jones 1988; Pereltsvaig 2002), the analyses in (i) and (ii) are based on the examination of different constructions. Theories of the (ii)-type take into account COs that are clearly adjuncts of the verb. Thus, the examples in (296 a)-(296 b) show that some COs are clearly adjuncts. For example, in Russian adjunct COs receive instrumental case (296 a) (from Pereltsvaig 1999a:273), and not accusative case; moreover, adjunct COs can appear with all kinds of predicates: unergatives,

⁴However, how can we explain the creation interpretation that we obtain with quantification by *otra vez* 'again' ? One possibility would be to argue that the creation meaning is illusory and arises from the interaction between *otra vez* and the meaning of the indefinite.

unaccusatives, passives, transitives or adjectives of the individual and stage-level type, as shown in (296 b), from Hebrew (Mittwoch 1998:314):

(296) (a) *Ivan ulybnulsja ščscastlivoj ulybkoj* (Russian)
 Ivan-NOM smiled happy smile-FEM-INSTR
 Ivan smiled a happy smile

(b) *Ein hu mofi'a hfa'a taxbirit ba-mišpat* (Hebrew)
 not it appears appearance syntactic in-the-sentence
 It does not appear syntactically in the sentence

Several languages such as (Modern and Biblical) Hebrew make extensive use of this construction to express manner adverbial modification. As this type of CO has specific properties that are not directly relevant for our study, I leave aside this type of construction from the scope of this chapter.

As pointed out in section §4.2, Cognate Objects are interesting because they represent a case of verbal elasticity in Romance; that is to say a case in which an unergative verb takes a complement. Adjunct Cognate Objects, therefore, as they do not seem to be complements of verbs, are not relevant to us at this point. Although Adjunct Cognate Objects are not used as frequently as in Russian or Hebrew, adjunct COs of this type are also found in Romance, as shown in the Spanish examples below:

(297) (a) *Caminaban por un camino difícil*
 Walked through a path difficult
 They walked on a difficult path

(b) *Murió de una muerte lenta*
 Died of a death slow
 He died a slow death

Besides the examples in (296 a)-(296 b)-(297 a)-(297 b), there are other type of COs that have the properties of a direct object. COs of this type are also called hyponymic Objects (HOs, from now on) since the object does not need to be a

cognate, namely, a noun morphologically related with the verb. The only requirement is that the object (an NP/DP or even a CP in some cases, see (298 a)-(298 b)-(298 c), from Jones 1988: 89) is interpreted as a hyponym of the verbal root:

- (298) (a) Sam danced a jig
(b) Bill dreamed he most peculiar thing
(c) Bill dreamed that he was a crocodile

For some authors (for example Jones 1988), COs and HOs are different constructions. For these authors, the former are genuine COs and are adjuncts while the latter are ordinary objects. This view is sustained on the basis of the properties of COs and HOs summarized below:

CO PROPERTIES		
	*A silly smile was smiled	Passivization
	*A silly smile, nobody smiled	Topicalization
	*Maggie smiled a silly smile and then her brother smiled it too	Pronominalization
(299)	*He smiled the smile for which he was famous	Definiteness Restriction
	*What did he die	Questioning
	?He died a death	Modifier Obligatory
	*He died a suicide/a murder	Object necessarily cognate
HO PROPERTIES		
	The Irish jig was danced by Bernadette Dooley	Passivization
	The Irish jig, nobody danced	Topicalization
	I sang the aria, then Tosca sang it	Pronominalization
(300)	Fred danced the slow number	Definiteness Restriction
	What did he sing?	Questioning
	She sang a song	Modifier Obligatory
	He sang an aria / a song	Object necessarily cognate

Table 4.4.1: CO and HO properties

The contrast between COs and HOs has been queried by Massam (1990), who argues that the differences between these two constructions are spurious. For her, their different behavior is caused by the fact that COs can receive an eventive meaning.

In Romance languages there are a few examples of COs but there are numerous examples of HOs:

(301) (a) **María sonrió una sonrisa malévola* (Spanish)
 María smiled a smile malevolent

(b) **Gianni è morto una morte lenta* (Italian)
 Gianni is dead a death slow

(302) (a) *La Maria va ballar una sardana* (Catalan)
 The Maria AUX dance a sardana
 Maria danced a sardana

(b) *Juan cantó una canción preciosa* (Spanish)
 Juan sang a song beautiful
 Juan sang a beautiful song

However, there are examples of COs in Romance:

(303) (a) *Reír la risa de un niño* (Spanish)
 to.laugh the laugh of a child
 To laugh the laugh of a child
 (Spanish; Mendikoetxea 1999: 1578)

(b) *Dorme il sono del giusto* (Italian)
 Sleeps the sleep of.the fair
 He/She sleeps the sleep of the just
 (Italian; Renzi 1988: 60)

(c) *Plorar llàgrimes de sang* (Catalan)
 To.cry tears of blood
 Crying for remorse

However, Romance COs do not display the alleged properties presented in (299). Actually, Romance COs are identical to HOs, contrary to what has been argued for English COs.

In this chapter, I am going to explore Massam's claim that English COs have some of the properties summarized in (299) because they can be interpreted as events. In this respect COs are similar to other types of objects also found in English, Reaction Objects (*e.g. Mary smiled her thanks*) or Effected Objects (*e.g. Mary baked a cake*), which have been argued to be interpreted as events (Marantz (2005)). In contrast, Romance COs cannot receive an eventive reading. Once the puzzle is characterized in this way, I argue that the contrast between English and Romance is related to other cases of unselected objects such as resultative constructions, as observed in Chapter 3.

4.4.1 English Cognate Objects

Cognate Objects have been classified as adjuncts because they show properties that are not characteristic of prototypical objects, as listed in (299). Most of these properties, however, have been questioned in the literature. For example, Macfarland (1995) shows that the lack of passivization is not a characteristic of all COs. The scarcity of examples is due to the non-referential status that these objects are frequently associated with, which makes them suitable topics in English. Thus, if a restrictive relative clause is added to the CO, passivization or topicalization of the object is possible.

(304) (a) One of the silliest smiles I've ever seen was smiled by Mary

(b) On the parade grounds commands must be roared, no whispered

(305) (a) The big cheery smile, Fran smiled it: it was Elsie who smiled the insipid smirky smile (Massam 1990:181)

Lack of passives in COCs is one of the main arguments for the advocates of the adjunct CO hypothesis. For example, Jones (1988) defends the idea that COs are caseless based on the following proof: COs do not need to A-move for case reasons since as NP adjuncts they do not need to receive case, adopting a modified

version of the Case Filter. However, as has been argued, lack of passivization can be explained on other grounds not related with the argument/adjunct distinction or the need for case. Furthermore, it seems to be false that COs are caseless, when we compare them with other modifiers. For example, there is a contrast between COs ((306 a)-(307 a)) and verbal modifiers ((306 b)-(307 b)): COs are not compatible with direct objects and impose a strong requirement of verbal adjacency (Massam 1990:166)

(306) (a) *Mordred killed the knight a gruesome kill

(b) Mordred killed the knight gruesomely

(307) (a) Let Ben run (*quickly) a little run

(b) Bel always runs (quickly) that way/two hours

The rest of the properties like the Definiteness Restriction or the impossibility of resuming these objects with a pronoun can be explained following the same reasoning, namely, that the CO is not semantically interpreted as a referential object. However, as argued in Massam (1990), the referential reading is always possible and hence it is easy to find counterexamples of the properties summarized in (299).

For instance, the claim that COs cannot be pronominalized is related with the referential properties of COs. This property has been argued to distinguish HOs from COs (Jones 1988):

(308) (a) I sang the aria then Tosca sang it

(b) *Maggie smiled him a silly smile and then smiled it to me as well

However, the contrast between (308 a) and (308 b) is related to the fact that COs are often associated with eventive readings. Actually, pronominalization is possible with these objects whenever event anaphora is possible (Mittwoch 1998:310):

(309) (a) A: John didn't wash his hands B: Yes! I saw it!

- (b) Mona smiled a tantalizing smile. Penelope noticed it and decided immediately that she would photograph it

Therefore, the difference between (308 a) and (308 b) only shows that COs do not refer to entities but to events. The contrast vanishes if COs are made referential:

- (310) (a) Mary screamed a blood-curdling scream and she screamed it practically in my ear (Kuno and Takami 2004: 132)

COs have been said to be a special type of object because of their aspectual contribution to the interpretation of the predicate. At first sight, COs and HOs behave differently because HOs allow telic readings, while COs don't:

- (311) (a) She danced for hours / #in one hour
 (b) She danced a polka⁵ #for one hour /in one hour
- (312) (a) She smiled for ten seconds / #in ten seconds
 (b) She smiled a winning smile for ten seconds / #in ten seconds

As before this property can be reduced to the semantic properties of COs. Thus, it is well known that the denotation of the direct object contributes to the aspectual interpretation of the predicate, shown by Krifka (1998); Verkuyl (1999) among others. Thus, prototypical COs do not denote objects and therefore they cannot delimit the event denoted by the verb.

Several authors (Horrocks and Stavrou 2006; Macfarland 1995; Tenny 1994) have argued that COs delimit the event denoted by the verb and therefore induce telic readings despite their incompatibility with frame adverbials (312 b). These authors argue that the activity of smiling in (312 b) provides a limit to the event that is imposed by the CO. The incompatibility with the frame adverbial is due

⁵With the durative adverbial we obtain a Sequence of Identical Event Interpretation (see MacDonald 2006) and we force a polka to be understood as a type and not as a token. This reading is available for telic events.

to the fact that it is not an incremental theme, that is to say, it is not the creation/consumption of the object that leads to the culmination of the event. They argue that the fact that these objects somehow structure the event allow them to induce a telic effect (the event of smiling arrives at a culmination when the smile is complete). As shown in the examples below, if the verb does not have an object, the event is not structured and no modifier can appear referring to parts or subparts of it (from Horrocks and Stavrou 2006: 3):

- (313) (a) He was in the middle of sighing a weary sigh when the phone rang
 (b) #He was in the middle of sighing when the phone rang

However, it is not clear why the construction does not allow frame adverbials if the CO is able to measure the event. Actually, the notion of Incremental Theme as stated in Dowty (1991) establishes that for certain predicates there are homomorphism between the physical extent of the argument and the temporal progress of the event. Formally the relation between the predicate and the object would be a “part-of” relation defined by Dowty (1991) as follows:

- (314) If x is part of y , then if a telic predicate maps y (as Theme) onto event e , it must map x onto an event e' which is part of e . (Dowty 1991: 567)

For instance, in an event of “writing a letter” parts of the letter correspond to subevents that are part of the whole event of writing a letter. If we apply this reasoning to a predicate such as “to sigh a weary sigh”, we see that part of the sigh does not correspond to parts of the event of sighing; instead a part of the sigh corresponds by itself to a complete event of sighing.

However, a predicate such as “to dance a dance” can be ambiguous. In one reading, the object “a dance” is interpreted as an event and therefore the homomorphism characteristic of Incremental Themes does not apply. Thus it is not true that parts of the dance are homomorphic with parts of the event of dancing, since the object denotes a complete event of dancing by itself. In other words, the assertion that “when the event of dance a dance is half over, there exists a half dance”

is false, since even when the event is half over, one can assert that there has been a complete event of dance.

In the other reading, the predicate does act as an Incremental Theme. In the reading when the object is interpreted referentially, it is true that parts of the dance (for instance, some parts of a polka) can be identified with parts of the event. In other words, when the event of “to dance a (concrete) dance” is half over then it is true that there is a half of this specific dance (*e.g.* a polka) that has been completed. For this reason, the sentence in (315) is compatible with both a frame adverbial and a durative one, each one triggering a specific interpretation of the object.

(315) She danced a beautiful dance in an hour/for an hour

Therefore, in the case of “sigh a weary sigh” the object does not act as a measurer of the event. Instead, what the contrast between (313 a) and (313 b) shows is the existence of event complexity within the group of COs. When the CO appears, the event denoted by the *vP* is structured allowing the modifier “in the middle of” to refer to a subpart of the event. Thus, (313 a) does not show that the CO measures the event, but rather that the CO introduces a new event which the modifier can refer to.

The ambiguity of COs is made evident again by the two interpretations that the adjectival modifier is subject to. In the eventive interpretation, modification of the noun by the adjective is semantically equivalent to the verbal modification of the derived adverbial modifier, as exemplified in (316 a) and (316 b) (see Huddleston et al. 2002; Jones 1988; Massam 1990; Mittwoch 1998):

(316) (a) He grinned a wicked grin

(b) He grinned wickedly

However, in the non-eventive interpretation of the nominal, the adjective modifier denotes a property of the object (Mittwoch 1998). For example, the sentence

in (317 a) is contradictory in the eventive reading, but it is not in the referential interpretation of the nominal. Thus, in the sentence in (317 b), the adjective *merry* denotes a property of an entity (a dance) and says nothing about the manner in which the event is achieved.

- (317) (a) #She danced sadly a merry dance (Eventive Interpretation of the CO)
 (b) She danced sadly a merry dance (Referential Interpretation of the CO)

Thus, English COs are ambiguous and can receive an eventive interpretation. As shown by Massam (1990), the Definiteness Restriction of nominals is crucially linked to their eventive meaning. As opposed to event nominalizations which ban the presence of weak determiners (Alexiadou 2001; Grimshaw 1990), nominals that refer in their unmarked case to a concrete object must be indefinite in order to receive an eventive meaning (Massam 1990:186):

- (318) (a) The destruction of the city took place yesterday
 (b) A / *The nice peaceful smoke would make me feel better
 (c) A / *The carrot juice would be nice

As observed, the Definiteness Restriction can be cancelled out by making the CO referential, and then allowing definite determiners or universal quantifiers, or allowing wide scope readings, contrary to what was expected according to (299) and (300) (Massam 1990:169):

- (319) (a) Who sneezed the high-pitched sneeze?
 (b) Tom sneezed every sneeze that we heard that day
 (c) People are smiling a dumb smile these days

Therefore, COs can display different properties from the alleged ones summarized in (299). Actually, English COs can behave as COs or as HOs according to their characterization in (299) and (300). In the following sections I show that

this is due to the fact that English COs allow an eventive interpretation of the nominal. That is, English COs allow two possible construals of the CO, one in which the object is interpreted as a Hyponymic Object and one in which the object is understood as an event.

4.4.2 Cognate Objects as events

As shown in previous section, COs can have two interpretations in English: they can be understood as hyponymic objects or as events. However, are these two semantic interpretations of the object structurally different? Horrocks and Stavrou (2006) and Massam (1990) argue that there is a single process by which a transitive verb is created from an intransitive one. This process is called Lexical Subordination (see Chapter 3 for some discussion). In the case of COs there is an additional subpart that derives the eventive nature of the object by a mechanism of coindexation with the manner component added by this operation (see Levin and Rapoport 1988). This coindexation is not present in hyponymic Objects something that explains the differences between COs and HOs discussed above. Then in Massam's proposal HOs ((320 a)-(321 d)) and COs ((321 a)-(321 d)) have the same Lexical Conceptual Structure (LCS) with the only difference being that the internal argument is coindexed with the subordinate action.

(320) (a) Tosca sang-

(b) LCS: [x verb]

(c) Tosca sang an aria

(d) LCS: [x CAUSE [y BECOME EXPRESSED]] by [x verb]

(321) (a) John laughed

(b) LCS: [x verb]

(c) John laughed a beautiful laugh

(d) LCS: [x CAUSE [y_i BECOME EXPRESSED]] by [x verb]_i

Masam explains the lack of passivization through the mechanism of coindexation establishing the generalization that direct objects cannot be passivized if they contain a bound variable. This generalization can explain why the sentences in (322 a)-(322 d) are ungrammatical. Note that the bound variable does not need to be syntactically explicit as in the case of COs (Massam 1990: 180):

(322) (a) *His way was moaned out of the door by Alfred

(b) *A way was moaned out the door by Alfred

(c) *Her thanks were smiled by Rilla

(d) *A silly smile was smiled by John

(323) (a) Matilda was waltzed across the floor by Bill

(b) A hole was poked in the screen by Linda

(c) The Irish jig was danced by Bernadette

The fact that there is a bound variable inside the direct object that becomes free in a passivization structure explains the unacceptability of ((322 a) through (322 d)) in contrast with (323 a) through (323 c). However, as seen in the preceding section, it seems to be unnecessary to appeal to a restriction in binding when there is a correlation between referentiality and passivization. Moreover, the problem of Massam's account resides in the difficulty of explaining how a lexical process can produce a similar result to the one produced by a violation of binding principles which apply to syntactic structures. Recall that Massam assumes a lexicalist view of Lexical Conceptual Structures that apply at a different representational level than Binding Theory which applies at the S-Structure. As this theory is incompatible with current views about the lexicon and the architecture of syntax that we are working with, I am not going to follow her account here. However, I endorse a modified version of her proposal and assume that there is a process by which

the descriptive insight of Massam can be captured without having to postulate a lexical device of coindexation. In fact, as argued extensively in previous chapters, arguments are merged into the syntactic derivation without having a mapping process from Lexical Conceptual Structures to argument structure representations. Therefore, I argue that the two interpretations of COs present in English correspond with two different syntactic derivations in which the object occupies a different position in the structure, in consonance with the radical configurational view of argument structure interpretation developed in Chapter 3.

In order to show this point, I first discuss Marantz's analysis of objects that are interpreted as events. The fact that DPs are interpreted as events is analyzed in Marantz (2005); he gives two diagnostics for eventive readings of objects in English: *re*-prefixation and the allowance of a benefactive double object construction. Both tests also show that the DP is interpreted as if it were linked to an event of change of state, an event of creation. For Marantz (2005, 2007b) the prefix *re* always quantifies the inner subevent (below *vP*). For this reason *re* is subject to Horn's Generalization (Horn 1980, *apud* Marantz 2007b), that is, it is only allowed with verbs that have a direct object that is linked to some internal event. There is a contrast between Incremental Theme verbs (*e.g.* Eng. *bake*) and verbs of change of state (*e.g.* Eng. *open*). In the first case, *re* quantifies over the object, that is, over the change of state that has as a result state the DP object. In the second, *re* quantifies over the change of state event that has as a result state the event denoted by the root (from Marantz 2005)

(324) (a) *John re-smiled (not repetitive reading)

(b) I re-built the house (→ end state: a house)

(c) The door re-opened; I re-opened the door (→ end state: open)

DP objects interpreted as events can also appear with benefactives. Following Pyllkkänen (2008), benefactives are high applicatives that relate an event and an individual, and they require an event interpretation to be constructed around the

object. Therefore, Marantz predicts that benefactive double object constructions should be possible with all constructions in which the DP object is interpreted as an event either of creation or of incremental change of state (Marantz 2005:12):

- (325) (a) John baked Mary a cake
 (b) Clean me an apple
 (c) Build me a house

COs in English can also accept this kind of benefactive. Actually, as pointed out by Marantz (2007b), activity verbs can become verbs of creation by the addition of a cognate object⁶:

- (326) (a) John smiled Mary a wicked smile
 (b) John danced me a waltz

Actually, both COs and verbs of creation allow *re*-prefixation:

- (327) (a) John re-danced the dance
 (b) John re-baked the cake

Therefore, we can conclude that English COs can be linked to some subevent of change of state. Thus, with Marantz I assume that COs add an eventive layer to the unergative verbal structure. Nevertheless, I have argued that some instances of the so-called Hyponymic Objects do not receive an eventive interpretation, but what I have called a referential interpretation of the object. Actually when *re* is prefixed, (328 a), or when a benefactive is added, (328 b), the object only allows a type reading, and not a token/referential interpretation.

- (328) (a) John re-danced the polka I dreamt about

⁶This analysis of English COs allows us to capture the meaning of creation that these complements have been argued to show in the literature on English COs (Horrocks and Stavrou (2006); Jespersen (1961); Massam (1990); Nogawa (1995, 1996); but see Mittwoch 1998 for arguments against this view).

(b) John danced me the polka I liked

The difference between COs and HOs is expressed overtly in Icelandic since the two constructions are morphologically distinguished by case. Thus, ? (2001:17), following Maling (2002), points out that there are two kinds of COs⁷ in Icelandic: one that bears dative case and another that bears accusative case (examples from ?: 15-16):

(329) (a) *Hún grét sárum gráti* (Icelandic)
 she cried bitter tears-DAT
 She cried bitter tears

(b) *Synja sönginn*
 sin song-ACC
 Sing a song

The difference between them is related to the referential properties of the object. ? shows that when an adjective that refers to a physical property modifies the object, and hence forces the eventive interpretation of the nominal, dative case is not licensed (?: 13).

(330) (a) *Hann dreymd hálfan draum*
 He dreamt half dream-ACC

(b) **Ham brosti hálfu brosi*
 He smiled half smile-DAT

? also argues that dative objects and accusative objects display different behavior from the point of view of the aspectual contribution of the object. Thus, dative objects are interpreted as linked to an event that is independent of the one expressed

⁷It seems that Icelandic also has adjunct COs in the sense discussed in section §4.4 and found in languages like Hebrew. The fact that these objects bear dative case must not be understood as meaning that they are adjunct COs. This can be shown by the fact that dative cognate objects undergo object shift, can be passivized, and show the same behavior as accusative objects regarding particle shift. See ? for more discussion.

by the verbal predicate. This point is clarified by observing other dative objects in Icelandic. A broad set of dative objects is found in constructions in which the object undergoes a change of location. Therefore, dative objects can be licensed by the appearance of a PP expressing a change of location (?:4):

- (331) (a) *Hann sló köttinn*
 he hit the.cat-ACC
- (b) *Hann sló kettinum í vegginn*
 He hit the cat-DAT against the.wall

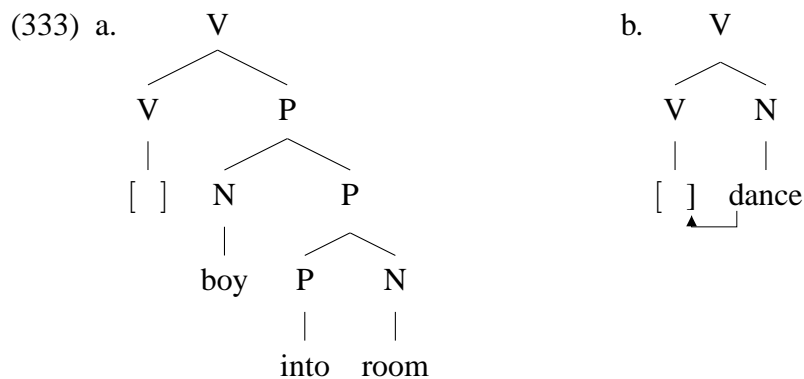
Furthermore, dative-accusative alternation is found in the locative alternation as well. Again, when the object denotes the location of the target of movement, it bears accusative case, while when the object is interpreted as the undergoer of the change of location, it appears with dative case (?:9).

- (332) (a) *Við hlóðum vagninn með heyi*
 We loaded the.wagon-ACC with hay-DAT
- (b) *Við hlóðum heyinu á vagninn*
 We loaded the.hay-DAT on the.wagon-ACC

Svenonius points out that dative objects are “only licensed in verb phrases which have two parts, an initiation of an event and some result of that initiation” (?:5). This claim is exemplified with the sentences in (332 a) and (332 b) in which we have an overt PP expressing a change of state event, in this case an event of change of location. However, it can also be generalized to dative COs. Thus, we can analyse CO as expressing the result of a change of state from non-existence to existence. The fact that Icelandic shows different case marking between these two CO types supports the hypothesis that referential COs and eventive COs are in two different structural positions.⁸

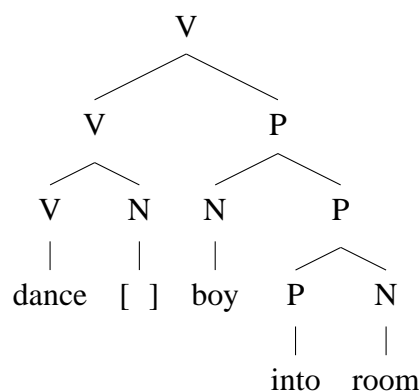
⁸See Marantz(2005:12) quote: “Prediction: But this isn’t just another way of saying that verbs of creation allow the benefactive double object constructions? No, verbs paraphraseable as verbs

The analysis of English COs highlights the similarities among these objects and other unselected objects, such as the ones that appear in resultative constructions. Thus, following the analysis of Mateu (2000, 2002); Mateu and Rigau (2002); Mateu (2003) resultative predicates contain a relational predicate of change of state that I have identified with Path. Moreover, these authors consider that resultatives are not obtained by the addition of a resultative phrase into a process event, as assumed by many authors, from Rappaport Hovav and Levin (1998) to Ramchand (2008b), but it is the process event that is added into a resultative structure by means of a process reminiscent of what has been called lexical subordination. This process is also identified with Manner Incorporation and is analyzed in Mateu (2000); Mateu and Amadas (2001); Mateu (2002); Mateu and Rigau (2002) as a General Transformation in which the structure of an unergative verb is merged/adjoined in the verbal head of the main change of state event predicate (see Chapter 3 for further discussion):



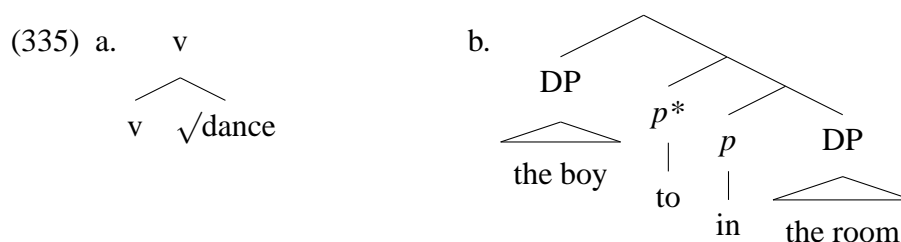
of creation won't be able to appear in the benefactive double object construction if they don't have a DP interpreted as an event. So verbs that include a piece (could be the root or an affix) that names the state in the lower eventuality for a description of creation won't allow the benefactive double object construction." Therefore, it is necessary to define verb of creation in the theoretical sense. Verbs of creation in Spanish may have (non-structural) semantics of creation but they do not have a semantic construal of creation.

(334)



As discussed in Chapter 3, this process of lexical subordination or Manner Incorporation has also been analysed as direct adjunction of a root (and not of a lexically marked unergative verb) into the *v* head (Acedo-Matellán 2010).⁹ Mateu (2010), Mateu (2011) and Mateu and Rigau (2010) propose that this process is achieved through a morphological operation of conflation as defined in Haugen (2009), which I discuss in more detail in section 4.4.4. In this dissertation, I defend the view that this process of lexical subordination or Manner Incorporation is not derived from any specific syntactic or morphological operation. I have rejected the root adjunction view of Acedo-Matellán (2010) in Chapter 3, in section 3.2.1.2. Instead I have proposed that roots are non-relational elements that do not take complements since they are at the bottom-most point of a phase derivation. Therefore, unergative verbs, that is, those verbs that emerge from the verbalization of a non-relational element, can appear by themselves, at the beginning of a derivation or with phasal complements, since in this case the root will be at the bottom-most position of the subderivation. In the resultative analysis, I have proposed that the unergative verb stays in an independent phase domain and takes a resultative change of state predicate that constitutes another independent phase domain:

⁹But see Acedo-Matellán (2011b) for a proposal much in line with Mateu and Rigau's (2002) view of lexical subordination derived from the theory of layered derivations and late root insertion proposed in De Belder and van Craenenbroeck (2011). See chapter 3 for discussion.



Marantz (2005) and Mateu (2003) propose an analysis of creation verbs that assumes that the objects of creation verbs are not in the complement or the specifier of the verbal root, as affected objects are. Marantz (2005) establishes that the DP object is understood as an event, which can be interpreted as denoting a change of state from non-existence to existence. In his proposal this interpretation is not obtained by any functional projection but by a process of coercion that makes these objects able to get an eventive interpretation. Marantz argues that the presence of a functional projection cannot be supported by any paradigmatic or theoretical argument. Thus, verbs of creation do not show any overt morpheme cross-linguistically and therefore the presence of a change of state head is not justified. Mateu (2003) assumes that the DP is not linked to any functional projection of change of state, but stands in the complement of an eventive relational head as an ordinary Incremental Theme, according to his configurational theory of argument structure. However, this construction is similar to the resultative construction not because of the change of state interpretation of the verbal predicate but by the existence of an unergative verb that undergoes a process of lexical subordination like the one depicted in (333) and (334).

Nevertheless, as argued in Acedo-Matellán (2010), the presence of a functional head denoting the change of state event could be justified on empirical grounds since it would give a unified account for the cross-linguistic distribution of resultatives and verbs of creation attested in the literature. The cross-linguistic distribution of these constructions is related to the s/v-framed distinction of Talmy (2000). This classification has been extended to cover other constructions that do not involve motion such as adjective resultatives (Mateu 2002, 2011) and Effected

Object Constructions (Acedo-Matellán 2010; Mateu 2002, 2003). In this chapter, I follow these works and I explore how the difference between Romance and Germanic COs can be explained on similar grounds¹⁰.

Therefore, if creation verbs co-appear with resultative constructions among languages, then it is probable that these two families of constructions involve a similar structure. Acedo-Matellán (2010) follows this reasoning and concludes that creation verbs involve a change of state predicate, that is, in his proposal, a Path head. As Path and *v* involve a process of morphological fusion, if the root is adjoined to *v*, fusion cannot take place, and the derivation crashes. This morphological property of Romance languages excludes the possibility of having both resultative constructions and effected object constructions.

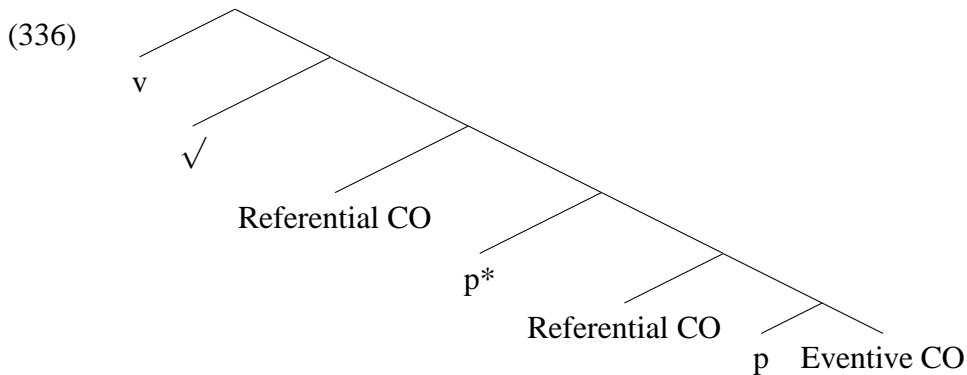
On the other hand, Mateu (2003) proposes that effected object constructions and resultative constructions do not have in common the resultative interpretation, but the presence of a verb of manner heading the structure and the fact that the verb and the direct object do not bear a relation of selection. Objects of creation can be seen as a type of Unselected Object, and this is explained by the availability in Germanic languages, but not in Romance, of a process that allows Manner Incorporation. Marantz's approach does not focus on the crosslinguistic distribution of these constructions. In his proposal it is difficult to determine how such a process is ruled out in Romance. In this chapter, I propose an analysis of English COs with an eventive interpretation following Acedo-Matellán's (2010) analysis of effected object constructions that I explained in section §4.4.1.

At this point, I would like to bring into the discussion a parallelism that can be drawn between the CP and the vP domain. The different interpretations associated with COs and related with the notion of referentiality are similar to thethetic vs. categorical interpretations of sentences. These two interpretations are associated with the absence/presence of an explicit subject respectively. According to this distinction in thethetic interpretation, the sentence *There arrived a man* is

¹⁰See also section §4.4.1 for more arguments supporting this view.

interpreted as being all predicate. On the other hand, in the categorical interpretation, in a sentence such as *A man arrived* there are two assertions: the assertion of an entity, the subject, and the assertion of a property denoted about it.

Drawing a strong parallelism between the clausal level and the verbal domain, I assume that eventive non-referential COs are in the complement position of a change of state predicate, crucially occupying the position of complement of p and therefore receiving a terminal ground interpretation, leaving the subject position of the predicate structure empty, in a parallel way to what happens in the clausal domain (Cardinaletti 2004). This structure yields athetic interpretation of the object; that is, an interpretation in which “an assertion is being made as to the existence of an object or an event involving the object” (Basilico 1998: 542). In contrast, when the object moves up to the specifier/subject position of the change of state event, the object is singled out from the event and a property is assigned to it, obtaining the categorical interpretation. From this position it receives all its characteristic properties such as referentiality and the measuring out of the event. This can also explain the relation between passivization and referentiality: movement of the DP from the complement of p to the edge of p allows it to move further and to raise to T as in passive constructions. This proposal follows the analysis of Complex Effected Constructions proposed in Acedo-Matellán (2010), but departs from it in that I am assuming that not all ground objects undergo movement to the specifier of Path. Instead, non-referential COs are characterized by remaining in their original predicative position.



In this analysis the CO receives an eventive interpretation by being in the complement relation of a head denoting a change of state event. Then the stipulative mechanism of co-indexation of Massam is now understood as a consequence of the structural position of the object. Lack of passivization follows from the fact that from the terminal ground position the object cannot reach the edge of the vP phase in order to move up to the clausal domain.

I leave open here the possibility of relating the accusative/dative alternation attested in Icelandic cognate objects with the more general case of alternation between accusative and dative in the prepositional domain, and discussed in Chapter 2. In languages like German and Latin, some prepositions can have either a directional or a locative interpretation, depending the case marking of the object. In the locative interpretation the object of the preposition receives dative case, while in the directional interpretation it receives accusative case, as in the German example below, from den Dikken (2003: 22):

- (337) (a) *auf dem Berg*
 on the-DAT mountain
 On the mountain (locative interpretation)
- (b) *auf den Berg*
 on the-ACC mountain
 Onto the mountain (directional interpretation)

In a parallel way, Dative Cognate Objects are located in the complement position of a preposition of location, Place, while Accusative Cognate Objects are in

the specifier position of a Path preposition that denotes a change of state predicate. Therefore, Accusative and Dative Icelandic COs can be explained on these grounds.

In next section I propose an analysis applied to Romance COs.

4.4.3 Romance Cognate Objects and other instances of cognation

As mentioned in section §4.4, Romance languages have few examples of COs of the type observed in English. However, they have widespread use of hyponymic objects like Cat. *ballar una sardana* ‘to dance a sardana’. Actually, Romance COs differ from English COs in that they do not display the properties listed in (299), but they always behave as hyponymic objects. Thus, Romance COs do not show definiteness restriction, they can be pronominalized with no need of having an event anaphora context, and, crucially, they never show ambiguities in the interpretation of the adjectival modifier.

(338) (a) *Pleurer toutes les larmes de son corps*¹¹(French)

to.cry all the tears of his body

Crying all the tears of his/her body

(b) *Si tu pots viure la ciutat jo també la vull viure*

If you can live the city I also it want live

(Catalan)

If you can enjoy the city, I want to enjoy it too

(c) *Juan bailaba tristemente un baile alegre* (Spanish)

Juan danced sadly a dance merry

Juan was sadly dancing a merry dance

¹¹Example from Grevisse 1993:393.

Since we have stated that there is a structural difference between eventive COs and referential COs in English, let us consider first whether COs can have an eventive meaning in Romance as well.

First of all, the example in (338 c) shows that Romance COs do not receive an eventive interpretation. In English, COs are ambiguous between an interpretation in which the adjective has scope over the event and an interpretation in which the adjective is just a modifier of the nominal. However, in Romance, event interpretation of the adjective is not available, as shown by the fact that there is no ambiguity in an example like (338 c).

Second, Marantz's test discussed in section §4.4.2 is difficult to evaluate in Romance. On the one hand the Benefactive Double Object Construction does not have an exact counterpart in these languages, and therefore it cannot be used for these purposes. On the other hand, *re* prefixation has a different interpretation in Romance languages. For example, French allows prefixation of unergative verbs, contra Horn's Generalization, and gives rise to repetitive readings that are not possible in English.

- (339) *Il faut qu'on re-danse à Paris*
 It needs that we re-dance in Paris
 We should dance again in Paris

However, not all Romance languages show this behavior. In Spanish and Catalan, for example, although *re* prefixation is not very productive, it shows a similar pattern to English since it can be attached to change of state predicates but not to unergative ones. In the case of COs, *re* cannot be prefixed despite appearing with a direct object, something that, following Marantz's reasoning, could be interpreted as proof that these COs are not interpreted as events. Actually, as shown by Martín García (1996), *re* can only be prefixed to verbs that take an affected object and a resultative verb.

- (340) (a) **re-bailar un baile* (Spanish)
 re-dance a dance

(b) **re-reír la risa de un niño* (Spanish)
re-laugh the laugh of a child

(c) *re-abrir un caso* (Spanish)
re-open a case
re-open a case

The fact is that reaction objects and effected objects and certain kinds of Incremental Themes with similar properties are not attested in Romance (see also Acedo-Matellán 2010; Martínez-Vázquez 1998; Mateu 2002, 2003) (examples (341 a) and (341 b) from Martínez-Vázquez 1998:259):

(341) (a) #*Juan asintió su aprobación* (Spanish)
Juan nodded his approval

(b) #*Rayó unas palabras* (Spanish)
Scratched some words

(c) #*El Joan ha fornejat¹² el pastís* (Catalan)
The Joan has baked the cake

In conclusion, the group of objects labeled as Incremental Themes shows different properties in English and Romance.

Therefore, it seems that Romance COs and “alleged” effected objects have different properties than their English counterparts. The difference between them can be related to Icelandic Dative COs. Interestingly, some of the objects that can bear dative in Icelandic are not found in Romance, such as the dative object that appears in the locative alternation which I repeat here in (342 a) and (342 b) (from ?:9):

¹²Note that this sentence is ungrammatical in the creation verb reading but not in the change of state interpretation (Acedo-Matellán 2010).

- (342) (a) *Við hlóðum vagninn með heyi* (Icelandic)
 we loaded the wagon.ACC with hay.DAT
- (b) *Við hlóðum heyinu à vagninn*
 we loaded the hay.DAT on the wagon.DAT

As observed in Acedo-Matellán (2010), languages that lack resultative constructions such as Romance also lack the locative alternation. See for instance the example in Catalan below. As observed, Catalan lacks the alternant in which the object is understood as the undergoer of a change of location and which bears dative case in Icelandic (342 b).

- (343) (a) *En Marc va ruixar la planta amb aigua* Catalan
 the Marc AUX spray the plant with water
 Marc sprayed the plant with water
- (b) **En Marc va ruixar aigua a la planta* Catalan
 the Marc AUX spray water on the plant

Contrary to English and Icelandic, we can say that Romance lacks the possibility of having a DP associated with an event of change of state that is not lexicalized in the verb. That is, borrowing ?'s (2001) terms from Kratzer (1996), Romance does not license DP objects if there is not event identification between the event introduced by *v* and the sub-event of change of state to which the object is linked.

In light of the evidence above, the fact that Romance languages lack eventive COs can be understood within a wider frame and can be linked to the cross-linguistic distribution of resultatives and similar constructions that are characteristic of the s-framed pattern.

However, as discussed in section §4.2, Romance COs are allowed to appear in the complement position of an unergative verb. In opposition to English, these COs cannot receive an eventive interpretation. But, what kind of objects are COs?

One possibility is to consider COs as a kind of affected object. In this case, we would have to consider the verb as a change of state verb of the *break* or *open* type.

These verbs in their transitive variant can be semantically characterized by having a complex event structure formed by a subevent of change of state and a subevent of cause. These two subevents can be quantified by the adverb *again* that appears when combined with verbs that have a complex event structure. The different readings arise depending on the part of the event the adverb is quantifying over (von Stechow 1996). Thus, in a sentence like *John opened the door again* there are two readings: (i) in the restitutive reading *again* quantifies over the result state and the sentence means something like 'John made the door to be opened again'; (ii) in the repetitive reading the adverb quantifies over the initial event of cause and the sentence is interpreted as John carrying out again the activity of opening the door. In the Spanish examples below, the adverb *otra vez* has a restitutive and a repetitive reading in (344 a) but only a repetitive reading in (344 b).

- (344) (a) *Juan abrió la puerta otra vez* (Spanish)
 Juan opened the door other time
 Juan opened the door again (restitutive and repetitive reading)
- (b) *Juan bailó la sardana otra vez* (Spanish)
 Juan danced the sardana other time
 Juan danced the sardana again (repetitive reading only)

Consequently, the CO is not related to any subevent of change of state, and therefore it cannot be analyzed as an affected object. However, what is the relation that holds between the CO and the verb?

As observed by Hale and Keyser (2002), and others, cognate objects can be analyzed as establishing a semantic relation of hyponymy between the verbal root and the object. This predicative relation has been accounted for in Hale and Keyser (2002) through a mechanism that they have identified with conflation, semantic conflation in this case. This analysis is proposed to solve the problem of cognation that can be stated as follows: if an unergative predicate is a hidden transitive that is formed by incorporation of the root into *v*, where is the position that a cognate object occupies if this object seems to occupy the same structural position

as the root? In section 4.4.4 I discuss three solutions that have been proposed for this problem, and I add my own as well.

4.4.4 Overcoming the problem of Cognate Objects

COs pose a theoretical problem for configurational views of argument structure that follow the Hale and Keyser hypothesis. The main problem that COs pose is that if unergative verbs are syntactically derived from a transitive structure in which the nominal object is incorporated into the verb, what position does the cognate object occupy when the unergative verb takes a cognate complement? It seems that there are two elements competing for the same structural position.

This problem was already noted in Hale and Keyser (1997). They proposed that the cognate object can occupy the position left by the incorporated element, based on the observation that cognate objects are morphologically and semantically related with the incorporated object. This analysis however implies a countercyclic derivation, and was abandoned in later works.

In Hale and Keyser (2002) they proposed an alternative mechanism to explain COCs. First, they trace a distinction between COs and HOs. The first then involve the spell out of two identical copies of the same chain under certain conditions on linearization or conditions on PF¹³. The second does not involve a morphological cognate but a complement that is in a tight semantic relation of hyponymy with the verbal root. Thus, these authors establish that the position of the HO allows it to be interpreted as bearing a semantic relation of binding by which the object is interpreted as classified by the verbal root.

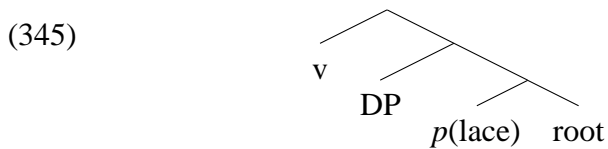
Following the same line of reasoning, Haugen (2009) proposes an approach based on a strong version of the Late Insertion approach of the Distributed Morphology framework. Thus, assuming that items of vocabulary, either functional

¹³ They assume a ban on modifier stranding, although other approaches would be compatible with this view, such as, Boskovic and Nunes (2007). See Armstrong (2012) for an account of AP resultatives in Spanish following the latter approach.

or lexical, are inserted late, the verb and the hyponymic object are the spell-out of the two members of the chain. They do not need to be spelled out by the same morphological root because lexical root insertion is never deterministic, but free. Therefore, two different roots can spell out the same set of features. By placing the problem in the morphological component, Haugen (2009) recasts Hale and Keyser's (1997) analysis without running into the problem of cyclicity.

Finally, another author that has discussed the problem of cognation is Gallego (2012), who labeled it as the cognation paradox. His solution to the problem is similar to the one outlined in this dissertation, although he uses the strategy of doubling to create the predicative appropriate configuration. His analysis stems from Uriagereka's analysis of clitic doubling configurations. The structure of doubling allows us to explain the part-whole semantics usually associated with the hyponymic relation and with clitic doubling constructions.

I propose that COs entertain a predicative relation with the verbal root. This predicative relation is established by a relational head that denotes a semantic relation of central coincidence similar to the predicative head proposed by Bowers (1993) and den Dikken (2006). This predicative head denotes an abstract relation of central coincidence between a figure and a ground that can be identified with a scene of location, place, in a locative sense, but also as a more abstract relation of predication, similar to the part whole relation. I propose that the DP object stands in this structural relation with the root in such a way that the object is interpreted in relation with the verbal root and is understood as having a hyponymic semantic relationship. Thus, if we construct an example like *John dances an orange*, the object *an orange* is interpreted as a type of dance that happens to have this weird name. The object can be coerced to enter into this semantic relation with the non-relational head, the verbal root.



In conclusion, English COs can receive two interpretations, as hyponymic objects or as eventive nouns. This ambiguity arises from the fact that there is an alternative possible derivation in English in which the unergative verb takes a phasal change of state preposition as complement, as occurs in resultative constructions or goal of motion constructions studied in Chapter 2 and 3. Therefore, eventive COs and Effected Objects share a similar derivation as resultatives, all of them involving a change of state relational head. The fact is that Romance languages generally disallow unergative predicates entering in transitive constructions of change of state with the result expressed outside the verb, by an AP, a PP or a DP. On this perspective, we can also explain the unergative restriction that applies to COs, Resultatives and Effected Objects. This restriction states that only unergative predicates deign to appear in this type of constructions¹⁴ and receive theoretical explanation in this account.

The approach outlined here erases the problem of cognation since it does not consider that the cognate object and the verbal root occupy the same position. This account allows us to explain the existence of cognation in general, although it does not address all the cases involving this phenomenon, without having to stipulate

¹⁴However, Nakajima (2006) argues that the unergative restriction of COs does not hold in English since some unaccusative predicates can take a cognate object. He gives the following examples:

- (i) The apples fell just a chore fall to the lower deck
- (ii) The stock market dropped 250 points

His claim is based on the assumption that the underlined complements, which are extent predicates, are Cognate Objects. Again the analysis depends on the granularity of the term cognate object. A coarse-grained interpretation of the term can be semantically appropriate to define a wide range of phenomena that does not need to be syntactically uniform. It is true that extent predicates share certain properties with COs: they are non-obligatory complements, they can measure the event, and they can be argued to establish a tight semantic relationship with the verbal root. However, the predicates that allow extent complements are not present with the whole class of unaccusatives but only with those that express a scalar change of state, Degree Achievements, which are ambiguous between achievement and an activity interpretation (see Hay et al. (1999), and references there for discussion).

complex morphological rules that would be needed in Haugen's approach to explain all cases of possible object cognation. Thus, there are cases of cognation in which the unergative verb can take a whole clause as a cognate-type complement. Consider the sentences below:

(346) He dreamt a fabulous dream

(347) He dreamt that he was a horse

If we consider *dream* an unergative predicate in the Hale and Keyserian sense, the object of *dream* in both cases would be in a similar structural position, that of the object that has been incorporated. However, Haugen's account could explain example (346) but not example (347), since the cognate object involves a complex structure, a whole sentence. One possibility is to consider two different argument structure configurations for (346) and (347), but this does not seem to be the case on semantic grounds. In both cases the object can be understood as entertaining a tight semantic relation of hyponymy with the verbal root. In conclusion, Haugen's analysis cannot give a unified account of the whole body of cognate objects. Moreover, even if it can also explain one type, the problem of cognation would remain for him in examples like (347), because there are two elements for one conflicting position, and a late insertion approach in the sense of Haugen (2009) cannot be applied to complex structures such as sentences.

Moreover, it explains the semantic properties of hyponymic object constructions since it considers that these objects entertain a predicative relation with the verbal root. Thus, the semantics is provided by the semantic construal or the mere configuration, much as in the Hale and Keyser program of argument structure. In this sense our approach is better than Gallego's in which the doubled configuration does not emerge from any relational head but from the formation of a symmetric small clause configuration, as in Moro (2000). Our approach does not have to make further assumptions to be able to recast the approaches that involve a symmetric structure, and it gives a unified account of predicational structures

as always involving an asymmetric relation mediated by a relational head (Adger and Ramchand 2003; Bowers 1993; den Dikken 2006; Mateu 2002, among many others).

4.4.5 A note on Incremental Themes

According to the analysis presented above, effected objects and cognate objects of any kind cannot be considered Incremental Themes anymore, under the configurational definition assumed by Mateu (2002) and Acedo-Matellán (2010). As pointed out in earlier sections, Incremental Theme is the role interpretation of any object that occupies a certain structural position. In Mateu (2002) and Acedo-Matellán (2010) any object that is in the structural position of being the object of *v* receives an Incremental Theme interpretation.

For these authors, Effected Objects are a kind of Incremental Theme because they are semantically interpreted as such. In the classical terminology Incremental Themes are those objects that physically delimit the event. Borrowing Tenny's terminology, the object measures out the event because there is a progression of the event through the object. As long as the event progresses there is a gradual change of the object (creation or consumption), and the event finishes when the change undergone by the object finishes. Thus, Incremental Themes are defined as those objects that define a homomorphic relation between their properties and the properties of the event.

The problem with this label and the theory outlined before of Effected Objects and Creation Verbs by Acedo-Matellán (2010) is that they define a uniform way to assign aspectual interpretation: objects assign the aspectual interpretation of their predicates by being in the specifier position of a Path projection. In this specifier position they are interpreted as Measurers and the quantized properties of the object are mapped in the aspectual properties of the predicate. Incremental Themes, however, are said to be in another structural position, but nevertheless

they are also interpreted as Measurers of the events and their quantized properties affect the aspectual interpretation of the predicate. Moreover, if we follow Acedo-Matellán's (2010) analysis of verbs of creation or effected objects, these objects cannot be interpreted as Incremental Themes. But they are, if we follow the classical semantic definition of this concept. So either we redefine the concept of Incremental Theme, or, if we take the configurational theory of theta roles proposed by this author, we get rid of this argument interpretation and we incorporate it in the interpretation of measurers. A problem arises, however.

This author wants to unify the aspectual interpretation of DP arguments with the aspectual interpretation of roots as in Harley (1999, 2005). As argued in this work, the conceptual interpretation of roots as mass or count entities is relevant in the aspectual interpretation of the event. But this is not always the case. Roots are only relevant in certain structural positions: that is, in the position of Incremental Themes, where there is a mapping between the physical properties of the object or concept evoked by the root and the properties of event. Thus, denominal verbs like *calve* or *sweat* have a telic and atelic interpretation, respectively, because their conceptual properties are countable and mass, respectively.

There is an additional problem in our account of COs. COs and Hyponymic objects are able to measure the event because they act as Incremental Themes. However, in our account they are in the specifier position of a predicative relational head, a Place projection. How then they receive an Incremental Theme interpretation? So the goal of Acedo-Matellán (2010) to achieve a uniform theory of aspectual interpretation becomes worse in our account since the same aspectual interpretation can be achieved through three different structural positions.

One possible solution to this problem is to consider that the aspectual interpretation of predicates can have two sources: one structural, and one conceptual and syntactically non-relevant. The first one would be obtained through the specifier position of a Path projection, and the second through different structural positions, because it will not be structurally determined. Another possible solution to

this puzzle is to entertain a Hale and Keyserian view of aspect as being orthogonal to argument structure configurations. Thus, eventive roles cannot be determined configurationally and one can achieve similar eventive interpretations from different syntactic positions.

For now, I leave this important question open for further research since I cannot offer a convincing solution at this stage of my research. Therefore, I restrict myself to pointing out a potential problem in the approach outlined above although its solution is out of the scope of this dissertation.

4.5 Other apparent counterexamples

In chapter 2 I showed that goal of motion constructions in Romance with manner of motion verbs do not correspond with the s-framed pattern. This section focuses on the discussion of some other counterexamples to the claim that Romance lacks s-framed type of constructions, such as Complex Resultatives, verb particle examples, and finally some prefixed verbs found in Romance languages. This section is not devoted to offering a deep analysis of these constructions since this could be the topic of a dissertation by itself. For this reason, I only point out some characteristics that these constructions have that clearly show that they are not of the s-framed type. In doing so, I follow mainly the works of Mateu (2000, 2010, 2011) and Mateu and Rigau (2010) on complex resultative and verb particle constructions. Finally, I discuss prefixed verbs briefly and lay out an analysis that shows that Romance prefixes are not of the same type as prefixes of the weak s-framed, namely Slavic and Latin.

4.5.1 Complex Resultative Constructions

Napoli (1992) argues that despite the fact that resultatives have been said to be absent from Romance languages since early works on these constructions (see

Washio 1997 and references therein), there are some examples in Italian, and possibly in other Romance languages. The examples she gives are from AP and PP resultatives.¹⁵ I copy her list of resultatives below: first, from (348 a) to (348 g), PP resultatives (Napoli 1992: 60), and second, from (349 a) to (349 d), AP resultatives (Napoli 1992: 74-75):

- (348) (a) *Ho spinto il pianoforte dal salotto alla/nella*
 Have pushed the piano from the living room to the/in the
sala da pranzo
 room of dining
 I pushed the piano from the living room into the dining room
- (b) *Ho calciato la palla nell' angolo*
 Have kicked the ball in the corner
 I kicked the ball into the corner
- (c) *Ho messo il biscotto nel gelato*
 Have put the biscuit in the icecream
 I put the cookie in the ice cream
- (d) *Camilla ha modellato la creta in punta*
 Camilla has moulded the clay in point
 Camilla moulded the clay to a point
- (e) *Abbiamo vestito le bambine con le belle gonne*
 Have dressed the little girls with the beautiful skirts
lunghe
 long
 We dressed the little girls in beautiful long skirts

¹⁵There is a discussion in the literature about considering PP and AP resultatives to be of the same type. From now I am going to assume that they can be of the same nature. Actually, in the account outlined in the dissertation, which follows Mateu and Amadas (2001), it will need more justification to tease them apart, since I consider adjectives and prepositions to be relational heads of the same type. Of course there can be explanations for their different distribution. For example, see Acedo-Matellán (2010) and Kratzer (2005), who point out that the morphological properties of adjectives such as agreement play a role in the cross-linguistic distribution of AP resultatives. I leave this question open for now, but see chapter 6, section 6.3.1.

- (f) *Ho tagliato la carne in piccoli pezzi*
 Has cut the meat in small pieces
 I cut the meat in small pieces
- (g) *Ho intrecciato i fiori in una ghirlanda / a forma di ghirlanda*
 Has braided the flours in a garland / at form of garland
 I wove the flowers into a garland/ in the form of a garland
- (349) (a) *Ha dipinto il palazzo rosso*
 Has painted the palace pink
 He/She painted the palace pink
- (b) *Mia figlia ha cucito la gonna (troppo) stretta*
 My daughter has sewed the skirt (too) tight
 My daughter sewed the skirt too tight
- (c) *Ho stirato la camicia piatta piatta*
 have ironed the shirt flat flat
 I ironed the shirt very flat
- (d) *Sbatti le uova cremose*
 Beat the eggs creamy
 Beat the eggs creamy!

Napoli (1992), then, argues that Italian shows resultative constructions either with PPs or APs, but AP resultatives are rarer in these languages because they obey a constraint on resultative interpretation that establishes that in “a sentence with a resultative AP, the primary predicate must be interpreted as focusing on the endpoint of the activity denoted by that predicate.” That is to say, the main verbal predicate must carry in itself a meaning of completeness, of end-point. Thus, in Italian AP resultatives the result is not added exclusively by the resultative predicate, but it has to be specified already by the verbal predicate, something that is different from English.

Thus, Napoli's list of resultatives in Italian must be compared with English resultatives, to see whether they are part of the same type of construction. Superficial similarity in the sense that they all involve a pattern of the type "V Obj AP/PP" is not sufficient to argue that they are both the same type.

As seen in Chapter 2, despite superficial similarity between goal of motion constructions in Germanic and Romance languages, they exhibit different semantic and syntactic properties. Hence, before offering a deeper analysis and classification, resultatives have to be defined as those resultative constructions that contain two predications, one provided by the main predicate and the other by an AP/PP predicate. According to the standard classification of Levin and Rapoport (1988), the semantic interpretation of these constructions involves a causative change of state in which the secondary predicate denotes the result state and the verbal predicate denotes the manner in which the action is performed. Normally, resultatives are classified into two groups, transitives and intransitives, depending on the type of verbal predicate that heads the construction. In transitive resultatives the object of the verb is argued to bear some semantic relation of affectedness with the verb as well as with the resultative predicate. In resultatives with intransitive predicates, however, the unergative verb appears with a so-called unselected objects because they don't entertain any direct semantic relationship, but the relationship is established with the secondary predicate. Below are some examples of these two groups (from Carrier and Randall 1992: 173, unless otherwise specified).

(350) Transitive resultatives

- a. The gardener watered the tulips flat
- b. The grocer ground the coffee beans into a fine powder
- c. They painted their house a hideous shade of green
- d. John hammered the metal flat (from Washio 1997: 5)
- e. The horses dragged the logs smooth (from Washio 1997: 6)

f. They beat the man bloody (from Washio 1997: 6)

(351) Intransitive resultatives

- a. The joggers ran their Nikes threadbare
- b. The kids laughed themselves into a frenzy
- c. He sneezed his handkerchief completely soggy

As noted by Washio (1997), this classification of resultatives is not enough to account for the cross-linguistic distribution of these constructions. Japanese does not exhibit any resultative of the intransitive type, (351), and only a subset of the transitive type in (350). Thus, he proposes a new classification of resultatives based on the semantic relation between the meaning of the adjective and the meaning of the verb. In what he calls strong resultatives the meaning of the adjective and the verb are completely independent of each other. With weak resultatives, on the other hand, the meaning of the resultative phrase is restricted, and then predicted by the meaning of the verbal predicate. Weak resultatives are a subset of transitive resultatives. From the set of examples in (350), only (350)b, (350)c and (350)d (with a caveat) would qualify as weak resultatives, as is shown by the possible Japanese translations. For example, a sentence such as (350)d can be translated into Japanese by the verb *tatak-u* ‘pound’ and a verb like *nobas-u* ‘roll’ but only the latter implies a resulting state that means thin. As the verb implies resulting state resultatives with *nobas-u* are possible, while resultatives with *tatak-u* are not.

- (352) (a) **John-wa pankizi-o usuku tatai-ta*
 J-TOP dough-ACC thin pound-PAST
 John pounded the dough
- (b) *John-wa pankizi-o usuku nobasi-ta*
 John-TOP dough-ACC thin roll out-PAST
 John rolled the dough thin

The semantic relationship between the verb and the adjective seems to mimic Napoli's restriction on AP resultatives in Italian in which it was said that resultatives are only licensed if the verb focuses on the end-point of the process that the object undergoes. Therefore coming back to Italian resultatives, we can say that all resultatives cited by Napoli correspond to the transitive resultative kind and in most of them there is this restriction of semantic closeness between the verb and the resultative predicate. This semantic closeness is defined theoretically in Washio (1997) through the notion of patienthood, since for him not all the verbs that allow weak resultatives can be classified as change of state predicates. However he defines different degrees of affectedness ranging from discourse affectedness to grammatical affectedness that define 4 types of Patients. Languages differ as to whether they allow all types of Patients in resultatives or only a specific type. For example, English can be said to allow resultatives in which the object is any type of patient, and Japanese to allow resultatives in which the object is a Patient of type 3 and 4. The types are the following, from Washio (1997: 40):

- (353) (a) Patient₁ : The verb, being intransitive, lexically specifies nothing about this; it may be interpreted as affected by virtue of discourse or pragmatics (e.g. *run the pavement thin*).
- (b) Patient₂: The verb lexically specifies that it is affected; hence it may undergo some change of state; but the verb does not specify whether or how it changes; (e.g. *drag the logs smooth*).
- (c) Patient₃ : The verb lexically specifies that it is affected; hence it may undergo some change of state; but the verb does not specify whether it changes its state or not, but rather specifies that if it does change, then it changes in a certain fixed direction; the verb has a disposition toward a certain states; (e.g. *wipe the table clean*).

- (d) Patient₄ : The verb lexically specifies that it undergoes some specific change of state and hence the object is an affected object (e.g. *sharpen the pencil pointy*).

The descriptive accuracy of Washio's typology has yielded a deeper understanding of the types of resultatives and their distribution, and sheds light on the properties of the resultatives found in Italian and described in Napoli (1992); Folli and Ramchand (2005), or in other Romance languages, such as Catalan (Mateu 2000), French (Levin and Rapoport 1988) and Spanish (Armstrong 2012; Demonte 1991; Masullo and Demonte 1999; Mateu 2000). Before carefully considering Romance examples, let us first try to understand the descriptive typology of patients by Washio (1997) in more theoretical terms to see whether it can be reduced once some theoretical assumptions about the nature of the lexicon and argument structure relations are assumed, in line with the project undertaken by Mateu (2011).

First, one of the problems of Washio's (1997) definition of weak resultatives resides in the fact that he cannot characterize the group of verbs that allow weak resultatives as change of state verbs since they are not always of this type. For example, the verb *migak-u* 'polish' in Japanese can be understood as a simple activity if it appears without the resultative phrase. Therefore, this verb can appear with an affected object and with a type of object that we can call a surface object, as the example provided in Washio (1997) (page 44, fn. 8) illustrates:

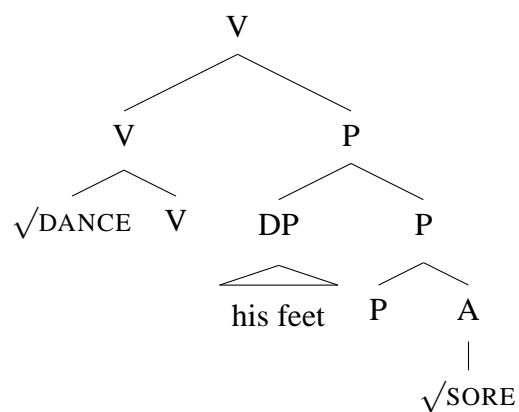
- (354) *boku-wa kno kabin-o itiniti-zyuu migak-as-are-ta*
 I-TOP this vase-ACC all day long polish-CAUSE-PASS-PAST
 I was forced/ordered to polish this vase all day long

However, why can't this verb be considered a change of state verb in a resultative construction and an activity predicate in other contexts? If we assume a non-lexicalist view of argument structure, we can still consider the hypothesis that the appropriate relation between the verbal predicate and the object in a weak resultative construction is that of a change of state relation. Therefore, assuming a

non-lexicalist view of verbal predicates and a configurational view of argument structure relations, we can try to unify the typology of patients under the same thematic notion. Before doing that, we must consider another issue: the difference between conceptual semantics and semantic construal drawn in Mateu and Amadas (2001) (and subsequent works). Under this view the notion of patient should be defined in structural terms and it shouldn't be confused with the notion of patient in the conceptual sense. With this caveat in mind we must propose that the difference between Patient₁ and Patient₂ is conceptual and not structural, as is the difference between Patient₃ and Patient₄. On the one hand, in strong resultatives the semantic relation of change of state is established between the object and the resultative predicate (although conceptually one might consider that the object is affected by the verbal predicate, it is not in structural terms). On the other hand, in weak resultatives the object establishes a change of state relation with the verbal root as in change of state predicates. Therefore, all patients are of the same type: they are all in the specifier position of a non-defective relational head p^* . The different semantic interpretations of Patienthood arise from which complement stays in the position of terminal ground, as understood in Acedo-Matellán (2010), that is, which element is understood as the resultative predicate, the verbal root or the AP/PP predicate, Patient_{3,4} and Patient₁₋₂ respectively. This is the analysis basically proposed in Mateu (2011) who offers an analysis of strong resultatives as in, and weak resultatives as in, (inspired in Baker (2003) analysis of transitive resultatives) (from Mateu 2011).

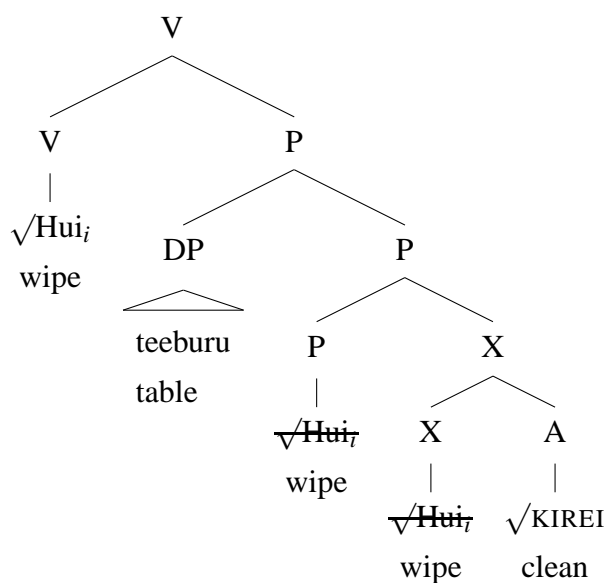
(355) Strong resultative

The boy danced his feet sore



(356) Weak resultative

kare-wa teeburu-o kirei-ni hui-ta
 he-TOP table-ACC clean wipe-PAST
 He wiped the table clean

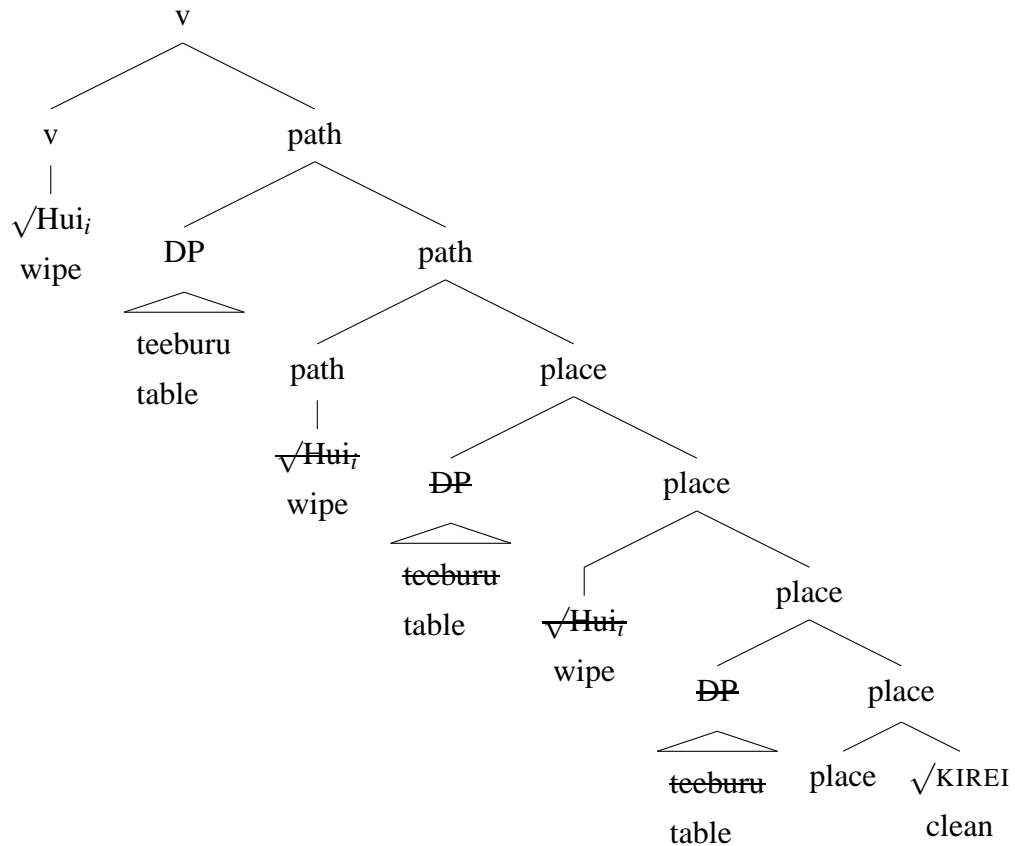


Therefore, under this view weak resultatives can be analyzed in a uniform way. The most important thing is that under this analysis weak resultatives do not involve lexicalization of the result by a lexical element other than the verb. But the

result is still expressed within the verb. The adjective further specifies a type of result, something that is expressed in Mateu (2011) through the attachment of the adjective root to the verbal root by a relational head, *X*, which the author leaves unspecified.

If we translate Mateu's (2011) analysis to our proposal we see that weak resultatives can still be accommodated in the *v*-framed pattern discussed in Chapter 3. However, if roots are defined as non-relational elements, how is it possible that roots can take a complement in these cases? In our account non-relational heads, roots, are said to be the bottom-most elements of the derivation or the subderivation. Under this definition, we must consider that the adjective is introduced by a Place head, that is, a relational predicative head. Remember that Romance languages do have non-defective Place heads, and these Place heads can be phase heads, allowing then, a root to emerge at the bottom-most position of the next subderivation.

(357)



The structure above is reminiscent of the structure we proposed for COs in Romance in which the CO establishes a predicative relation with the verbal root. Therefore, *v*-framed languages allow resultative verbs to take extra complements under strict circumstances: if the complement is headed by a relational phase head, *Place* in the case of *v*-framed languages.

Under this approach, other examples of resultatives studied in the literature can be easily accounted for, such as the ones studied in Armstrong (2012), Demonte 1991 and Masullo and Demonte (1999). These examples of resultatives in Spanish are also mentioned in Napoli (1992) and Folli and Ramchand (2005).

- (358) (a) *Lavó la camisa bien lavadita*
 Washed the shirt well washed.DIM
 (Spanish; Armstrong 2011:1)

She washed the shirt well washed

- (b) *Secarlo bien seco* (Spanish; from Bosque 1990, *apud*
 dry-it really dry
 Armstrong 2011:1)

To dry it really dry

- (c) *Gianni ha martellato il metallo piatto piatto*
 Gianni has hammered the metal flat flat
 (Italian; from Folli and Ramchand 2005:102)

John hammered the metal very flat

According to Armstrong (2012) these constructions have the following properties in Spanish:

- (i) They contain a change of state verb
- (ii) There is always a modifier that is obligatorily present
- (iii) They always feature an adjective that is a cognate of the main verbal predicate

The first property places this type of resultative in the group of weak resultatives as characterized in this section. The second characteristic deals with the presence of a modifier such as *bien* in this kind of construction whose absence renders the construction pragmatically deviant.

- (359) # *Limpia la camisa limpia*
 Clean the shirt clean
 Clean the shirt clean

The modifier does not need to be the degree modifier *bien*, but it can be replaced by the morphological strategy of reduplication that renders a similar semantic interpretation.

(360) *Limpia la camisa limpia limpia*
 Clean the shirt clean clean
 Clean the shirt very clean

As argued in Armstrong (2012), the modifier seems to license a focus feature that pragmatically legitimates the presence of the cognate adjective. His approach follows the main assumptions outlined in Haugen (2009) about cognate objects and proposes a derivation in which the presence of the degree modifier forces the copy of the adjective that has been incorporated into V to be pronounced on the basis of a ban on adjectival modifier stranding (Hale and Keyser (2002); Haugen (2009)) that forces the spell-out of the lower copy of the adjective as well. The only problem with this analysis is that it does not take into account the fact that this focus feature can be spelled-out by means of reduplication, to which the ban on stranding cannot be applied. The author considers an alternative proposal that could be compatible with reduplication, which establishes that the modifier fuses with the adjective head forming a new word that it is not interpreted anymore as a copy in the linearization process (Boskovic and Nunes 2007, among others).

In our account the presence of the modifier and the spell-out of the lower adjective would be explained by the same mechanism of lexicalization proposed in Chapter 3. Thus, the lower adjective is predicated of the object through the presence of a predicate relational head that constitutes a separate phasal domain, and therefore can be spelled out as an independent constituent with its own modifiers. The tight semantic relation between the verbal root and the adjective is derived precisely from the predicative relation. The fact that the account does not involve cognation in the morphological sense of Haugen (2009) also allows us to explain without further stipulations why certain verbs that appear in this construction are combined with adjectives that are not exactly their morphological cognates. Thus,

as discussed at length in Armstrong (2012), on the one hand *break*-type of verbs do not exhibit an adjectival form, and this form is derived from the participle; on the other hand, in the *fatten*-group of verbs the verb is morphologically more complex than the adjective.

(361) (a) *Cerraron el local bien cerrado* (Spanish; *break*-type verbs
Close the bar well closed
They closed the bar really closed

(b) *Engordaron al animal bien gordo* (Spanish; *fatten*-type verbs
fatten the animal well fat
They made the animal become really fat

Moreover, in some examples the relationship with the adjective does not need to be a pure cognate, as illustrated in the following examples from Italian and Spanish:

(362) (a) *Gianni ha martellato il metallo piatto piatto*
Gianni has hammered the metal flat flat
(Italian; from Folli and Ramchand 2005:102)

John hammered the metal very flat

(b) *Le raparon el pelo corto corto* (Spanish)
DAT.SG crop the hair short short
They cropped his hair really short

In our account the morphological relation between the adjective and the verb can be loosened without the need to make further stipulations —something that it is not evident in a Haugen— type of approach.

4.5.1.1 Pseudo-resultatives

If we examine again Napoli's examples above we can see that either the examples fit into the weak resultative type discussed above or in to another type that has

been called spurious resultative by Washio (1997), adverbial resultative by Kratzer (2005); Mateu (2000), and pseudo-resultative by Levinson (2007). These constructions show several differences from true resultatives (from Levinson 2010; Kratzer 2005):

- (i) Pseudo-resultative predicates do not have the same entailments as resultative predicates
- (363) (a) Mary hammered the metal flat → The metal became flat
 (b) Mary braided her hair tight → The hair became tight
- (ii) Pseudo-resultatives can be questioned by how; resultatives can't (Kratzer 2005)
- (364) (a) How did Mary hammer the metal? #Flat
 (b) How did Mary braid her hair? Tight
- (iii) Pseudo-resultatives are morphologically distinct from resultatives cross-linguistically. For example, in Norwegian, resultative predicates show agreement but not pseudo-resultatives, (Levinson 2010: 146-147).
- (365) (a) *Marit drakk flaskene tomm-e*
 Marit drank bottle-scdef.pl empty-PL
 Marit drank the bottles empty
- (b) *Marit flettet krøllene sine stramm*-e/-t*
 Marit braided curls-DEF.PL REFL tight-PL/-NEUTER.SG
 Marit braided her curls tight

Thus, if we revisit Napoli's counterexamples of AP/PP resultatives they fall into the weak type resultative type or the pseudo-resultative pattern. From the examples above it is easy to show that some of the verbs in (348 a), repeated here (366 a)-(366 c), are resultative verbs and thus the result is not encoded in the PP predicate but in the verb.

- (366) (a) *Ho spinto il pianoforte dal salotto alla/nella*
 Have pushed the piano from the living room to the/in the
sala da pranzo
 room of dining
 I pushed the piano from the living room into the dining room
- (b) *Ho calciato la palla nell' angolo*
 Have kicked the ball in the corner
 I kicked the ball into the corner
- (c) *Ho messo il biscotto nel gelato*
 Have put the biscuit in the ice cream
 I put the cookie in the ice cream

Other examples correspond to the pseudo-resultative type such as the ones below in which the PP does not entail the final state of the object but denotes the way in which the activity is performed.

- (367) (a) *Camilla ha modellato la creta in punta*
 Camilla has moulded the clay in point
 Camilla moulded the clay to a point
- (b) *Ho tagliato la carne in piccoli pezzi*
 Has cut the meat in small pieces
 I cut the meat in small pieces
- (c) *Ho intrecciato i fiori in una ghirlanda / a forma di*
 Has braided the flowers in a garland / at form of
ghirlanda
 garland
 I wove the flowers into a garland/ in the form of a garland
- (d) *Mia figlia ha cucito la gonna (troppo) stretta*
 My daughter has sewn the skirt (too) tight
 My daughter sewed the skirt too tight

Finally some of the examples correspond to the type of weak resultatives discussed above that we have called cognate resultatives.

- (368) (a) *Ho stirato la camicia piatta piatta*
 have ironed the shirt flat flat
 I ironed the shirt very flat

Some of them are difficult to classify in the weak type such as the ones below. These examples, however, were not considered acceptable by all speakers, so their status is not crystal clear.¹⁶

- (369) (a) *Ha dipinto il palazzo rosso*
 Has painted the palace pink
 He/She painted the palace pink
- (b) *Sbatti le uova cremose*
 Beat the eggs creamy
 Beat the eggs creamy!

However, as far as (369 a) is concerned, as shown by Marantz (2007b) sentences like (370 a) do not involve a true resultative configuration since they allow *re*-prefixation in the first place, contrary to resultatives like (370 c), and *re* does not quantify over the alleged change of state denoted by the adjective. Thus, (370 b) is understood as John again painting the wall, but the previous state could have been in another colour, not necessarily blue. So, *re* does not quantify over the change of state of becoming blue, but of becoming painted.

- (370) (a) John painted the wall blue
- (b) John re-painted the wall blue
- (c) *John re-hammered the metal flat

Therefore, example (369 a) does not constitute a case of resultative of the s-framed type. In conclusion, counterexamples to the generalization that Romance languages lack complex resultative constructions are shown to be false since all the

¹⁶Actually example (369 b) is out in the non imperative form. Napoli (1992) notes that the imperative form improves this type of example. The reason why is unknown to me at this stage and I leave it outside the scope of this work.

examples can be analyzed as resultatives of the weak type or spurious resultatives. Napoli's (1992) analysis of Romance resultative constructions only focuses on superficial similarities that have been proven not to be sufficient to properly characterize this type of construction.

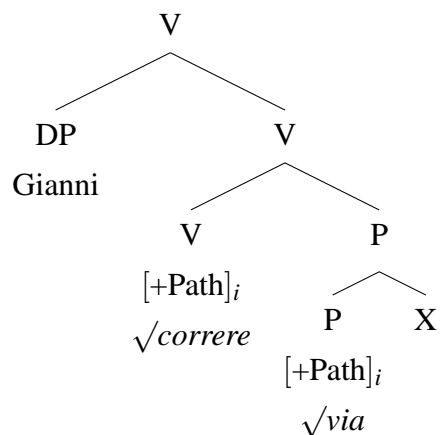
4.5.2 Verb-Particle constructions in Romance

In this section, I briefly discuss verb particle constructions in Romance. These constructions have also been argued to be counterexamples to Talmy's generalization of lexicalization patterns. Verb particle constructions include constructions with verbs of movement, but not only; some manner verbs also appear in this construction, (371 b)-(371 c) (from Mateu and Rigau 2010).

- (371) (a) *Gianni è corso via*
 Gianni is run away
 Gianni ran away
- (b) *Gianni ha lavato via la macchia*
 Gianni has washed away the stain
 Gianni washed the stain away
- (c) *Gianni ha raschiato via la vernice*
 Gianni has scraped away the paint
 Gianni scraped the paint away

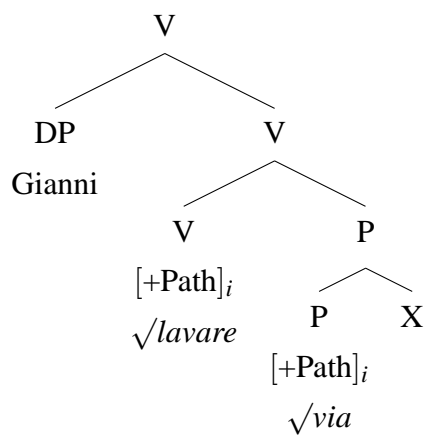
Mateu and Rigau (2010) show that these verb particle constructions are not absent in Romance languages but are widely attested in all of them. Above all, there are verb particle constructions that involve a motion verb. The authors show moreover that verbs of motion in these constructions always involve a path meaning and they are all directional verbs. They propose that phrasal verbs in Romance are created by means of incorporation of the root into *v* and the particle spells out the meaning of this incorporated Path as in the analysis of cognate object constructions proposed by Haugen (2009), in which two different roots are able to spell out the same set of syntactic features.

- (372) *Gianni è corso via*
 Gianni is run away
 Gianni ran away



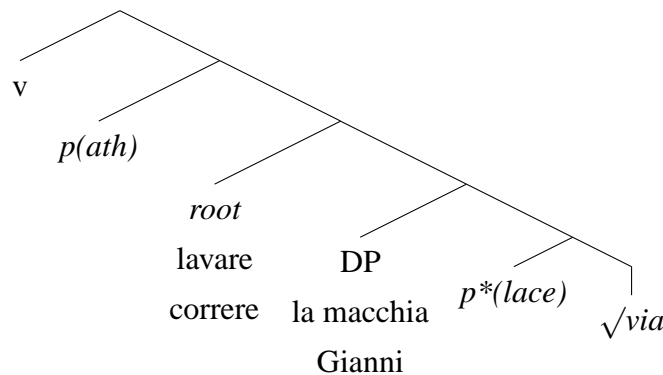
Furthermore, these authors show that the manner verbs that appear in phrasal verb constructions in Romance incorporate a meaning of removal. Thus, with Masini (2005), they argue that the manner verbs that appear in this type of construction have two different l-syntactic structures, one unergative and one that lexicalizes Path, yielding a meaning of removal.

- (373) *Gianni ha lavato via la macchia*
 Gianni has washed away the stain
 Gianni washed the stain away



Thus, these examples of verb particle constructions in Romance behave in a similar way to the alleged manner of motion verbs in goal of motion constructions studied in Chapter 2: these verbs can lexicalize Path in certain constructions, despite appearing in configurations in which they are interpreted as manner verbs. Thus, when a pure manner verb appears in these constructions its meaning is accommodated in order to lexicalize Path and the sense of removal obtains. The analysis in our terms is very similar to the one proposed by Mateu and Rigau (2010) with the changes discussed in Chapter 3. Thus, verb particle construction does not involve an s-framed pattern, but a v-framed pattern that involves a defective relational head, path, that cannot license a specifier or case by itself and ends up lexicalized with the upper relational phase head in the structure, namely, *v*.

(374)



The analysis sketched here allows us to recast these examples within the v-framed pattern discussed in Chapter 3. It also has the advantage of avoiding the problem of cognation, discussed in section 4.4.4, that is inherent to Haugen's approach.

4.5.3 Prefixed verbs in Romance

In this section I discuss some examples of prefixed verbs in Romance. I distinguish two types of prefixed verbs: prefixed verbs of change of state and location, and prefixed verbs of directed motion. Both of them have been argued to be counterexamples to the v-framedness of Romance languages because in both cases a

prefix that allegedly denotes a path attaches to a verbal root that can be interpreted as contributing to semantics of manner.

Examples of change of state and change of location verbs typically involve *a-* and *en-* prefixes¹⁷ and their cognates in other Romance languages. Some examples are provided below extracted from Acedo-Matellán (2006) and Kopecka (2006), all of them in Catalan and French:

- (375) (a) *Aquest xampú a-llisa els cabells* (Catalan)
 This shampoo at-smooth the hair
 This shampoo smooths the hair
- (b) *En Jan ha en-vell-it molt*
 The Jan has in-old-PAST PART a lot
 Jan has grown a lot older
- (c) *El pas del temps a-vinagra¹⁸ el vi*
 The step of the time at-vinegar the wine
 Time makes the wine become like vinegar
- (d) *He en-vinagrat els cogombres per a fer l' amanida*
 Has in-vinegar the cucumbers for at do the salad
 He/She has put the cucumbers in some vinegar to make a salad

¹⁷Prefixed verbs in Romance are not restricted to *a-* and *en-* prefixes. There are also prefixed verbs that feature prefix *des/es-* with a reversative semantics that I leave out of the discussion to restrict attention to the ones that are easier to identify with the prepositions of location *a* and *en*. In this way, I can relate these prefixes with the properties of locative Ps discussed in Chapter 2. Finally, other prefixes such as *tras-*, *contra-*, *anti-* or *pre-*, and similar, will not be taken into account since they do not affect the argument structure of the verbal predicate. They are therefore likely to be external prefixes of the kind discussed in Di Sciullo (1997) and then they are not relevant to the topic.

¹⁸The difference between *a* and *en* in Catalan has been analyzed in Acedo-Matellán (2006) in terms of change of state and change of location, respectively. This semantic difference is illustrated by the minimal pair in (375 c) and (375 d). Their different semantic contribution can be related to our analysis of *a* and *en* prepositions outlined in Chapter 2, where *en* is associated with a non-relational element and has more semantic conceptual content, and *a* has a more bleached semantics. Thus *en* is interpreted in constructions that involve a clear locative semantics, while *a* is used in constructions with an abstract (bleached) locative semantics, namely, a change of state interpretation. However, I leave out of the scope of our study a more explicit treatment of the semantic differences between these two prefixes.

- (376) (a) *Em-poter une plante* (French)
 in-pot a plant
 pot a plant
- (b) *En-cadrer un tableau*
 in-frame a picture
 frame a picture
- (c) *Em-prisonner l' assassin*
 im-prison the murderer
 Imprison the murderer

The claim that these verbs encode an s-framed configuration has been challenged by Acedo-Matellán (2006) and Acedo-Matellán and Mateu (2008). These two works show that there is a difference between Romance prefixed verbs and Latin prefixed verbs. The main difference between them can be illustrated with the pair of verbs Latin *adsideo* ‘sit next to’ and Catalan *asseure* ‘sit someone down’ pointed out by Acedo-Matellán and Mateu (2008). The syntax and the semantic interpretation of the two verbs are completely different as illustrated in the examples below:

- (377) (a) *La infermera ha as-segut el pacient*
 The nurse has at-sit.PART the patient
 (Catalan; Acedo-Matellán and Mateu 2008: 40)

The nurse has sat the patient down

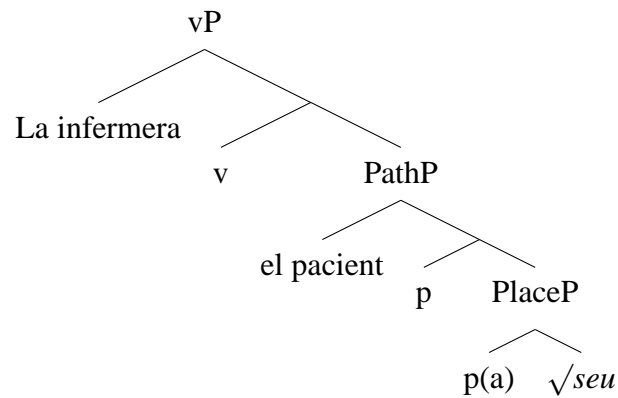
- (b) *Hiempsal dextra Adherbalem ad-sedit*
 Hiempsal.NOM to the right Adherbal.ACC at-sit.PRF.3SG
 (Latin; Acedo-Matellán and Mateu 2008: 41)

Hiempsal sat down beside Adherbal, on his right

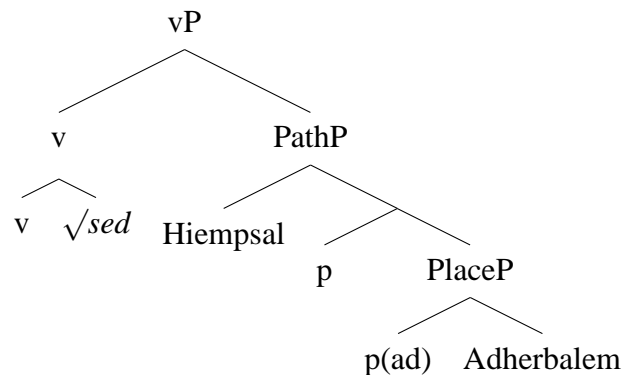
Thus, in (377 a) the object of the verb, the patient, undergoes a change of state whose final state is denoted by the verbal root, and the change of state is caused by the subject in the sentence, that is, the nurse. In the second case, the verb describes

a change of location undergone by the subject of the sentence *Hiempisal*, and the final location, that is, the ground, is denoted by the object of the verb *dextra Adherbalem* ‘to the right of Adherbal’. The verbal root of *adsideo*, \sqrt{sed} , denotes the manner, that is, the way this change of location was achieved. Therefore, the structures these authors postulate for the two verbs are as follows:

(378) (a)



(b)



The difference between Latin prefixed verbs and Romance prefixed verbs then is that in Latin the path and location are denoted by the verbal prefix, but in Romance the path and location are denoted by the prefix and the verbal root at the same time. Therefore, prefixed verbs in Romance are not of the s-framed type, but in them the path component is still lexicalized syncretically within the verb, in this case, within the cluster prefix+verb. The explanation offered in Acedo-Matellán and Mateu (2008) is that a difference in the selection properties of Romance preverbs allows selection of a DP, and Romance prefixes can only select a

verbal root. However, as argued in the previous chapter, the notion of selection cannot be applied here if we follow a non-lexicalist approach to argument structure. However, in Acedo-Matellán (2006) the difference between Romance and Latin, although based on the same account of selection, is related to the process of semantic bleaching that prepositions have undergone from Latin to Romance. Thus, Latin prefixes convey a complex location and Path while Romance prefixes encode a poor location relation, related with the defectiveness of the p domain in Romance.

On the other hand, there is another type of prefixed verbs that was studied by Kopecka (2006). The typical examples involve a verb of manner that can be used in an intransitive construction, and a prefix of the type *a* or *en*. Prefix *en* of this class of verbs comes from the Latin adverb *inde* ‘thence, from of’ (Coromines 1980; Kopecka 2006) and not from the Latin locative and goal preposition *in* ‘in’. Thus the semantics of these verbs mirrors the semantics of simple verb Cat. *anar-se’n*, Fr. *se’n aller*, It. *andarsene* or Sp. *irse* ‘to go away/go off’. Actually, as argued in Coromines (1980) this prefix *en* comes from the partitive clitic *en*, which comes from the Latin adverbial *inde* that has been incorporated into the verb by a process of reanalysis, since these verbs, like Cat. *anar-se’n*, are always constructed with this clitic, which is not semantically transparent and carries the notion of origin. Unsurprisingly, these verbs are not prefixed in Spanish, which at the same time does not have overt partitive clitics, and the simple verb of motion from an origin is also constructed without it, Sp. *irse*. Some examples of this class of verbs are given below:

- (379) (a) *ac-courir*, *s’ en-voler*, *s’ en-fuir*,
 at-run, REFL’ from-fly, REFL’ from-run away
 (French prefixed verbs)

to run towards; to fly off; to run away

- (b) *ac-correre* (Italian prefixed verbs)
 at-run,

to run towards

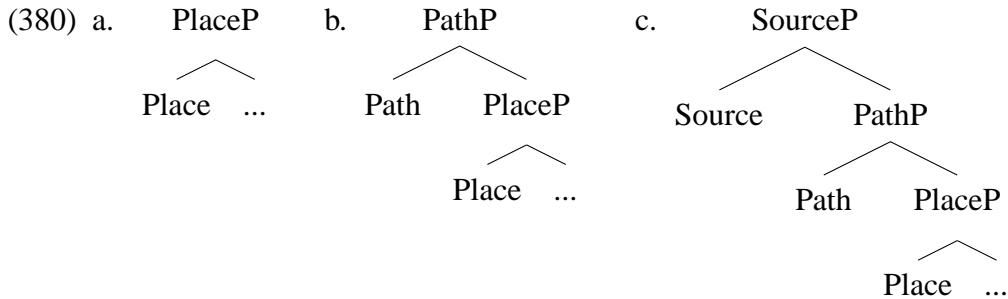
- (c) *en-volar-se*, *en-fugir-se*, *en-tornar-se*
 from-fly-REFL; from-run away-REFL; from-come back-REFL
 (Catalan prefixed verbs)

to fly off; to run away; to come back off

- (d) *volar-se*, *llevar-se* (Spanish prefixed verbs)
 from-fly-REFL', from-take-REFL
 to fly off, to take away

The verbs that allow *a/en* prefixation with a meaning of directed motion belong to the class of verbs discussed in Chapter 2 and singled out by Folli (2001). They are able to lexicalize Path and can also appear in goal of motion constructions. Therefore, I claim that these prefixed verbs are not of the s-framed type since they involve Path incorporation into *v*. Actually, the verbal root is in these cases lexicalizing *path*, that is to say a relational defective head that ends up lexicalized with *v*. If this is the case, what are *a* and *en* prefixes lexicalizing in these prefixed verbs? My claim is that prefix *a* is lexicalizing a place component while preposition *a* is lexicalizing Place in Romance languages, as argued in Chapter 2.

In the case of *en* prefixed verbs I argue that *en* lexicalizes the source that can be seen as a third preposition included in the internal structure of the verb. As argued in Pantcheva (2008) (see chapter 2), the different semantic interpretations associated with prepositions can be sorted into prepositions of source, goal, place and route. Each of them heads its own lexical projection and they are arrayed in order, following a cartographic structure in which the presence of one type involves the presence of the others in a certain hierarchical order. According to this author, a Path preposition always includes a Place preposition and a Source preposition includes a Path and a Place preposition, as illustrated in the trees below:



In the configurational theory proposed here, the interpretation of place emerges from the presence of one relational head, path emerges from the iteration of two relational heads, and source emerges from the presence of three relational heads, each of them pointing to three locations that are sequentially understood as source, path and place. Thus, we assume that prefix *en* lexicalizes the source preposition that takes a path preposition as its complement that ends up lexicalized as a verbal root, the verbal root then being lexicalized with *v*. Thus, in prefixed verbs of this sort the path is still lexicalized syncretically within the verb, something that fits into the v-framed lexicalization pattern.

In conclusion, we have seen that prefixed verbs in Romance languages are not counterexamples and follow the v-framed schema. We have studied two types of prefix verbs: change of state/location verbs and verbs of directed motion, constructed under the schema of verbs such as *andar-se'n* or verbs such as *acorrere*. The first one is easily accounted for in the v-framed pattern as shown by Acedo-Matellán (2006) and Acedo-Matellán and Mateu (2008). The second type is more difficult to recast under the v-framed schema. Some authors have argued that they are traces of the s-framed pattern that was present in Latin, and that they remain in Romance as traces of a now non-productive mechanism of word building of a directed motion event. However, we have seen that these verbs do not lexicalize manner. Thus, they always involve the group of verbs that as argued in Chapter 2 can be coerced to express directionality while the preposition encodes the source of the movement. Therefore, these verbs are constrained by the same restrictions that goal of motion constructions show in Romance; see Chapter 2.

4.6 Conclusions

In this chapter we have discussed some cases of verbal elasticity attested in Romance languages. First, the existence of cognate objects, that is, unergative intransitive verbs that can take a direct object under certain restricted conditions. Second, we examined the existence of some resultative constructions in Romance where a depictive secondary predicate is said to denote a resultative change of state. The examination of these counterexamples reveals that in both cases the existence of an AP or PP denoting a resultative change of state is linked to the notion of cognation, that is, these constructions are only licensed if the verb has a resultative meaning in itself and if the secondary predicate specifies the type of final state, bearing a close semantic relationship with the verbal root. This type of resultative has been argued to be different from the ones attested in Germanic languages in which this requirement does not exist.

In order to account for these constructions and for cognate objects, I have argued that unergative predicates can only appear with extra complements if the complement is introduced by a relational head, interpreted as place as I have argued in Chapter 2; that is, a relational head that establishes a predicative relation with the verbal root. This predicative relation allows us to explain the semantic closeness of the secondary predicate with respect to the verbal root: the AP/PP predicate is interpreted as specifying the final result because of the predicative relation they establish with the verbal root that receives a semantic interpretation of hyponymy, of part-whole.

The same kind of relational head is involved in cognate object constructions in Romance and yields the semantic interpretation associated with hyponymy. Unergative verbs in Romance can take cognate objects only if the object allows an interpretation as Hyponymic object. In contrast, in English, COs can be interpreted as events, and they therefore display slightly different properties. This is due to the fact that English as an s-framed language allows Effected Objects and

Reaction Objects, and therefore can construct a COC on the basis of an Effected Object pattern. This pattern involves the presence of a change of state predicate, that is, a relational head that takes another relational head and that receives semantics of (abstract) path. This path does not have to be associated with the verb, as in Romance, and therefore can be associated with an NP, PP or AP.

Finally, some cases of prefixed verbs in Romance have been briefly examined. These prefixed verbs are shown after close examination to belong to the v-framed pattern. Thus in all of them the semantics of path is syncretically expressed within the verbal root.

The account put forth here allows us to reexamine some counterexamples to the claim that verbs in Romance languages show a rigidity that is not attested in Germanic languages and that is linked to the expression of resultativity, as argued in Chapter 3. The approach also has the advantage of being able to account for the problem of cognation without the need to make the theory more complex by postulating different operations in the morphological component. At the same time the account gives a motivation for the specific semantic interpretation of cognate complements of any kind, the presence of a relational head with a partitive predicative semantics. The properties of this relational head will be discussed in more detail in the next chapter when we look at a group of stative verbs called Measure Verbs, and some other structures of possession.

Chapter 5

Having measures or being measured

5.1 Introduction

This chapter explores a lexicalization pattern that affects structures of possession. The point of departure of the discussion is the study of Measure Verbs in Romance languages. I propose that MVs can be analyzed as structures of possession, so that they allow us to explore the nature of Romance languages as BE or HAVE languages, following Harves and Kayne (2012) typology of languages depending on how possession is lexicalized.

Measure Verbs in Romance pose two puzzles: (i) they are variable behavior verbs regarding unaccusativity, and (ii) they appear with a complement, normally a Measure Phrase, that exhibits properties of both an argument and an adjunct. This chapter gives a unified account of these two problems and shows that the variability in both domains arises from general considerations on the expression of possession cross-linguistically. I propose that the argument/adjunct properties of the complement of Measure Verbs are strongly intertwined with the two ways languages can syntactically express possession and the structural restrictions the two patterns impose upon their complement.

Measure Verbs (MVs, henceforth) are a small group of verbal predicates. Specifically MVs show variable behavior regarding unaccusative tests that does not seem to be linked to a change in meaning¹. Secondly, the quantity element that obligatorily appears in complement position, normally a Measure Phrase (MP, from now on), can receive accusative case, contrary to what is expected if the unaccusative analysis of these verbs is on the right track. The sentences in (382 a) and (382 c) exemplify these two puzzles:

- (382) (a) *Gianni è / ?a pesat-o cent-i*
 Gianni is / have weighed-MASC.SG hundred-MASC.PL
chil-i (Italian)
 kilo-MASC.PL
 Gianni weighed a hundred kilos
- (b) *Dieci mila lire certo che le vale, questo*
 Ten thousand lira true that cl.ACC.FEM.PL value, this
libro (Italian)
 book
 This book is really worth ten thousand lira
- (c) *No els pesa pas, en Jordi,*
 No cl.ACC.MASC.PL weighs EMPH, the Jordi,
cent quilo-s (Catalan)
 hundred[masc.sg] kil-MASC-PL
 It is not the case that Jordi weighs a hundred kilos

Previous studies of Measure verbs have focused on the borderline nature of the measure complement, regarding the argument/adjunct distinction. Thus, the MP

¹Some MVs allow a transitive agentive use that has a different meaning. These examples are outside the scope of this paper since they are agentive and select an affected object. However, it is possible that the existence of agentive uses affects the choice of auxiliary selection of stative uses of MVs. Italian *misurare* selects HAVE in most of the cases, while *pesare* can appear with both HAVE and BE.

- (381) (a) John weighed a pig
 (b) Mary measured the table

has been proposed as being (i) an argument, Adger (1994), (ii) an adjunct, Corver (2006); Kegl and Fellbaum (1989); Gràcia (1989); Zamparelli (1995), (iii) a nominal predicate, Hale and Keyser (2002) or (iv) a quasi-argument Rizzi (1990).

In contrast, the variable behavior of MVs has not been specifically addressed in the literature. MVs have been unanimously analyzed as unaccusative predicates either explicitly (see Gràcia 1989; Kegl and Fellbaum 1989; Perlmutter 2011; Zamparelli 1995) or implicitly (Corver 2006; Hale and Keyser 2002; Klooster 1972; Zubizarreta and Oh 2007), because they are stative predicates. Although some authors note the variability of MVs regarding auxiliary selection (Gràcia 1989; Smith 1992), no explanation is provided. Only Sorace (2000, 2004) focuses on the problem of variability of MVs in auxiliary selection across languages, together with other predicates that exhibit the same alternation. I review her account later on in section 5.3.3.

Thus far, the two problems have been treated separately in the literature. In this chapter, instead, I pursue the hypothesis that these two problems are strongly intertwined. In particular, I propose that Measure Verbs can be analyzed as possessive structures that are typologically associated with two different structures headed by *BE* or *HAVE* (den Dikken 1995, 1997; Kayne 1993). *BE* and *HAVE* patterns are, on the one hand, unaccusative and transitive and, on the other, have a PP-complement and an NP-complement, respectively. Measure verbs therefore can be construed following these two patterns. The instability in the argument structure of these predicates contributes to the argument or adjunct status of the complement, which can be better understood in terms of the NP/PP complement distinction.

These verbs also allow us to explore a well-known case of cross-linguistic variation at the level of lexicalization that also involves a stative preposition, whose nature will be discussed in section §5.3. This lexicalization pattern described as such first in Isačenko (1974) classifies languages into two groups depending on how they express predicative possession. Two patterns are found. On the

one hand, HAVE languages can express possession in a transitive configuration in which the possessor has nominative case and the possessee bears accusative case and is not introduced by a preposition. On the other hand, BE languages express possession through a predicative structure in which the possessor is introduced by a preposition and the possessee is the subject of the predicative relation. This study follows a similar line of research as that pursued in Harves and Kayne (2012) in which this lexicalization pattern is related with the presence of related argument structure types, such as the presence/absence of a stative transitive modal like *need*. Thus, I propose that the behavior of stative verbs such as MVs across languages is related with how languages lexicalize predicative structures of possession. The main hypothesis of this chapter is similar to the one put forth by Hale and Keyser (2002) and Noonan (1994) for stative predicates. I propose a configurational view of transitivity that assumes that stative verbs are uniformly unaccusative and that their properties as transitive predicates emerge derivationally when languages have an available HAVE structure.

The chapter is organized as follows. Section 5.2 gives a descriptive overview of Measure Verbs, focusing on the two problems mentioned above: the variable behavior of MVs (5.2.1) and the argument/adjunct status of the Measure Phrase (5.2.2). Next, in section §5.3, I propose an analysis of Measure Verbs and stative predicates, in general, that follows the claim that possessive structures that contain a HAVE predicate are derived from copular BE. Section 5.4 analyses the status of the complement in light of the analysis provided in section §5.3. Finally, section §5.5 presents overall conclusions.

5.2 Measure Verbs and Measure Complements: an overview

Measure Verbs are stative verbs that attribute a measure (along different scales: weight, length or duration) to its subject. Actually, the attribution of measure can be defined as a predicative relation, according to which the subject is said to occupy a position in a scale. The kind of scale upon which we are measuring can have different qualities that are specified by the verbal root. Examples of MVs can be *weigh*, *cost* or *last* in English, for instance.

These predicates usually appear with a quantificational element, a Measure Phrase or an adverbial element, which gives us the exact position along the scale occupied by the subject. Namely, the intuitive analysis of measure verbs outlined here can be illustrated by the verb *weigh*. In the example *John weighs seventy kilos*, the verb assigns a quantificational value (seventy kilos) to the subject (John) with respect to a scale (the weight).

This section provides a descriptive overview of MVs and their quantificational complement. In section 5.2.1, I explore the properties of predicates of measure and their unaccusative status. Section 5.2.2 examines some of the properties of the complement of measure.

5.2.1 Measure verbs

Measure Verbs have the semantic properties of unaccusative predicates in the sense that they are very similar to copulative/raising verbs; that is, they express the relation between the subject and a property, a measure. However, they have not received much attention concerning their syntactic behavior with respect to standard unaccusative tests. For example, although they are usually considered unaccusative predicates, MVs show variable behavior with respect to the classic test of auxiliary selection in Italian.

- (383) (a) *Il concerto è / ?ha durato tre ore*
 The concert is / has lasted three hours
 The concert lasted three hours
- (b) *Tutti i sacchi sarebbero pesat-i / ?avrebbero pesat-o cento chil-i*
 All the bags would.be weighed-MASC.PL / would.have weighedMASC.SG hundred kilo-MASC
 All bags would have weighed one hundred kilos
- (c) *Una tale gemma sarebbe vals-a / *avrebbe vals-o molt-issimi soldi*
 A such gemstone would.be valued-FEM.SG / would.have valued-MASC.SG much-SUPERLATIVE money
 Such gemstone should have been valued at a lot of money
- (d) *La machin-a è costat-a / ?ha costat-o seimila euro*
 The car-FEM.SG is cost-FEM.SG / have cost-MASC.SG six thousand euros
 The car has cost six thousand euros
- (e) *La barca ?è misurat-a / ha misurat-o due metri*
 The boat-FEM.SG is measured-FEM.SG / has measured-MASC.SG two meters
 The boat has measured two meters

Still, there are two more puzzling facts. First, Italian speakers do not have strong judgments of (a)grammaticality with these sentences. Second, auxiliary selection variation does not seem to be followed by any strong change of meaning, contradicting the contention of Levin & Rapaport Hovav (1995) that variation is always linked to a change in the meaning of verbs. This pattern extends to other verbal groups in Italian, as pointed out by Sorace (2000).

- (384) (a) *I dinosauri sono esistiti/ ??hanno esistito 65 milioni di anni fa*
 The dinosaurs are existed/ have existed 65 milions of years ago
 Dinosaurs have existed millions of years ago
- (b) *Il telefono ha/ è squillato*
 The telephone has / is rung
 The telephone has rung
- (c) *Ieri ha /è piovuto/nevicato/grandinato tutto il giorno*
 Yesterday has/ is rained/snowed/ hailed all the day
 Yesterday, it rained / it snowed / it hailed all the day

Sorace (2000, 2004) examines the auxiliary selection pattern of different verbal classes in several languages (Italian, French, German and Dutch). Specifically, Sorace singles out two groups of verbs which display similar variation in auxiliary selection cross-linguistically: stative verbs and predicates of uncontrolled process. Consequently, the pattern MVs exhibit can be framed into a wider discussion about stative predicates and the problems in classifying them as unaccusative verbs. Stative predicates fail the majority of unaccusativity tests, as noted by Legendre (1988:153). Nevertheless, this author, among others, considers stativity as a test of unaccusativity in itself. Consequently, it is not surprising that MVs have been analyzed unanimously as unaccusatives, ignoring their variable behavior.

Sorace orders the verbal classes into a hierarchy according to their degree of variation in auxiliary selection. She observes that, cross-linguistically, some verbal classes do not show variation: auxiliary selection is consistent and the speakers have strong intuitions. In contrast, the verbal classes mentioned above, located in the middle of the hierarchy, show an opposite pattern: a lot of variation in auxiliary selection (both cross-linguistically and within a language) and weak speaker's judgements. The descriptive hierarchy established in Sorace (2000:863)

is presented in table 5.2.1. Thus, MVs are stative predicates located in the middle of the hierarchy and included in the group of the so-called non-core verbs (Sorace 2000, 2004).²

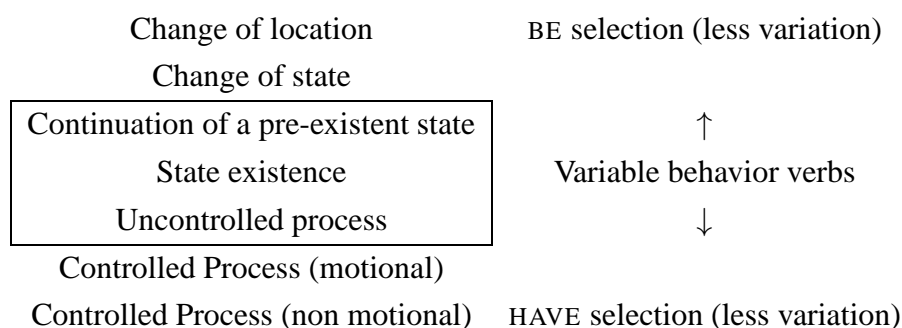


Table 5.2.1: Sorace’s Auxiliary selection hierarchy

As can be observed from auxiliary selection data in Italian (383 a)-(383 b)-(383 c)-(383 d)-(383 e), variation is even attested within the same group of MVs. Thus, they may also be ordered in a hierarchy regarding the degree of acceptability judgments when they appear with *avere* or *essere*. In the extremes of the hierarchy, there are those verbs that only select one auxiliary. In the middle, are those that can accept both auxiliaries with a greater degree of acceptance among speakers.³ The hierarchy has been ordered along the percentage of acceptance of sentences in which these verbs appear with auxiliary HAVE or BE.

²Variable behavior associated with auxiliary selection can be extended to other tests of unaccusativity or unergativity. For reasons of space, I will not go through the details in this paper, but see Real Puigdollers (2006).

³Stative verbs tend to be interpreted as unaccusatives in Romance whereas in English they tend to behave as unergative predicates. In line with this pattern, MVs behave as unergative predicates in English according to some tests, such as *out*-prefixation, *The boxer outweighed his opponent*, or the fact that they can appear with Cognate Objects (Levin and Hovav (1995); ?); Massam (1990)), *She weighs an appropriate weight*. Cross-linguistic variation is also attested in constructions of possession as discussed in section §5.3.

<i>misurare</i>	<i>avere</i> selection
<i>pesare</i>	↑
<i>costare, valere</i>	↓
<i>durare</i>	<i>essere</i> selection

Table 5.2.2: Descriptive hierarchy of Measure Verbs

In conclusion, Measure verbs belong to the class of non-core verbs. Some of them, like *pesare*, ‘weigh’, can select HAVE (*avere*) or BE (*essere*) without distinction⁴. Others prefer *essere*, like *durare* or *valere*, but in general, speakers do not have strong judgments with respect to these verbs. Therefore, there is evidence that suggests that Measure Verbs do not form a single syntactic class.

5.2.2 The measure complement

In their stative use, Measure Verbs are usually accompanied by a Noun Phrase called Measure Phrase (MP, henceforth) that specifies a quantity or a measure. There has been a long discussion in the literature, coming from traditional grammars, about the status of this complement as an argument or an adjunct. Frequently, MPs have been considered adjuncts because they do not behave as “canonical direct objects” for certain properties: (i) MPs cannot be passivized, (385 a) (Grevisse 1993; Hale and Keyser 2002; Smith 1992, among others), (ii) they don’t trigger participial object agreement in French, (385 b) (Grevisse 1993; Smith 1992), (iii) they cannot be extracted from weak islands (385 c) (Rizzi 1990), and (iv) they cannot license parasitic gaps (385 d) (Corver 2006). As we can see in the examples below this pattern is attested in different languages.⁵

⁴As pointed out in footnote (1), this might be related to the fact that *pesare* and *misurare* have agentive counterparts.

⁵Although it is true that Measure Complements show a similar pattern across languages, each language shows its specificity. For example, in French, Measure Complements do not trigger

- (385) (a) **Dues hores van ser durades pel concert* (Catalan)
 Two hours go.past be lasted for.the concert
 Two hours were lasted by the concert
- (b) **Les douze francs que ce livre avait coûtés* (French)
 The twelve francs that this book have cost
 The twelve francs that this book has cost
- (c) **Qué te preguntabas si el libro costaba?*
 What yourself ask whether the book cost?
 (Spanish)
 What did you wonder whether book cost?
- (d) *How much_i did the house cost t_i without being worth __? (English)

However, they also show certain argument-like properties: they appear obligatorily in the complement position of an MV (386 a), they can be pronominalized by an accusative clitic (386 b), they allow relativization by an object relative pronoun (386 c), and they can be made into questions with *what* (386 d).

- (386) (a) *El Joan pesa *(seixanta quilos)* (Catalan)
 The Joan weighs sixty kilos
 Joan weighs *(sixty kilos)
- (b) *Dieci mila lire, certo che le costa* (Italian)
 Ten thousand lires, sure that cl.ACC.FEM.PL costs
 It costs ten thousand lires for sure
- (c) *Les 300 francs que cette robe m' a coûté* (French)
 The 300 francs that this dress me have cost
 The 300 francs that this dress has cost to me

object agreement, but in Italian they do. The correct interpretation of this difference has more to do with the referential properties of the measure complement than with the argument or adjunct status of the Measure Phrase as a whole in French and Italian. Another possible analysis would be to consider French MP as an adjunct and Italian MP as an argument. I discuss these two hypotheses in section §5.4.

- (d) *Qué pesa Juan?* (Spanish)
 What weighs Juan ?
 What does Juan weigh?

This cluster of properties has made these elements unclassifiable according to the argument / adjunct distinction. For this reason, grammarians have been forced to come up with a different term that has taken different names along the way: as Essential Adverbial Complements (*Complements Adverbiaux Essentiels*), by Grevisse (1993), as obligatory adjuncts, or as quasi-arguments, Rizzi (1990).

The singular behavior of these complements can also be attributed to their particular semantic properties and not to the specific selectional requirements of MVs. Authors like Longobardi (1994) and Rizzi (1990), among others, have proposed the existence of a correlation between argumenthood and referentiality. Longobardi states this requirement in the following terms

- (387) A nominal expression is an argument only if it is introduced by a category D (Longobardi 1994: 60).

As pointed out by Ross (1995), Measure Phrases are Defective Noun Phrases, that is, they have a more restrictive syntactic behavior than *purebred* NPs (in his own terms) normally have. Although I will not review the details of his work here, I want to highlight how the defectivity observed by Ross can be linked to the fact that MPs are determinerless NPs. Therefore, if (387) is on the right track, Measure Phrases cannot be arguments. The fact that MPs are determinerless NPs can be easily shown by their scopal properties. As noted by Carlson (1977) and Longobardi (1994), determinerless elements always take narrow scope interpretation, precisely as MPs do.

- (388) (a) Every farmer weighed twenty pigs [$\exists > \forall; \forall > \exists$]
 (b) Every farmer weighed sixty kilos [$*\exists > \forall; \forall > \exists$]

Another sort of evidence comes from their inability to coappear with strong quantifiers, attested cross-linguistically (Adger 1994, 1996; Klooster 1972; Morzycki 2004; Sánchez López 1999; Zamparelli 1995).

- (389) (a) **El barco pesa todos los cien kilos* (Spanish)
 The boat weighs all the hundred kilos
 The boat weighs all the one hundred kilos
- (b) **El llibre costa cada mil pessetes* (Catalan)
 The book costs every thousand pesetas
 The book costs every thousand pesetas

There are some cases of MVs with a DP complement⁶. However, they all involve idiomatic use, non-referential, of the DP, in which the determiner is used as a degree quantifier.

- (390) (a) *Això costa una milionada* (Catalan)
 This costs a million
 This costs a fortune
- (b) *La reunió va durar una eternitat / la tira* (Catalan)
 The meeting aux last an eternity / the strip
 The meeting lasted an eternity / a long time

Therefore, MPs cannot be arguments if we take referentiality as the determining feature for argumenthood. Contrary to this conclusion, Adger (1994) defends the view that MPs are in an object position, and therefore they are true arguments of Measure Verbs. Lack of referentiality of MPs is an independent property of these complements and it constitutes the cause of their particular behavior. Finally, Rizzi (1990) takes a third position. For an element to be an argument it has to fulfill both properties: receiving a thematic role and having a referential index. So, MPs are thematically marked by the lexical verb but they cannot receive a referential index. Thus, they are classified as quasi-arguments.

⁶Thanks to Gemma Rigau (p.c.) for these examples

In conclusion, the classification of MPs depends on the theoretical definition of argument and its characterization. In this dissertation, the notion of argument has been defined from a configurational point of view. Arguments are defined as those syntactic objects that are in a head-complement or specifier-head configuration below vP. Although, no direct reference is made to the referential properties of arguments, as discussed in section 4.2 of Chapter 4, syntactic positions are linked to particular semantic interpretations that are related to the referential/predicative status of syntactic objects.

Almost all the characteristics shown by measure complements can be attributed either to their non-referential status or to the aspectual properties of MVs, that is, the fact that they are stative predicates. For example, lack of passivization (385 a), (see Corver 2006; Grevisse 1993; Hale and Keyser 2002; Smith 1992) can be explained by the fact that periphrastic passive requires aspectual delimitation (Mendikoetxea 1999). There are other properties that can be explained appealing to the non-referential status of the MP: scope narrow properties, the impossibility of being extracted from weak islands (Rizzi 1990) and the impossibility of licensing parasitic gaps (Corver 2006). Others, although not immediately, can also be explained on similar grounds. For example, the fact that Measure Phrases do not trigger object agreement in French can be linked to the fact that in French past participial object agreement requires the object to be specific (Obenauer 1992). However, not all the properties can be reduced to these two factors. In the following sections, I examine some characteristics that cannot be reduced to referentiality or to the stativity of Measure Verbs.

5.2.2.1 Obligatoriness

Traditionally, arguments and adjuncts are distinguished by the fact that arguments appear obligatorily while adjuncts don't.

(391) (a) John broke *(the window) (on Monday) (during the day) (finally)

At first sight, Measure Phrases seem to be obligatory complements of the verb. However, a more careful examination shows us that the MVs can have absolute uses, in which the complement is not really obligatory, although pragmatically required, since asserting that a physical entity has a measure, without specifying the measure, is pragmatically awkward. In appropriate contexts, however, the MP can be omitted, in contrast with true verbal arguments.

- (392) (a) *Les embarassades poden fer exercici dins l'aigua ja que, a l'aigua, la panxa no pesa* (Catalan)
 The pregnant can make exercise in the.water prt
 that in the.water, the belly no weighs
 Pregnant women can do water exercise because in the water the belly does not weigh
- (b) **En cas d'avaria aquesta màquina de cafè no prepara* (Catalan)
 In case of the.breakdown this machine of
 coffee not prepare

The meaning of MVs and our knowledge of the world make the presence of a quantity term necessary. However, there are contexts in which the Measure Complement does not seem to be pragmatically required, as in negative contexts (393 a) or in the presence of a predicative element, (393 b).

- (393) (a) *Aquestes coses no duren* (Catalan)
 These things not last
 These kinds of things do not last
- (b) *El cotxe costa car* (Catalan)
 The car costs expensive
 The car is very expensive

Note that some MVs are more likely to appear without an MP, as *valer* and *durar* in the examples below.

- (394) (a) *Estas entradas sí que valen para aquel museo* (Spanish)
 These tickets yes that are worth for that museum
 These tickets are really valid for this museum
- (b) *Aquella pel·lícula dura hasta las cuatro* (Spanish)
 That film lasts till the four
 That film lasts till four

In the absolute uses, these predicates are interpreted as predicates of possession. Thus, the examples in (392 a) and (394 a) are understood as having the meaning of “having weight” or “having value” respectively.

5.2.2.2 Alternation with Degree Adverbs

Measure Phrases can alternate with degree and quantificational adverbs (e.g., Cat, *molt* ‘a lot’, *poc* ‘few’, *bastant* ‘enough’, *gens* ‘no’, *força* ‘pretty’) whereas canonical direct objects cannot (395 b). Actually, MVs (395 a) pattern together with unergative verbs (395 c), specifically those that can appear with an hypotonic object such as *eat*, *write*, *dance*, etc. (see Chapter 4).

- (395) (a) *El Joan pesa poc/ El Joan pesa 55 quilos*
 The Joan weighs a little/The Joan weighs 55 kilos
 (Catalan)
 Joan does not weigh very much/John weighs 55 kilos
- (b) *El Joan ha preparat pasta/ *El Joan ha preparat poca* (Catalan)
 The Joan has prepared pasta/The Joan has prepared
 a little
 John has prepared pasta/Joan has not prepared very much
- (c) *El Pep corre molt* (Catalan)
 El Pep corre la maratón
 The Pep runs the marathon

Unexpectedly for those theories that treat MVs as unaccusative predicates, they behave as unergative predicates with respect to degree modification, since unaccusatives never allow the intensity interpretation in the presence of degree quantifiers.

(396) (a) **El Joan va arribar molt* (Catalan)

The Joan aux arrive a lot

(b) *El Joan va cantar molt* (Catalan)

The Joan aux sing a lot

Joan sang a lot

(c) *El Joan va pesar molt* (Catalan)

The Joan aux weigh a lot

John weighed a lot

5.2.2.3 Romance Causative Construction

In the Romance Causative Construction, a causative verb takes an infinitive clause as its complement. Normally the subject of the infinitival clause bears dative or accusative case depending on the transitivity of the embedded verb: if the verb is intransitive (397 a) the subject has accusative case; if the verb is transitive, it has dative case (398 a) (examples from Smith 1992). This construction, then, can be used to test whether a verb is (in)transitive.

(397) (a) *J' ai fait manger Jean* (French)

I have made eat Jean

I have made Jean eat

(b) *Je l' ai fait manger* (French)

I cl.ACC have made eat

I have made him eat

(398) (a) *J' ai fait manger la pomme à Jean* (French)

I have made eat the apple to Jean

I have made eat Jean eat the apple

- (b) *Je lui ai fait manger la pomme* (French)
 I cl.DAT have made eat the apple
 I have made him eat the apple

Interestingly, MVs behave as intransitive predicates in Spanish, Catalan, French and Italian.

- (399) (a) *Son goût pour les repas gras l' / ?lui a fait peser 100 kilos* (French)
 His taste for the meals fat cl.ACC / cl.DAT have made weigh 100 kilos
 His taste for fatty meals has made him weigh 100 kilos
- (b) *Tot aquest menjar l' / ?li ha fet pesar 80 quilos* (Catalan)
 All that food cl.ACC / cl.DAT have made weigh 80 kilos
 All that food has made him weigh 80 kilos
- (c) *Quella dieta tanto rigida l' /*le ha fatto pesare 50 chili* (Italian)
 That diet so strict cl.ACC / cl.DAT has made him weigh 50 kilos
 All that food has made him weigh 50 kilos
- (d) *Los productores la / *le hicieron durar 2 horas más, aquella película* (Spanish)
 The producers cl.ACC / cl.DAT made last 2 hours more, that movie
 The producers made the movie last 2 more hours

In conclusion, it seems that in Romance Languages, Measure Verbs act as intransitive predicates and the measure complement does not receive accusative case. This conclusion is at odds with the cliticization properties of MPs, as shown in section 5.2.2.4.

5.2.2.4 Cliticization

Measure Phrases can be resumed by accusative and partitive clitics as canonical direct objects are. This can be illustrated with examples in French (for accusative) and Catalan (for partitive), but the facts can be extended to other Romance languages that possess such clitics.

- (400) (a) *Trois et demi dollars ça les vaut à peu près*
 Three and half dollars that cl.ACC.PL value at few close
 (French)

This is worth about three and a half dollars

- (b) *Només en pesa vint (understood: kgs.)* (Catalan)
 Only cl.PARTITIVE weigh twenty
 He only weighs 20 kilos

5.2.2.5 Relativization

Measure Phrases allow relativization via the object relative pronoun *que* ('that') in French, Italian, Catalan and Spanish. However, as can be seen in the following examples, not all the relativized MPs have the same degree of acceptability.

- (401) (a) *Les grosses sommes que ces voitures ont coûté /*
 The big quantities that these cars have cost /
valu ... (French)
 valued ...

The huge amounts of money that these cars have cost ...

- (b) *Els sis euros que han valgut les entrades ...* (Catalan)
 The six euros that have valued the tickets ...
 The six euros that the tickets have cost ...

- (c) *Els cent quilos que pesava el Joan van dificultar*
 The hundred kilos that weighed the Joan aux hinder
l'operació (Catalan)
 the.operation

The hundred kilos that Joan weighed made the operation more difficult

- (d) *I chili che pesa Gianni ...* (Italian)
 The kilos that weighs Gianni ...
 The kilos that Gianni weighed ...
- (e) *?I euro che valgono questi biglietti ...* (Italian)
 The euros that valued these tickets ...
 The euros that these tickets cost ...
- (f) *?Le ore che dura questo concerto ...* (Italian)
 The hours that last this concert ...
 the hours that this concert lasts ...

In the examples above, there is a slight contrast between clearly grammatical relativization of the MP with verbs like *pesare*, and that of *valere* which is noted as awkward by most of the speakers consulted. Returning to what was said in the previous section, it seems that there is a correlation between the hierarchy in table 5.2.2 and acceptance of relativization. Thus, *pesare* and *misurare*, which are more easily accepted with auxiliary *avere*, allow MP relativization. In contrast, *valere*, which hardly accepts auxiliary *avere*, also presents an ungrammatical result in relativization examples.

5.2.2.6 Measure verbs and the possessor dative test

Datives of possession have been used as a test of unaccusativity (see for example, Borer et al. 1986, Borer (2005)) because they can bind the internal arguments of a verb (Landau 1999). In the Possessive Dative Construction a dative argument expresses a possessive relation with respect to an argument of the verb that is interpreted as the Possessee. Datives of possession can only refer to internal arguments, ie. direct objects and subjects of unaccusative verbs; however, subjects of transitives and unergative verbs are excluded. Viñas-de Puig (2008) points out that Measure Verb subjects are internal, despite their ability to license accusative case, because they can be bound by datives of possession. This author shows that

in Catalan, Possessor Datives can only bind internal arguments (Viñas-de Puig 2008:13).

- (402) (a) *En Jordi m_i' ha ratllat el_i cotxe*
 art. Jordi CL.1SG.DAT have-PRES-3SG scratch-PPART the car
 (Catalan)

Jordi scratched my car

- (b) *#El_i comptable m_j' ha ratllat el*
 the accountant CL.1SG.DAT have-PRES.3SG scratch-PPART the
cotxe (Catalan)

car

My accountant scratched the car

According to Landau (1999) Possessor Datives can appear with dyadic stative verbs. Measure Verbs show that Possessor Datives can bind the subject of the verb.

- (403) (a) *En Pere m'és cosí* (Catalan)
 The Pere cl.1SG.DAT.IS cousin
 Pere is my cousin

- (b) *Li pesaven molt les malet-es, al*
 cl.1SG.DAT weigh-IMPERF-3PL a.lot the suitcase-FEM.PL, at.the
Joan (Catalan)

Joan

Joan's suitcases weighed lot

- (c) *A la Maria la feina li va*
 At art.FEM.SG Maria art.FEM.SG job 3SG.DAT go[PRES.3SG]
durar massa poc (Catalan)

last too much a little

Maria's job didn't last long

As seen, Measure Verbs allow accusative licensing of the complement, despite the fact that their subject is an internal subject, as the Possessor Dative test shows.

This example shows, according to Viñas-de Puig (2008) that Measure Verbs are unaccusative dyadic predicates that can assign accusative to their complement, against Burzio's generalization, which states that a verb that has a thematic specifier does not assign structural accusative case to an object (Burzio 1986).

- (404) *No li pesaven ni 50 quilos, les maletes, al Joan* (Catalan)
 not cl.DAT.SG weighed nor 50 kgs., art.FEM.PL
 suitcase-scfem.pl, to.artMASC.SG Joan
 Joan's suitcases weighed less than 50 kgs.

Measure Complements when d-linked can receive accusative case despite the fact that their subject is an internal argument.

- (405) *50 quilos no els pesa pas aquella maleta*
 50 kgs. no cl.ACC.PL weighs PRT.NEG.EMPH, that suitcase
 (Catalan)

This suitcase does not weigh 50 kgs. at all

Interestingly, cliticization of the MP is not possible when a Possessor Dative appears, as shown in the following example, even though the complement is as d-linked as in the example above.

- (406) **50 quilos no els hi pesa pas,*
 50 kgs. no cl.ACC.PL cl.DAT.SG weighs PRT.NEG.EMPH,
aquella maleta, al Joan (Catalan)
 that suitcase, at.theMASC.SG Joan

However, the examples improve if the dative is a first or second person pronoun, pointing out that the dative is probably not a possessor dative, but an ethical dative. See section 5.4.2.2 for more discussion.

- (407) (a) *50 quilos no me'ls pesa pas, aquella*
 50 kgs. no CL.DAT.1SG CL.ACC.3PL weighs PRT.NEG.EMPH,
maleta, (Catalan)
 that suitcase

- (b) *La maleta del Joan em pesa molt*
 The suitcase of Joan CL.1SG.DAT weighs a lot
 Joan's suitcase weighs a lot to me

In the next two sections I outline two hypotheses that give a natural explanation for the contrast in (405) and (406): (i) Measure Verbs have an underlying BE/HAVE structure, as constructions of possession. When Measure Verbs are construed as HAVE-predicates, they can check accusative case features to their measure complement; (ii) referential properties of the Measure Complement, associated with the presence of a D⁰layer, allow resumption of the Measure Complement. Finally, Measure Phrase modification exhibits a wide cross-linguistic variation that I argue is related to the argument structure properties of MVs. For example, Italian and English allow direct and indirect MP modification of adjectives and prepositions, while languages like French, Catalan or Spanish only allow indirect modification (see Schwarzschild 2005):

- (408) (a) The ball is three meters behind/three meters more behind (English)
 (b) John is six feet tall/taller
 (c) *La pelota es tres metros *(más) atrás*
 The ball is three meters (more) behind
 The ball is three meters behind
 (d) *Juan es unos centímetros *(más) alto*
 Juan is some centimeters (more) tall
 Juan is some centimeters taller

In section §5.4, I claim that direct and indirect modification is related with the behavior of MPs with MVs and how languages lexicalize possession and predicates of measure.

5.2.3 Conclusion

In conclusion, Measure Verbs have a dubious unaccusative status. Moreover, their complement of measure has properties of an internal argument and of an adjunct.

In the next section I explore the nature of Measure Verb predicates on a par with possessive constructions, which have been much more studied. I propose that the variable behavior of measures helps explain variation in possessive constructions.

5.3 Possession and measure cross-linguistically

In previous sections, I discussed two properties of Measure Verbs and their measure complement: the fact that measure verbs are stative predicates that cross-linguistically exhibit a variable behavior with respect to unaccusativity, and the characteristics of the measure complement that have been basically related with the argument/adjunct distinction and their quantificational properties. In this section, I establish a connection between this class of predicates and other constructions that have been much more discussed: the syntax of possessive constructions.

Possessive constructions have been analyzed on a par with expressions of location, which among languages also exhibit HAVE/BE alternation (for discussion and proposals along these lines, see Belvin and den Dikken 1997; den Dikken 1997; Freeze 1992; c.f. Levinson 2011). Putting aside the possibility that the two types of constructions have a similar structure (e.g., if possessive HAVE is derived from BE plus a preposition of location), I will not consider the similarities between measure verbs and locative expressions of the type “There is an apple on the table”, “The apple is on the table” or “The table has an apple on it” (see Levinson 2011 for discussion). However, I propose that there must be some relation between predicates of measure and other stative predicates pointing out that all stative or quasi-stative predicates show a similar behavior regarding the unaccusative/unergative distinction. This proposal aims to derive transitive predicates from unaccusative ones in a compositional way, the transition between them not being clear-cut, something that yields variable behavior in this zone of transition. I propose the idea that transitive stative predicates may arise from unaccusative

ones in a similar fashion to what has been proposed by Kayne (1993) for possessive constructions and auxiliary HAVE.

In this section, I outline the parallelism between measure verbs and possessive structures. Section 1 summarizes previous approaches to the possessive construction and the BE/HAVE alternation. Section 2 proposes an analysis of Measure Verbs as a possessive construction. Finally, section 3 considers other predicates on Sorace's hierarchy that shows similar behavior such as weather verbs, expressions of temporal measure, and impersonal expressions of location.

5.3.1 HAVE is BE + D/P ?

Possessive structures have been widely discussed in the literature (Belvin and den Dikken 1997; den Dikken 1997; Freeze 1992; Harves and Kayne 2012; Kayne 1993; Levinson 2011). Specifically, the main discussion deals with the structure of possessive constructions (attributive and predicative⁷) and the properties that they exhibit across languages. Crucially, linguists have been interested in the cross-linguistic variation of possessive constructions. Some languages express possession through a copulative verb and others with a transitive verb of possession, namely, BE and HAVE, respectively. These two patterns are summarized in (409) (from Harves and Kayne 2012).

(409) Possessive structures across languages:

- (i) BE-languages → Russian, Hungarian, Quechua, Turkish, Amharic, etc.
- (ii) HAVE-languages → Spanish, Catalan, Icelandic, Basque, etc.

A well-established line of research has pursued the hypothesis that HAVE can be derived from BE (see among others, den Dikken 1995, 1997; Freeze 1992; Kayne

⁷According to Levinson (2011) attributive possessive constructions are those formed within a DP and predicative possessive constructions are those that involve a verb. For clarity's sake, I use this distinction throughout this chapter.

1993). This hypothesis may be traced back to Benveniste (1966) who argued that the verb HAVE can be analyzed as an inverted BE⁸.

(410) (a) *U menja byla sestra* (Russian; Levinson 2011: 355)
 at 1SG.GEN was sister.NOM
 I had a sister

(b) I have a sister (English)

Kayne (1993) develops the hypothesis that possession is uniformly expressed across languages through a basic predicative relation that can be spelled out as BE if the verbal head is simple, or as HAVE if it is a complex head. The notion of complexity that I am using here refers to the syntactic notion of complex head, that is, a head that has an adjoined/incorporated head.

Schematically, the possessor-possessee relationship exhibits the following pattern cross-linguistically. Thus, the choice of BE or HAVE affects the case of the DP that enters into the predicative relation.

(411) (a) Possessor-GEN/DAT BE Possessee

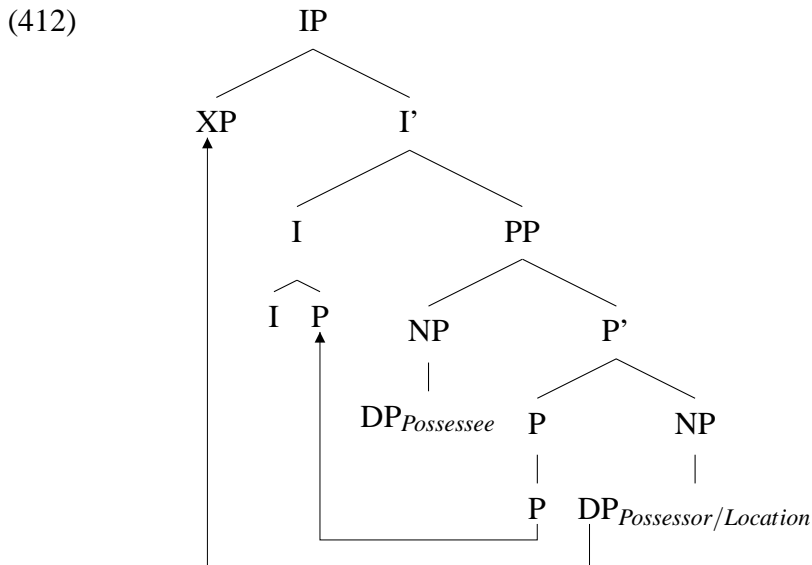
(b) Possessor-NOM HAVE Possessee-ACC

There are two main approaches to the hypothesis of HAVE being a derived BE. Both of them propose that HAVE is BE with an incorporated prepositional element. In one case the preposition is a locative preposition and possessive structures are identical to locative expressions. In the other case, the nature of the prepositional element is not explicitly a locative preposition and the possessive construction with HAVE or BE is derived from an existential structure that includes an attributive possessive construction. In the second approach, the attributive possessive construction is more basic and the element that incorporates into BE is a mixed category of a preposition and a determiner head. The crucial difference between

⁸As den Dikken (1997) points this out using Benveniste's quote "*avoir est être à l'inverse*".

these two approaches revolves around the relative position between the possessor and the possessee in the construction.

For locative approaches to HAVE, (Freeze 1992 and den Dikken 1997), (411 a) and (411 b) share the same deep structure and (411 b) is derived from (411 a). The underlying structure of both (411 a) and (411 b) is as in (412), from Freeze (1992), where the P that introduces the possessor incorporates into the verb and the DP_{Possessor} moves to a subject position.

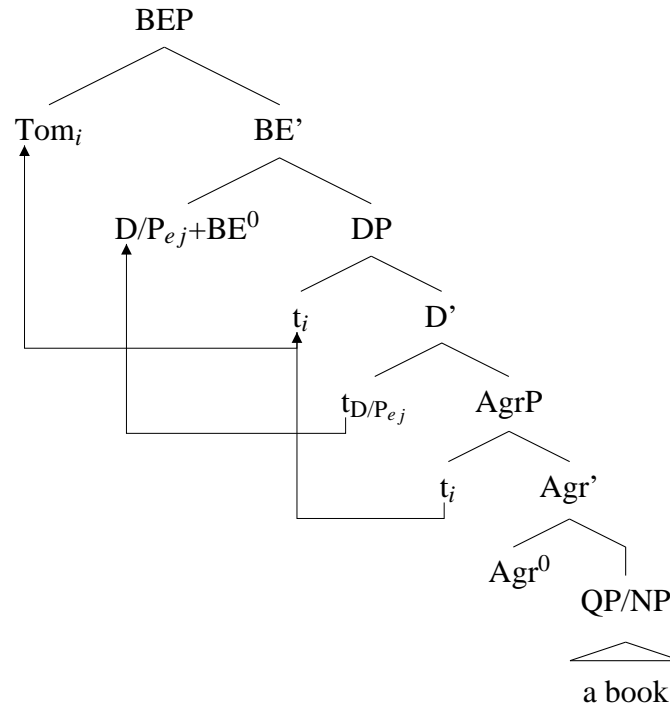


As correctly pointed out by Levinson (2011), the problem with Freeze's (1992) and den Dikken's (1997) analysis is that the Possessor is in the complement position of the locative preposition and is in a c-commanding relation with the Possessee. In the next section, I show that the locative approach does not yield the generalizations needed to account for the structure of Measure Verbs.

The second type of approach, which I label the nominal approach to HAVE,⁹ assumes the opposite predicative relation, that is, the Possessee is the nominal predicate of the possessive relation.

⁹Since the possessive construction stems from a possessive DP internal relation.

(413) Tom has a book



In what follows I basically assume Kayne's (1993) analysis of the BE/HAVE alternation in possessive constructions and in auxiliary selection. Basically, according to this approach, the possessor/possessee predicative relation is established DP-internally. The definiteness properties of the DP, wherein the possessive relationship is established, trigger different syntactic movements, as in Szabolsci's analysis for Hungarian Possessive DPs. However, the effect of definiteness in the triggering of movement of the $DP_{\text{POSSESSOR}}$ is not clear in Kayne's account, although it is crucial for Szabolsci's work. Section 5.4 explores the role of definiteness in the emergence of a HAVE structure. Specifically, I explore the idea that the emergence of HAVE is linked with the appearance of accusative case assignment, which I propose is crucial to understanding the variable behavior of Measure Verbs and their measure complements. As the link between accusative case, definiteness and

transitivity is not well understood yet, the ultimate goal of the approach pursued here is to give a unique explanation of these facts.

Kayne's (1993) proposal of expressions of possession in English departs from Szabolsci's analysis of Hungarian possessive DPs. For Kayne (1993), the DP possessor must rise into the Specifier of the D/P projection. However, unlike Hungarian, in English this position does not license oblique case, and the DP has to move further up to check/assign its case features, moving to the specifier of BE. However, movement from an A-bar position to an A position constitutes an improper movement that is avoided according to Kayne (1993) by head movement of D/P into BE. On his account, incorporation extends the domain and converts the position of Spec, D/P in an A position, as a consequence of the transparency condition of Baker (1988)¹⁰

On minimalist grounds, one could consider that head movement makes the specifier position of D/P available for establishing a probe-goal relation and hence ensuring movement of the $DP_{\text{POSSESSOR}}$ into the Spec of BE. One may consider that cross-linguistic differences are reduced to superficial morphological properties and propose that BE and HAVE languages differ as to whether there is movement of D/P-to-BE. Under this view a cross-linguistic difference in the domain of the vP is explained in a similar way to cross-linguistic difference in the CP domain.

5.3.2 Measure verbs and possessive structures

MVs have been analyzed as copulative-like verbs. The complement, the Measure Phrase, is seen as a prepositional/nominal element (see Corver (2006); Klooster (1972); Hale and Keyser (2002); Zubizarreta and Oh (2007)) which acts as the true predicate. All these approaches assume that the subject of MVs is not an external argument but a derived subject, as in an unaccusative configuration.

¹⁰For discussion and criticisms of this solution see den Dikken (1997).

Hale & Keyser analyze Measure Verbs as mere copulas. Consequently, the true predicate of the construction is, then, the MP, which is analyzed as a nominal predicate. The analysis pursued here follows Hale and Keyser's view that MVs are mere copulas.

The analysis of MVs as structures of possession states that (414 a) and (414 b) share the same structure:

(414) (a) John weighs 60 kgs

(b) John has 60 kgs

However, if (414 a) and (414 b) are structurally identical, where is the verbal root in the structure? Under the view of roots developed in this dissertation, one possibility would be to place the root at the bottom-most position in the derivation. That is, (415 a) is identical to (415 b).

(415) (a) John weighs 60 kgs

(b) John has 60 kgs of weight

One of the advantages of the approach along the lines of (415 a) and (415 b) is that it paves the way for an analysis that captures the scalar properties of measure verbs.¹¹ Hence, the relation between the Measure Complement and the scale denoted by the verbal root is established as a relation of predication. Two analyses have been proposed : (i) that the Measure Complement is an argument of the degree phrase associated with the scalar predicate (e.g., Zamparelli 1995), and (ii) that the Measure Phrase is a nominal predicate. The latter account, put forward by Corver (2006, 2009), maintains that Measure Phrases are always predicate nominals and that they undergo predicate inversion with respect to the scale. An analysis on these lines can be interesting because it relates the referential properties of

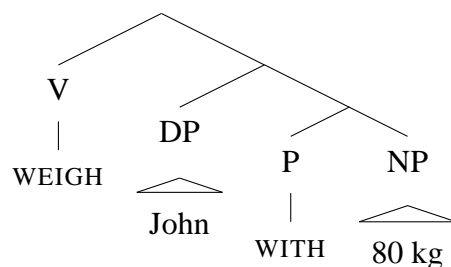
¹¹The fact that Measure Verbs are scalar predicates can be sustained on the basis of their behavior with respect to degree modifiers, and that they can appear in exclamatives such as Cat. (i) *Que pesa, això!* 'This is very heavy!' (ii) **Que arriba, això!*. Elena Castroviejo (p.c.).

the Measure Phrase with its position and the HAVE/BE alternation associated with predicates of measure. For example, the sentences in (416 a) and (416 b) show a contrast in French, which argues in favor of a unified analysis of the BE/HAVE alternation for measure expressions and the properties of the MP. It can also draw interesting generalizations about the behavior of MPs across languages (*e.g.* the fact that Spanish and Catalan do not allow MPs to combine directly with an AP or a PP they have to combine with a degree word. Interestingly, Spanish and Catalan only allow auxiliary HAVE to express possession.¹²I will not explore an analysis on these lines in the chapter.

- (416) (a) *La tour est haute de deux mètres* (French)
 The tower is tall of two meters
 The tower is two meters tall
- (b) *La tour a deux mètres d'haute* (French)
 The tower has two meters of.height
 The tower has two meters of height

The analysis of *weigh* following Hale and Keyser (2002) and dismissing the root can be as follows:

- (417) John weighs 80 kgs.



The analysis of (417) has been proposed by Corver (2006, 2009), Klooster (1972, 1973) and Zubizarreta and Oh (2007). This analysis highlights the similarity between MVs and possessive structures based mostly on the fact that Romance

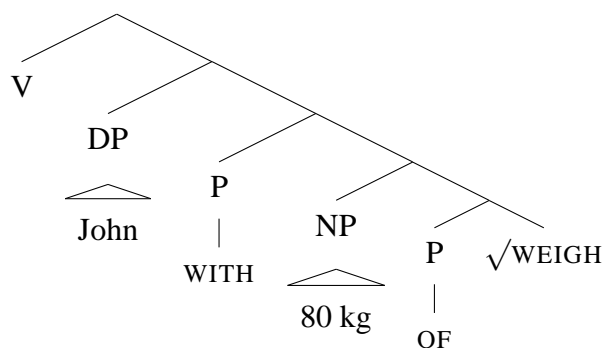
¹²There are some exceptions to this statement like Cat. *El llibre és meu* ‘The book is mine’. However it is not clear that possessive constructions with BE that have a genitive possessor have the same structure as possessive constructions with dative possessors (see den Dikken 1997).

languages express measures with copulative-like sentences that are also used to express possession.

- (418) (a) *La mesa tiene un metro de largo/larga*
 The table.FEM.SG has a meter of long.MASC.SG/LONG.FEM.SG
 The table is two meters long
- (b) *La pel·lícula té dues hores de duració*
 The film has two hours of duration
 The film is two hours long
- (c) *Gianni è alto due metri*
 Gianni is tall two meters
 Gianni is two meters tall

However the analysis in (417) does not capture the predicative relation between the MP and the root of the Measure verb. For this reason I propose that (417) can be modified as in (419):

- (419) John weighs 80 kgs.



These examples show that across Romance, light verb measure expressions can use two different verbs: BE and HAVE. In the next section I want to relate this variability with the above mentioned variable behavior of Measure Verbs: that is, the variation that MVs exhibit with respect to auxiliary selection in Italian,

the availability of an accusative measure complement, and the internal argument properties associated with the subject of MVs.

In conclusion, although classical analysis of Measure Verbs captures the stative nature of these predicates, their relation with expressions of possession, and their behavior as unaccusatives, it never focused on the variable behavior that these verbs display with respect to unaccusativity. It also fails to note that variability extends to predicates of possession as shown by Kayne (1993).¹³ This latter fact that at first sight seems puzzling for the analysis can actually shed some light on the nature of stative predicates and the emergence of verbal types.

5.3.3 A syntactic-semantic account of variation in auxiliary selection for measure verbs

As shown in section 5.2.1, Measure Verbs can select auxiliary BE or auxiliary HAVE in Italian. Speakers vacillate between the two auxiliaries. The phenomenon of auxiliary selection and the existence of a *gradience* effect among speakers have been studied by Sorace (2000, 2004).

Sorace (2000, 2004) studying auxiliary selection in Germanic and Romance languages, observes that variation in the auxiliary selection in a language and among languages follows a certain pattern. Some predicates exhibit more variation than others, whose behavior regarding auxiliary selection is stable. Sorace

¹³However, Kayne (1993) does not analyze variation in auxiliary selection as variation regarding the unaccusativity nature of certain predicates. His analysis of auxiliary selection in Italian dialects proposes that the presence of auxiliary BE or auxiliary HAVE depends on the different movement operations undergone by the DP subject and the mechanism of head movement as a mechanism for repairing improper movement. Head movement can also be understood as a mechanism that makes certain positions visible for the establishment of probe-goal relations. Under his view an unaccusative verb can select auxiliary HAVE, as in Spanish, since movement of D/P to BE is always forced. This analysis is at odds with characterizations of auxiliary selection of unaccusatives in purely semantic or syntactic-semantic features as argued by Sorace (2000, 2004) or Mateu (2002), respectively (see section 5.3.3).

establishes different verbal semantic classes and arranges these classes in a hierarchy according to their behavior with auxiliary selection. Predicates with a solid behavior in the choice of auxiliary (they select only HAVE or only BE) are located at the extremes of the hierarchy, and those that can select both of them appear at the center of the hierarchy.

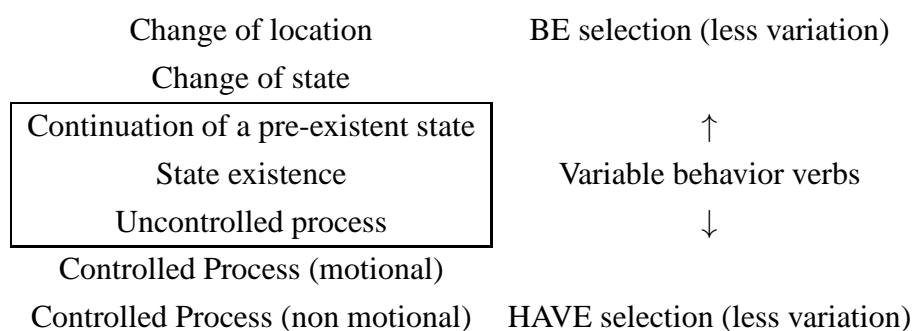


Table 5.3.1: Sorace's Auxiliary Selection Hierarchy

Mateu (2002) provides a syntactic-semantic approach to the hierarchy of Sorace. As discussed in section 3.2.2 of chapter 3, in Mateu's theory different syntactic configurations give rise to different semantic interpretations. Those verbs that show variation are those that can receive two different interpretations. The fact that a verb can select both auxiliaries is brought about by the availability of two different semantic construals to express a particular conceptual content. Mateu (2002) establishes a system of syntactic/semantic features that define different syntactic-semantic classes: basically, he reduces Sorace's 7 types of predicates to 5 according to the following parameters.

- (420) (a) $[\pm T]$: a feature associated with transitions, ie. change of state predicates.
- (b) $[\pm r]$: a preposition that denotes a relation of central or terminal coincidence. This feature provides the aspectual interpretation of the predicate, atelic or telic, respectively.

- (c) [$\pm R$] : a feature associated with events of process. [+R] feature defines a controlled process, while a [-R] defines an uncontrolled, non-agentive process.

Mateu (2002) reanalyses Sorace's Hierarchy according to these syntactically relevant semantic features that form the following classes of predicates: verbs that denote a telic change of state, atelic change of state, states, uncontrolled processes and controlled processes. Languages like French, Italian and Dutch differ with respect to where they put the limit to selection of auxiliary *be*. Thus in French only verbs of telic change of state select auxiliary BE. In Dutch, verbs of change of state (both telic and atelic). Finally, Italian sets the limit at the level of stative verbs. These languages show intralinguistic variation in the cutting areas: borderline predicates are the ones that exhibit vacillation in their behavior regarding auxiliary selection.

Telic change of state [+T] [+r]	-->cutting area in French
Atelic change of state [+T] [-r]	-->cutting area in Dutch
States [-T] [-r]	-->cutting area in Italian
Uncontrolled process [-R]	
Controlled Process (motional and non-motional) [+R]	

Table 5.3.2: Mateu's interpretation of Sorace's Auxiliary Selection Hierarchy

Table 5.3.2 shows that variable behavior of Measure Verbs in Italian is similar to the variable behavior of other predicates that denote states or events of uncontrolled process, such as meteorological verbs, verbs of sound emission, verbs of body processes, etc. The examples show how verbs of uncontrolled process

(considered normally unergative) exhibit variation in auxiliary selection (Sorace (2000):877).

(421) (a) *L' eco ha/è risuonato nella caverna*
 The echo has/is resonated in.the cavern
 The echo resounded in the cave

(b) *Il tuono ha/è rimbombato*
 The thunder has/is boomed
 The thunder boomed

(c) *La campana ha rintocato / ?è rintoccata*
 The bell has rung / is rung.FEM.SG
 The bell rang

(d) *Ieri ha / è piovuto / nevicato / grandinato tutto il*
 Yesterday has / is rained / snowed / hailed all the
giorno
 day
 Yesterday it rained/snowed/hailed

Predicates with variable behavior in Italian are both atelic and denote a non-volitional process. Thus, the semantic characteristics of verbs that can combine with both auxiliaries are lack of agentivity/control and lack of aspectual delimitation.

In a previous work (Real Puigdollers 2006, 2007, 2008), following Mateu (2002)'s (2002) theory of argument structure, I put forth the hypothesis that the conceptual content encoded in the verbal root can be semantically construed in two different ways: as an uncontrolled source process and as a stative attributive interpretation. Therefore, I proposed that the non-functional head, the root, which carries the non-syntactically relevant semantic content, can be construed according to two different syntactic configurations: an unergative and an unaccusative one.

On this view, change of auxiliary selection implies a change in semantic construal of the same conceptual scene, the expression of measure, in this case. I

proposed that we can construe the concept of *weigh* in two ways: as attributing a certain property (a weight of sixty kilos) to a subject (John) or as the process of the subject (John) being the source of something (a weight in this case). The two possible interpretations are well illustrated by the two available paraphrases in Catalan to express measure: one with verb *tenir* ‘have’, and one with verb *fer* ‘make/do’.

- (422) (a) *El Joan fa un metre i mig*
 The Joan does one meter and a half
 Joan is one meter and a half tall
- (b) *La casa té uns deu metres d' amplada*
 The house has a ten meters of width
 The house is around ten meters wide

Thus, the use of the causative verb *fer* ‘make/do’ to express measure gives support to the analysis that MVs can also be interpreted as uncontrolled process verbs, close in meaning to verbs of bodily process or emission of substance such as *to sweat*, *to shine* or *to sound*. Note that in Catalan the same paraphrases with *fer* can be found with such verbs (e.g. Cat. *fer salivera* ‘to salivate’, *fer sang per la boca* ‘to bleed from the mouth’)¹⁴.

This account leaves open the question about the Measure complement discussed in section 5.2.2. For this reason, I adopted the hypothesis that changes in the verbal argument structure force a different choice of *v* in the syntactic level. Assuming a split VP configuration following Hale and Keyser (1993); Chomsky (1995) among others, in which the external argument is introduced in the specifier of a functional projection labeled as *v**P (functional head associated to full argument structure), *v* is also the locus of valuation of the case features of the DP object, capturing Burzio’s Generalization that verbs lacking an external argument

¹⁴Paraphrases with *fer*+N have been argued to be a property of unergatives (see Chapter 3). However, there are verbs that can be paraphrased with *fer* but are normally analyzed as unaccusatives: meteorological expressions, e.g., *fer fred* ‘it’s cold’, *fer sol* ‘it’s sunny’, etc.

cannot appear with an accusative complement (Burzio 1986). If the predicate is construed in an unergative/transitive configuration (423 a), then ϕ features in v^* establish a probe-goal relation with the MP, which reaches the object position and is in its minimal search domain, valuing its case features. In contrast, if the measure verb is construed as unaccusative 423 b, a defective little v is chosen in the Numeration and the internal object values its case features in T.

- (423) (a) [DP (External Argument) [v^* P v^* [$u\phi$, K=ACC] ... [V MP_[i\phi uK]]]]
 (b) [[T [$u\phi$, K=NOM][v P v ... [V DP_[i\phi, uK]]]]]

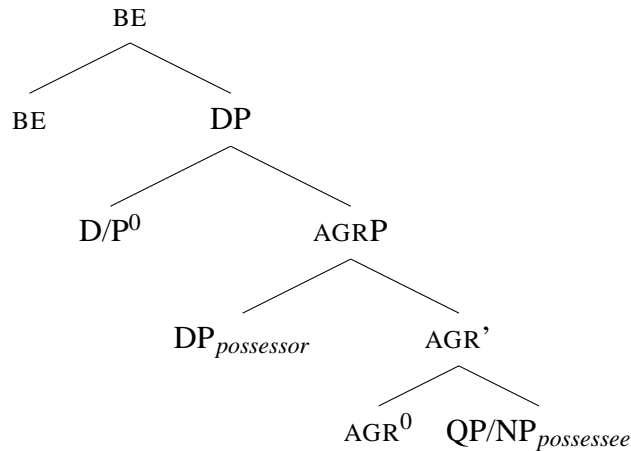
The problem with the account outlined above is that it cannot explain certain facts about MVs and their complements. For example, it does not allow us to explain the quantificational properties of the Measure Phrase and how it is linked to the argument structure of the MV. Moreover, the analysis does not capture the similarities between Measure Verbs and possessive constructions: possessive constructions can also be analyzed under two construals. By unifying the analysis of MVs with predicates of possession it is possible to give a general account of stative predicates.

In the next section, I outline a proposal of Measure Verbs taking into account Kayne's analysis of possessive structures and auxiliary selection. In section §5.4, I unify the two proposals by establishing that transitivity emerges from a basic unaccusative configuration.

5.3.4 A new syntactic account of Measure Verbs as possessive structures

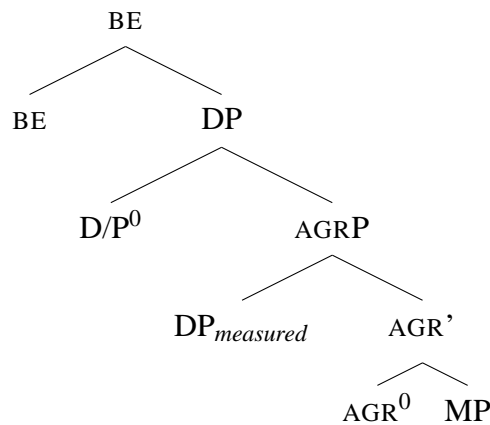
Kayne (1993) proposes that there is the following basic structure with respect to possessive structures:

(424)



This analysis can be translated to Measure Verbs: the predicative and quantificational nature of the Measure Phrase receives a straightforward explanation in the analysis since it occupies the base position where the quantificational element that expresses the Possessee is base generated. The structure of Measure Verbs is then as follows (for now, we dismiss the role of the root in the analysis):

(425)

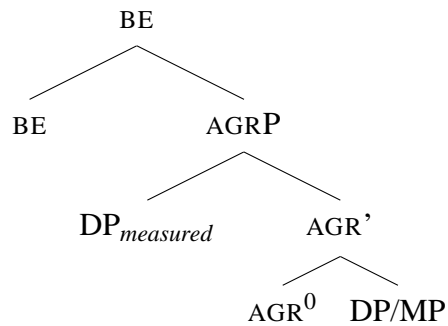


In Hungarian, the definiteness nature of the D/P^0 is crucial to understanding the behavior of the $DP_{\text{Possessor}}$. When D is definite, then the $DP_{\text{Possessor}}$ can stay in its base position and receive nominative case or move to the Spec of the D/P^0 and be licensed with dative case. Then the D/P^0 can move further up to the specifier of

BE. Moreover, if D is indefinite, movement of the $DP_{\text{Possessor}}$ out of the possessive DP is compulsory.

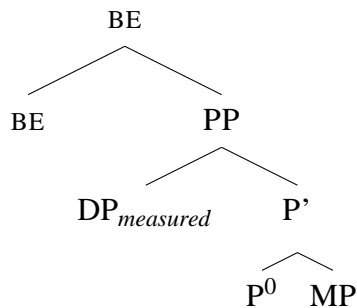
Measure verbs exhibit also a definiteness effect associated with the interpretation of the Measure Complement. The Measure Complement is always quantificational and it does not have a D^0 layer (for a justification see section §5.4). In certain cases however the Measure Complement can be d-linked. I propose that d-linked cases are associated with a definite value of D in the MP domain. For this reason I propose that MPs can appear with a DP external layer in d-linked cases.

(426)

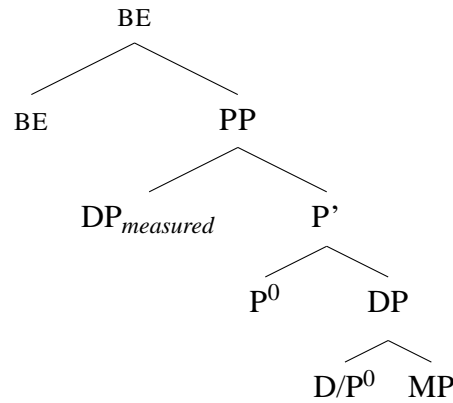


Moreover, if following Chomsky (1995) we assume that agreement is not a syntactic head but a syntactic operation that is established between a probe and a goal, then the Agr head that relates the DP_{Measured} with the MP needs to be reappraised. Instead, I propose that this relation is mediated by a preposition that denotes a central coincidence relation in the spirit of Hale (1986) and discussed in Chapter 2, section 2.1. Thus, the definiteness layer in MVs is not always present, only in d-linked cases (428).

(427)



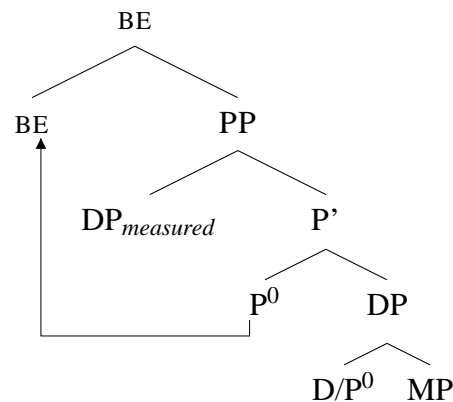
(428)



According to this analysis, Measure Verbs normally have the structure in (427) and behave as unaccusative predicates.

According to what was said in Chapter 2, central coincidence prepositions in Romance languages are non-defective phase heads. If this is true, they contain a complete set of ϕ -features and allow for an external argument position, namely, the DP_{Measured} . In line with the analysis outlined in Chapter 2, I propose that the central coincidence preposition in structure (427) can move and incorporate into BE, extending the phase and transforming BE, a defective unaccusative phase, into a non-defective transitive phase, able to license accusative case and to allow for an external argument position. The DP_{Measured} moves to the specifier of BE+P and is interpreted as an external argument, resulting in a HAVE structure.

(429)



In this account, HAVE can license accusative case if it can establish an appropriate probe-goal relation with its complement. In this case, I propose that this is the case when the MP is linked to the existence of a D/P layer. Actually, this analysis explains why HAVE has the property of licensing accusative case. Kayne does not explore this property, but I think that any theory that aims to explore the BE/HAVE alternation must account for this.¹⁵ Actually, in non-incorporating structures the presence of a preposition between *v* and the MP places the MP out of the scope of *v*, and the MP is interpreted as a prepositional complement. I explore this idea further in section §5.4 where I develop the hypothesis presented in section §5.1 that says that the variable behavior of Measure Verbs is linked to the variable behavior of the measure complement.

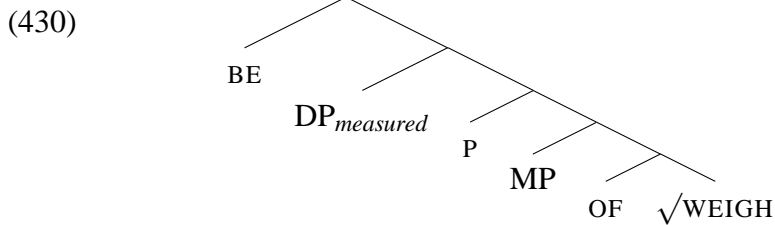
In the next section I address the properties of the measure complement cross-linguistically. Specifically, I explore the fact that when Measure Verbs have the structure in (427), the complement of BE is interpreted as a PP, while when they have the structure of (429), the complement of HAVE, that is BE+P, is a DP.¹⁶

Finally, the analysis put forth must be adjusted to account for the position of the root in the structure and how the MV is lexicalized, according to the assumptions discussed in Chapter 3. The scale denoted by the root seems to bear a predicative relation with the MP: the MP specifies a point on the scale. In a way, it can be understood as if the measure and the scale denote a part-whole relation.

¹⁵However, in a later work with Stephanie Harves, Harves and Kayne (2012), Kayne proposes a correlation between the existence cross-linguistically of HAVE in possessive constructions and the existence of a transitive *need*, defined by the property of assigning accusative case to its object.

¹⁶A derivational account of unergatives from a basic predicative configuration along the lines of Kayne (1993) allows us to draw an interesting parallelism between unergativity and possessive structures across languages. According to Kayne (1993), along the lines of Szabolsci, Hungarian is a BE-language that allows the following configuration: Possessor-DAT BE Possessee-NOM. For Kayne (1993) this can be explained by saying that the Specifier of D/P head licenses an oblique case in this position. Therefore, the Possessor does not need to move further up or to agree with a head to receive nominative case. We could say that the phenomenon of ergativity is parallel to the more basic notion of possession. Under this view, the fact that languages can be divided into BE and HAVE languages, and ergative-absolutive and nominative-accusative languages, must be accounted for in a similar way.

As discussed in section 4 of Chapter 4, the preposition that denotes a part-whole relation can be thought of as a basic predicative relation of central coincidence or a partitive preposition. Thus, the structure of MVs with the root can be as follows:



Thus, on the assumptions laid out in Chapter 3, the domain of lexicalization is restricted to a phase domain. In MVs, v which I have identified with BE constitutes a domain of lexicalization, and P, a phase head, would be another one. Thus, the root $\sqrt{\text{WEIGH}}$ ends up being lexicalized by P-signature percolation P, yielding an analytic structure in which the copulative verb BE selects a complement like “50 kgs. of weight”. Alternatively, if P incorporates into BE the root would be able to lexicalize the transitive verb have. Is it possible then to have an MV that lexicalizes the unaccusative structure in (427)?

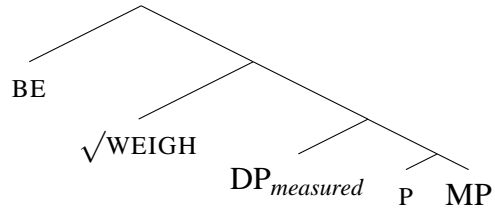
The proposal outlined so far is in line with Corver (2009), who analyzes MPs as predicates of dimensions. The structure would be like Kayne’s analysis of definite possessed DPs such as *John has your article with him* (Kayne 1993: fn. 14). He considers that in place of the QP/NP there is a prepositional small clause, as in (431 a). However, a Corver-like analysis like the one depicted below would contradict the contention that roots cannot be in a specifier position (see Chapter 3 for discussion), unless P is a phase head.

(431) (a) [BE [PP DP_{MEASURED} P [PP[WEIGH [P MP]]]]]

As argued in Chapter 4, one of the claims of this dissertation is that central coincidence prepositions can be phase heads in Romance languages. According to the theory outlined in Chapter 3, this would allow a root to be inserted after P, and the

root to directly lexicalize the verb BE, or HAVE, if there is head movement of P into BE.¹⁷

(432)



This analysis would capture the semantic relation between the root and the MP in a different way, but would allow us to explain why MVs can be the lexicalizations of BE and HAVE structures across languages.

5.4 A Measure for Measure Phrases

This section establishes how the argument structure of Measure Verbs affects the argumental status of the Measure complement. It develops the hypothesis outlined above, that is, that MPs can be PPs or NPs/DPs. I explore how this idea may be on the right track cross-linguistically if we explore the behavior of Measure Phrase modification in Romance. Then I explore whether the argumental status of the measure complement co-varies with the unaccusative/unergative status of the predicate by looking at some complex evidence, the combination of tests for unaccusativity plus tests that determine the argumental status of the complement. First, I review data that combine clitic left dislocation and auxiliary selection in Italian; then I consider examples of possessor datives in clitic left/right dislocation constructions. I explore whether the case properties of Romance Causative Constructions are sensitive to the case properties of Measure Phrases. Finally, I put

¹⁷Note that nothing prevents the transitive stative version of MVs from corresponding with two possible structures: in one the root is at the first merge position of the tree, as in (430), and in the other the root is inserted after the PP phase, as in (432). For now I leave open the possibility that a verb can lexicalize different structures that end up sharing similar properties.

forth a theory that explains the variable behavior of Measure Complements based on their properties, such as definiteness and case.

5.4.1 Measure Phrases: an overview

Measure Phrases have been studied from different perspectives (see Adger 1996; Corver 2006; Morzycki 2004; Ross 1964, 1995; Schwarzschild 2005; Zamparelli 1995). The structure of MPs has been analyzed in relation to the notion of modification. Measure Phrases have a cross-categorical distribution:

- (433) (a) John ran two hours (V modification)
(b) John is two meters behind (P modification)
(c) Two kilos of potatoes (N modification)
(d) John is 5 feet 3 inches tall (A modification)

There is not agreement in the literature about the semantic contribution of the Measure Phrase. MPs have been analyzed as arguments of dimension or modifiers (Schwarzschild 2005, Zamparelli 1995) or predicate nominals (Corver 2006, 2009). The arguments that favors the predicative analysis of MPs are based on their referential properties (see 5.2.2).

Corver (2009) proposes that Measure Phrases in the nominal domain are predicates and that they undergo predicate inversion with respect to the noun they modify. He also observes that there is a cross-linguistic pattern in the Measure Phrase domain that parallels the cross-linguistic pattern observed in structures of possession (Corver 2009:129). However, he does not provide a complete account of this parallelism in the paper.

- (434) (a) two meters tall (English)
(b) John's car

(435) (a) *longue de deux metres* (French)

long of two meters

two meters long

(b) *une voiture de Jean*

a car of Jean

a car of Jean's

(436) (a) *alto due metri* (Italian)

tall two meters

two meters tall

(b) *Casa Rossi*

House Rossi

the Rossi house

In this section I explore the nominal nature of MPs in Romance through the study of the pattern provided in (437 a) to (437 c).

(437) (a) *L'uomo era alto due metri*

The man was tall two meters

The man was two meters tall

(b) **Juan es dos metros de alto*

Juan is two meters of high

(c) *La mesa tiene un metro de ancho*¹⁸

The table has a meter of width

The table is one meter wide

There is a relation between the appearance of BE or HAVE in constructions of measure and the nominal nature of MPs. Thus, Spanish and Catalan do not allow BE in expressions of Measure. In these languages MPs cannot be direct modifiers of the adjective: the MP can only modify degrees (Bosque 1999). Recall that in

¹⁸Note that the DP should be inanimate. With animate subjects we would use agentive verb *hacer* to express measure: e.g., *Mi hijo hace un metro de alto* "My son is one meter tall"

Spanish and Catalan expressions of measure with degree adverbials can appear with verb BE. Therefore, it seems that it is the nominal nature of the Measure Phrases that forces the choice of Sp. *tener* or Cat. *tenir* ‘have’.

- (438) (a) *Juan es muy alto / es más alto que tú* (Spanish)
 Juan is very tall / is more tall than you
 Juan is very tall / is taller than you
- (b) **María es alta dos metros*
 María is tall two meters
- (c) **María es alta de dos metros / dos metros de alta*
 María is tall of two meters / two meters of tall

Spanish and Catalan lack the ability of direct modification of APs and PPs. This effect is also attested in English with certain prepositions or adjectives: bound-ness delimits MP modification at least in the prepositional domain. As discussed in Chapter 2, section 3.1, only projective prepositions allow MP modification (Zwarts and Winter 2000). MP modification of certain types of adjectives is also possible if the adjective is in a comparative degree (see Schwarzschild 2005). However, a comparative adjective is not an AP but a DegP.

- (439) (a) John is two meters behind / *two meters at the station
- (b) John is 125 pounds fatter / *fat

MP modification in Spanish and Catalan is only possible if there is a preposition that introduces the MP or if there is a comparative adverbial:

- (440) (a) *La casa és *(a) dos metres davant de la platja*
 The house is *(at) two meters in front of the beach
 (Catalan)

The house is two meters in front of the beach

- (b) *El Joan és 3 cm. més alt que el Lluís* (Catalan)
 The Joan is 3 cm. more tall than the Lluís
 Joan is 3 cm. taller than Lluís
- (c) *La pelota está tres metros *(por) detrás del árbol /*
 The ball is three meters *(for) behind of the tree
 *(a) *tres metros detrás del árbol* (Spanish)
 / *(at) three meters behind of the tree
 The ball is three meters behind the tree
- (d) *Juan es más alto que Luis* (Spanish)
 Juan is more tall than Luis
 Juan is taller than Luis

There is also a contrast in the relative positions of Measure Phrases. In Spanish and Catalan, the MP is always preposed with respect to the noun it quantifies. Postposed MPs are usually related in Romance languages with adjectival constructions, as exemplified in French, where pre- and post-posed MPs are possible. French allows “A de MP” and “MP de N”. Again, the use of an AP always forces the choice of BE.¹⁹

- (441) (a) *Cette tour a cent mètres de haut* (French)
 This tower has hundred meters of height
 This tower is one hundred meters tall
- (b) *Cette tour est haute de cent mètres*
 This.FEM.SG tower is tall.FEM.SG of hundred meters
 (French)

This tower is one hundred meters tall

¹⁹Another possibility is the pattern “MP de A” attested in some dialects of Spanish, according to Eguren and Pastor (2011). These constructions contain an adjective instead of a noun, as shown by the agreement between the subject and the dimensional adjective. However, in the Spanish case, we find an exception to the pattern BE+PP and HAVE+NP, since the verb that heads these constructions is still *tener* ‘have.’ I leave these cases for further research.

(i) *La mesa tiene dos metros de anchura*
 The.FEM.SG table.FEM.SG has two metres of width.FEM.SG
 The table is two metres wide

(c) *La pièce a six mètres de long* (French)

The room has six meters of length

The room is six meters long

(d) *La pièce est longue de six mètres* (French)

The.FEM.SG room is long.FEM.SG of six meters

The room is six meters long

Schwarzschild (2005) establishes the cross-linguistic generalization about Measure Phrase modification: if a language has direct measure phrase modification, then it has indirect measure phrase modification (for example, Italian and English), but not vice-versa. Spanish only has indirect MP modification with adjectives, as we have seen before in which MP can only modify degrees in comparatives.

To account for the patterns found in Spanish, Catalan and French, I propose that MPs are only nominal in these languages, while in Italian and English they can be adjectival or prepositional²⁰. The difference between nominal and prepositional MPs yields the choice of verb, BE or HAVE, in simple expressions of measure.

As argued in section 5.3.4, the structure of the complement in possessive constructions affects the type of verb that heads the constructions. Crucially, I claim that choice of verb BE in expressions of measure in Italian and choice of verb HAVE in French, Spanish and Catalan is related to the (non)existence of prepositional MP modification. Thus, coming back to the analysis put forth in section 5.3.4, the two patterns arise as follows:

(442) (a) [BE [PP DP_{MEASURED} P [NP MP]]] → Emergence of BE-pattern

(b) [BE-P [PP DP_{MEASURED} <P> [NP MP]]] P-INCORPORATION →
Emergence of HAVE-pattern

²⁰Assuming a view of adjectives as intransitive Ps in line with Mateu and Amadas (2001). See Chapter 3, section 3.2.2 for discussion.

The idea is that P-incorporation, or P movement into BE, makes the MP a complement of the BE+P complex, in a similar way as the GTC of Baker (1988). In the account outlined here, P movement would extend the phase, and the MP complement would end up in the scope of the BE+P phase for the establishment of probe-goal relations. In contrast, if incorporation does not take place, as in (442 a), the complement of BE is a preposition that has an MP as its complement, and it is out of the scope of BE. Therefore, the derivation in (442 a) would account for the Italian examples, (443 a), and the derivation in (442 b) for the Spanish, Catalan and French examples, (443 b).

(443) (a) *L'uomo era alto due metri*

The man was tall two meters

The man was two meters tall

(b) *La mesa tiene un metro de ancho*

The table has a meter of width

The table is one meter wide

In some way P-incorporation into BE makes the complement of the incorporated complex head nominal. The MP therefore is a nominal constituent, and the structure emerges as a typical transitive construction. When no incorporation takes place the complement of BE is a small clause.

In the next sections we explore the relation between BE and HAVE auxiliary selection and definiteness properties of MPs. First, however, we must analyze some examples that show how this relation works.

5.4.2 The Measure Complement: definiteness and case

In this section I discuss three different tests that show the interaction between BE or HAVE auxiliary selection in MVs and MP behavior.

5.4.2.1 Clitic Left/Right Dislocation and Auxiliary Selection in Italian

The data show that Measure Verbs, despite their position in the auxiliary selection scale defined in table 5.2.2, allow clitic left dislocation of the Measure Phrase with an accusative clitic resuming the measure complement. The results indicate that accusative Measure Phrase is accepted in almost 100% of the cases.²¹

Moreover, the combination of resumption of the Measure Phrase by a clitic and selection of BE or HAVE seem to be correlated. Speakers report that resumption with accusative must be accompanied by auxiliary HAVE in most cases. Alternatively, some verbs (the verbs in the low area of the scale of table 5.2.2) allow dislocation of the Measure Verb without resumption and auxiliary BE.²²

- (444) (a) *Cento chilogrammi, Gianni non li ha mai pesato*
 A hundred kilos Gianni no them have never

weighed

Gianni has never weighed a hundred kilos

- (b) **Cento chilogrammi, Gianni non li è mai pesato*
 A hundred kilos Gianni no them is never

weighed

Gianni has never weighed a hundred kilos

- (c) ?*Cento chilogrammi, Gianni non è mai pesato*
 A hundred kilos Gianni no is never weighed

Gianni has never weighed a hundred kilos

²¹Specifically, the results are the following: among 7 speakers that were interviewed, accusative measure complements in d-linked contexts were accepted in 100% of the cases for verbs *pesare* and *misurare*; and 93% of the cases for *durare* and *valere*. Accusative measure phrase was only accepted in 60% of the cases with *costare*, but I think this effect is brought about by the difficulty of finding a d-linked interpretation with the example provided with this verb.

²²The results show however that in d-linked contexts resumption with accusatives and auxiliary HAVE is preferred, with *durare* and *valere*. *Costare* again shows that both strategies (*avere*+accusative clitic and *essere*+no resumption) have the same percentage of acceptability. Acceptability of *be*+acc clitic is marginally possible for some speakers, but not totally acceptable.

- (445) (a) *Due ore? Quel concerto non è durate assolutamente*
 Two hours? That concert no is lasted at all
 That concert has not lasted two hours at all
- (b) **Due ore? Quel concerto non le è durate assolutamente*
 Two hours? That concert no them is lasted at
 all
 That concert has not lasted two hours at all
- (c) *Due ore? Quel concerto ??non le ha durate*
 Two hours? That concert no them have lasted
assolutamente.
 at all
 That concert has not lasted two hours at all

As shown by the examples above, accusative cliticization correlates with choice of auxiliary *avere*, and, thus with a transitive interpretation, as becomes evident in perfective forms.

5.4.2.2 Clitic Left/Right Dislocation and the raising of Possessive Datives

The combination of dislocation and the possessive dative test show a puzzling fact of Italian, Catalan and Spanish. Possessor Datives in these languages can bind the subject of MVs showing that they are base generated in an internal position. However, resumption by an accusative clitic shows that the structure allows licensing of accusative case; these data pose a counterexample to the well-known generalization of Burzio (1986).

- (446) (a) *Trenta chili non me li pesa di certo la*
 Thirty kilos no me clt.ACC.MASC.PL weigh of true the
valigia
 suitcase
 My suitcase does not weigh thirty kilos at all

- (b) *El niño, los 3 kilos y algo, me los*
 The child, the 3 kg. and something, me clt.ACC.MASC.PL
pesa
 weigh
 My baby weighs 3 kgs something at least

However, the fact that possessive datives in Italian can appear with both auxiliary BE and HAVE is puzzling.

- (447) (a) *La lezione non mi è mai durata / non mi ha*
 The lesson not me is never lasted.FEM.SG / me has never
mai durato così tanto
 lasted.FEM.SG so much
 My lesson did not last that long

Actually, the datives in these sentences can also be analyzed as ethical datives. This is a general fact about possessive datives, as shown by Landau (1999). Interestingly, as shown in section 5.2.2.6, Catalan examples with a Possessor Dative and resumption of the MP by an accusative clitic are only possible with first and second person datives, but not with third person datives, (448 c), which indicates that these cases are ethical datives and not possessor datives.

- (448) (a) *50 quilos, la maleta, no me'ls arriba a*
 Thirty kilos, the suitcase, no me'clt.ACC.MASC.PL arrive to
pesar pas
 weigh PRT.NEG.EMPH
 My suitcase does not get to weigh thirty kilos at all
- (b) *50 quil-os no els pesa*
 Thirty kilos-.MASC.PL, NEG ACC.MASC.PL weigh
pas la maleta
 PRT.NEG.EMPH the.FEM.SG suitcase.FEM.SG
 The suitcase does not weigh thirty kilos at all
- (c) **50 quilos no els hi pesa*
 Thirty kilos-.MASC.PL, NEG ACC.MASC.PL DAT.3P.SG weigh
pas la maleta, al Joan
 PRT.NEG.EMPH the.FEM.SG suitcase.FEM.SG

Therefore, the correlation between Possessor Datives and accusative cliticization points out that the unaccusative configuration is possible in Romance languages but is incompatible with an accusative MP.

5.4.2.3 Clitic Left/Right Dislocation and the Romance Causative Construction

Finally, Catalan shows that when the Measure Phrase is resumed by an accusative pronoun, the verb is interpreted as a transitive verb in the Romance Causative Construction (see section 5.2.2.3). See the contrast between (449 a) and (449 b).

- (449) (a) *40 quilos?! aquell règim tan estricte no els*
 40 kgs.?! that diet that strict not
*hi /*la va fer pesar pas, a*
 cl.ACC.MASC.PL cl.DAT.SG / *cl.FEM.SG go make weigh
la Maria
 not, to the Maria
 40 kgs.? It's not the case that that strict diet did make her to weigh 40 kgs
- (b) *Com va anar l' embaràs de la Maria? Els metges*
 How goes to.go the pregnancy of the Maria? The
*no la / *li van deixar*
 doctors NEG cl.ACC.FEM.SG/ cl.DAT.SG go.PRES.3.PL let
pesar més de 80 quilos
 weigh more of 80 kgs.
 How did Mary's pregnancy go? The doctors didn't let her weigh more than 80 kgs.

From the examples discussed in previous sections, when the MP is D-linked, it can be resumed by an accusative pronoun. As seen before, accusative case marking is not compatible with an unaccusative configuration. Therefore, MVs in Romance

languages have a double pattern, an unaccusative and a transitive one, as argued in section 5.3.4.

The analysis proposed in this chapter accounts for these facts for structural reasons. When the MP is non D-linked, it does not contain a D layer, which is crucial for accusative case licensing. Thus, the incorporation of P into BE and the presence of D allows the MP to be accessible to establish probe-goal relations. This is shown in some languages: MPs do not trigger agreement and cannot be moved contrary to “canonical” direct objects. Adger (1996) shows these effects clearly in Scottish Gaelic where MPs cannot be preposed (450 a and 450 b) and cannot undergo agreement (450 c and 450 d) (Adger 1996:10-11):

(450) (a) *Tha a cho-labhairt a mairsinn seachdainn*
 be-PRES the conference ASP last-VN week
 The conference is lasting a week

(b) **Tha a cho-labhairt air seachdainn a mhairsinn*
 be-PRES the conference ASP a week Agr
 last-VN
 The conference has lasted a week

(c) *Feumaidh a cho-labhairt cosg tri mile not*
 Must the conference cost three thousand pounds
 The conference has to cost 3000 pounds'

(d) **Feumaidh a cho-labhairt tri mile not a*
 Must the conference three thousand pounds Agr
chosg
 cost-VN

5.5 Conclusions

This chapter discusses the structure of Measure Verbs that are characterized by having a complement, a Measure Phrase, that behaves sometimes as an adjunct

and sometimes as an argument. I have proposed that this is due mainly to the referential properties of this quantificational element. However I have added into the picture another property that had never been discussed before: the variable behavior of Measure Verbs with respect to unaccusativity.

Once the unaccusativity of Measure Verbs is taken into account the discussion about Measure Phrases can be contextualized in a wider picture: the problem of stative verbs as unaccusative predicates. Actually the literature on unaccusatives assume that stativity itself is a property of unaccusativity, but things remain unclear at this point, as noted by Legendre (1988), among many others.

In this chapter I propose that measure verbs are modeled on a par with structures of possession. The pattern BE/HAVE observed in the literature of possessive constructions reflects the variability regarding unaccusativity that stative predications show in general. I have applied Kayne's (1993) analysis to verbs of measure and have proposed an account to explain why stative verbs show a variable behavior. Furthermore, I have discussed the different properties that MPs show cross-linguistically, and have proposed that variability in the expression of measure across languages is linked to variation in the modification possibilities of Measure Complements.

The analysis follows the same approach of phases outlined in previous chapters: by means of head movement of phasal P, a preposition of central coincidence, unaccusative defective v can become a non-defective phase head and, thus a transitive phase v^* able to assign accusative case and to license an external argument in its specifier.

The analysis proposed in this chapter constitutes another case of variation at the level of lexicalization and reinforces the hypothesis of the dissertation that variation in the lexicalization processes can be accounted for in a similar way to variation in the sentential level. Moreover, this particular case of variation in the domain of MVs may shed light on the nature of stative predicates and the emergence of transitivity from a general perspective.

Chapter 6

Conclusion

6.1 Introduction

The syntax and semantics of spatial expressions have been a topic of interest for theoretical linguists in the recent years. Semantic studies of PPs have been devoted to analyzing the different semantic components that make up spatial expressions (Jackendoff 1985, 1990), how to model the denotation of PPs to account for modification (Zwarts and Winter 2000), and how these components contribute to the aspectual interpretation of the verbal predicate in which spatial expressions are integrated (Zwarts 2005b). Syntactic approaches to PPs focus on the fine grained structure of adpositional expressions in different languages. Several properties are taken into account: the relation between PPs and other close categories, such as particles or prefixes, the position of modifiers and complements along the PP domain, the nominal nature of PPs, the relation between PPs and case, etc. Moreover, other works focus on the integration of adpositions within the VP from a syntactic and semantic point of view: how PPs get integrated in a motion event. Finally, some authors have tackled the question of how languages vary with respect to all the above-mentioned properties, either from a descriptive point of view or from a theoretical perspective.

This dissertation seeks to answer some of these questions, while trying to figure out the place of argument structure in the architecture of the Language Faculty from a minimalist perspective. The point of departure for this journey has been the view of the lexicon developed by Hale and Keyser, in various works, in which the systematic parts of lexical meaning are simply syntactic. This research program opens the possibility of regarding the difference between words and phrases as being epiphenomenal. As these differences do not belong to what constitutes the core properties of the Faculty of Language, I have developed the hypothesis that crosslinguistic differences in this respect arise from conditions on externalization.

Specifically, I have claimed that linguistic variation in the lexicon is similar to linguistic variation at other points of the sentential domain. Externalization of syntactic structures is seen through a version of Phase Theory in which phase heads are designated points of interaction between syntactic derivation and the interfaces. Crucially, these designated points are not fixed by UG, but arise derivationally. Linguistic variation can arise from the differences in the timing of expression of certain syntactic properties.

The theoretical view outlined before has guided the research undertaken in this dissertation. I have studied some syntactic and semantic properties of PPs in Romance languages and how they are interpreted when integrated in motion events. Then, I reviewed Talmy's lexicalization patterns of motion events in light of the properties that Romance PPs and VPs exhibit. I have analyzed how the so-called Manner component is lexicalized in the verbal domain, and proposed a configurational theory of roots and argument structure patterns based on the model of phases outlined before. From these assumptions, I have examined the role of predicative prepositions in Romance in two cases: cognate and possessive constructions. A summary of the findings and main hypotheses of the dissertation is offered in section 2. Section 3 reconsiders this work within the different typologies of motion events proposed in the literature, explores the conflation/incorporation asymmetry, and points out possible directions for further research.

6.2 Summary of the dissertation

Chapter 2 starts from studies about path expressions that propose a fine-grained typology of paths. After reviewing these typologies, I propose a simplified version based on the semantic notion of transitional path. Under this view, Hale's (1986) classification of Ps in two types of expressions, those that define a relation of terminal coincidence and those that define a relation of central coincidence between the Figure and the Ground, can be unified with the Jackendovian classification of locative expressions in a Path and a Place component. Then, I discuss previous cartographic approaches to the syntactic structure of PPs and propose a simplified structure for PPs in which certain concepts such as boundedness arise configurationally, not through a specific functional projection. Then, I briefly discuss the relationship between case and the adpositional domain, and argue that case in the adpositional system is also structural, that is, it emerges from the agreement relation between a DP and the ϕ -features of the functional projection or phase head, p , in the prepositional domain.

After clarifying my view of the syntactic structure of PPs, I discuss whether the differences between the adpositional systems in Germanic and Romance can be reduced to a morphosyntactic property related with the notion of phase. Then, I review two classical counterexamples to Talmy's typology in which manner of motion verbs appear in goal of motion constructions. I show that these examples do not challenge the verb-framed nature of Romance since the verb that appears in these constructions is actually a directed motion verb.

Specifically, I argue that spatial expressions in Romance are always locative and that there is a defectivity in the content of ϕ features of *path* heads. Thus, verb and path belong to the same phase domain and this has consequences for lexicalization, if we contend, with Marantz (2007a), that words are formed within the domain of a phase. Therefore, if a path is present in Romance it should be expressed in the verbal domain, yielding the verb-framed type defined by Talmy.

Chapter 3 explores a strong version of what I have called the Hale and Keyser hypothesis and the consequences it has for the study of linguistic variation in the lexical domain. To do so, I explore a syntactic theory of argument structure based on different proposals such as Acedo-Matellán (2010); Borer (2005); Hale and Keyser (1993); Mateu and Amadas (2001); Mateu (2002). I begin with the idea sustained in Mateu and Amadas (2001) that meaning is a function of conceptual and encyclopaedic content and syntactically transparent semantic construal. A way to tackle this claim theoretically is by proposing the existence of non-relational elements or roots that contain the non-syntactically relevant information. I discuss the theoretical notion of root in some of its different definitions and proposals, arriving at the conclusion that syntax operates with root positions that are semantically and phonologically underspecified (Harley 2011). Therefore, I explore three theories that account for the emergence of root positions in the derivation and develop my own account. I propose that root positions can be defined as non-projecting heads, that is, non-labeling heads. By general syntactic principles this can only occur at the bottom, first merge positions of every (sub)derivation.

The chapter also explores how lexicalization proceeds and how it varies across languages. Lexicalization takes place at PF and operates within the domain of a phase (Marantz 2007a). Phase heads establish domains for lexicalization and allow feature percolation or vocabulary insertion as two ways of phonologically interpreting syntactic representations. By assuming that PF interpretation occurs within the domain of a phase, the restriction about root interpretation to the position of complement of a projecting head, defined in Acedo-Matellán (2010), can be overcome in certain contexts: at the bottom-most position of every phase domain, roots can be interpretable. Thus, the difference between languages that show satellite-framed and verb-framed patterns can be accounted for in similar terms as other well-known parameters that define cross-linguistic differences in the sentential domain. Therefore, the account gives support to a stronger version

of the Hale and Keyser hypothesis by which lexicalization processes are syntactically driven.

Moreover, by allowing roots to be merged in positions other than the strict first-merge complement position, I propose an analysis of the Manner Incorporation process that does not involve any special or particular operation, such as *conflation* (Mateu 2010; Mateu and Rigau 2010), root adjunction (Acedo-Matellán 2010), complex predicate formation (Gehrke 2008; Snyder 2001; Zubizarreta and Oh 2007), Manner Incorporation (Harley 2005), or Lexical subordination (Levin and Rapoport 1988), and which overcomes some of the theoretical problems that these operations pose, like countercyclicity, why it is restricted to certain languages and certain constructions, their status compared to other syntactic processes, etc. I put forth the idea that Manner interpretation obtains when a root is immediately dominated by *v* and both are in the same phasal domain. However, in verb-framed languages this cannot happen because *path* is never a phase head. Therefore, the root is always dominated by *path* and *v* in the same phase domain and receives a path interpretation, if we assume with Arad (2003) that roots receive a semantic interpretation locally. The Manner/result complementarity is thus obtained after a configurational theory of manner is provided: the presence of any intervening head, in this case a path head, avoids the manner interpretation that can only be obtained if *v* locally c-commands the root. Finally, I provide some arguments against a view of Manner Incorporation involving head movement, that is to say, syntactic incorporation (cf. Arsenijevic 2010).

Chapter 4 deals with some cases of verbal elasticity attested in Romance languages: first, the existence of cognate objects, that is, unergative intransitive verbs that can take under certain restricted conditions a direct object; and second, the existence of some resultative constructions in Romance where a secondary predicate is said to denote a resultative change of state. The examination of these counterexamples reveals that in both cases the existence of an AP or PP denoting a resultative change of state is linked to the notion of cognation, that is, these

constructions are only licensed if the verb has a resultative meaning in itself and the secondary predicate specifies the type of final state, bearing a close semantic relationship with the verbal root. This type of resultative has been argued to be different from the ones attested in Germanic languages in which this requirement does not exist (Washio 1997).

In order to account for these constructions and for cognate objects, I argue that unergative predicates can only appear with extra complements if the complement is introduced by a relational head that denotes a central coincidence relation or has Place semantics: that is, a relational head that establishes a predicative relation with the verbal root. This predicative relation allows us to explain the semantic closeness of the secondary predicate with respect to the verbal root: the AP/PP predicate is interpreted as specifying the final result because of the predicative relation they establish with the verbal root that receives a semantic interpretation of hyponymy, of part-whole.

The same kind of relational head is involved in cognate object constructions in Romance and yields the semantic interpretation associated with hyponymy. Unergative verbs in Romance can take cognate objects only if the object allows an interpretation as hyponymic object. In contrast, in English, COs can be interpreted as events, and therefore they display slightly different properties. This is due to the fact that English as a satellite-framed language allows Effected Objects and Reaction Objects, and therefore can construct a COC on the basis of an Effected Object pattern. This pattern involves the presence of a change of state predicate, that is, a relational head that takes another relational head that receives the semantics of an (abstract) path. This path does not have to be associated with the verb, as in Romance, and therefore can be associated with an NP, PP or AP.

Finally, some cases of prefixed verbs in Romance are briefly examined. These prefixed verbs are shown to belong to the verb-framed pattern after close examination. Thus, in all of them the semantics of path is syncretically expressed within

the verbal root, not within the prefix, as in the weak satellite-framed type (Acedo-Matellán 2010).

The account put forth here allows us to reexamine some counterexamples to the claim that verbs in Romance languages show a rigidity that is not attested in Germanic languages and that is linked to the expression of resultativity, as argued in Chapter 3. The approach also has the advantage of being able to account for the problem of cognation without the need to make the theory more complex by postulating different operations in the morphological component. At the same time the account gives a motivation for the specific semantic interpretation of cognate complements of any kind, the presence of a relational head with a partitive predicative semantics.

Chapter 5 deals with the structure of Measure Verbs that are characterized by having a complement, a Measure Phrase, that behaves sometimes as an adjunct and sometimes as an argument. I propose that this is due mainly to the referential properties of this quantificational element. However I add into the picture another property that has never been discussed before: the variable behavior of Measure Verbs with respect to unaccusativity. Once the unaccusativity of Measure Verbs is taken into account, the discussion about Measure Phrases can be contextualized in a wider picture: the problem of stative verbs as unaccusative predicates.

Then, I propose that measure verbs are modeled on a par with structures of possession. The pattern BE/HAVE observed in the literature of possessive constructions reflects the variability regarding unaccusativity that stative predications show in general. I apply Kayne's (1993) analysis of possessive constructions to verbs of measure and I propose an account that explains why stative verbs show variable behavior. Furthermore, I discuss the different properties that MPs show cross-linguistically, and I propose that variability in the expression of measure across languages is linked to variation in the modification possibilities of Measure Complements.

The analysis proposed in this chapter constitutes another case of variation at the level of lexicalization and reinforces the hypothesis of the dissertation that reduces variation at the lexicalization level to the specific points at which interfaces have access to the syntactic derivation.

6.3 Open questions and directions for further research

The final section of this chapter revisits some questions that the dissertation has not tackled. First, section §6.3.1 explores whether the approach outlined so far can derive the typology of motion expressions and resultative constructions proposed throughout the literature. Second, section 6.3.2 reviews the conflation/incorporation asymmetry, which refers to the fact that languages that are satellite-framed can use a verb-framed strategy, but not the other way around. Finally, in section 6.4, I provide a list of open topics for which I cannot offer a solution at this stage of the research.

6.3.1 The R(esultative)-parameter revisited

Talmy (1985, 2000) defines two classes of languages depending on how the different semantic components that conform a motion event are lexicalized. As discussed before, two main types are proposed: satellite-framed languages and verb-framed language. English belongs to the first type because it allows verbs of manner of motion to appear with goal PPs in expressions of directed motion. Other languages that belong to the same type, include the other Germanic languages, Slavic languages, Chinese, etc. On the other hand, in verb-framed languages directed motion is expressed in the verb, and manner of motion verbs cannot appear in expressions of directed motion. This last type is often exemplified by Spanish, but it is general to other linguistic families as well such as Romance and Semitic

languages, Korean, and Japanese, among others. The typical examples in Talmy (1985) are from English and Spanish.

- (451) (a) The napkin blew off the table
 (b) *La botella entró a la cueva (flotando)* (Spanish)
 The bottle moved-in to the cave (floating)
 The bottle floated into the cave

Languages of the English type also exhibit resultative constructions and verb particle constructions (from Snyder 2005). The correlation in a language of all these constructions has been grouped under the label of R(esultative)-parameter, by Snyder.

- (452) (a) John beat the iron flat
 (b) Mary lifted the box up

Son (2007) qualifies the approaches that try to explain the correlation between resultative constructions and directed manner of motion events as macroparametric approaches, which can be further classified depending on the type of parameter they argue for: semantic or syntactic. I add a third type of parametric approach that postulates a morphological parameter:

- (a) Semantic parameter: Beck and Snyder (2001); Gehrke (2008); Snyder (2001, 2005)
 (b) Syntactic parameter: Mateu (2002); Mateu and Rigau (2002, 2010); Zubizarreta and Oh (2007)
 (c) Morphological parameter: Acedo-Matellán (2010); Mateu (2011); McIntyre (2004)

Beck and Snyder (2001); Snyder (1995) propose that the typology depends on the availability of a semantic parameter that makes available to certain languages a

principle of semantic composition for elements of a complex word. On the other side, authors like Mateu 2010; Mateu and Rigau 2010 argue that languages can be divided according to the presence/absence of different syntactic rules of conflation (compounding) or incorporation (head movement) to derive motion events. Talmy's classification of satellite-framed and verb-framed languages is defined in languages that follow a co-event pattern and languages that follow a path pattern, depending on whether the verb expresses path (through a syntactic rule of head movement from below) or the co-event (through a process of conflation). Finally, some approaches follow a morphological parameter, like "The Lexicalization Parameter" of Lin (2001), who states that languages may differ in the extent to which event information is lexicalized into individual word forms. This approach is based on the classical distinction between analytic and synthetic languages. Pursuing a morphological view of the typology, Acedo-Matellán (2010) establishes that variation is located at the morphophonological properties of paths: the distinction reduces to the availability/necessity in certain languages to have the path and the verb to be spelled out in a single word, that is, univerbation of path and v. He also endorses the correlation with resultatives by pursuing an analysis of resultative adjectives as adjectives that lexicalize a path preposition in their structure (see discussion in chapters 2 and 3).

Son (2007) and Son and Svenonius (2008) challenge the validity of macroparametric approaches on the basis of the absence of correlation between directed manner of motion constructions and resultatives in some languages. Thus, Hebrew shows goal of motion expressions with manner verbs, but not AP resultative constructions. Other languages such as Korean show AP resultatives, but lack constructions of directed motion with manner verbs. I am not going to look through the data that these authors discuss, and I refer the interested reader to Acedo-Matellán (2010) for a critical review of Son and Svenonius's counterexamples to the existence of a R(esultative)-parameter. This same author and others, like Gehrke (2008), point out that the picture is much more complicated

as the R-parameter approach derives. However, they do not deny the existence of a correlation, but rather point out to the need for a clarification.

Gehrke (2008) establishes that both goal of motion constructions with manner of motion verbs and resultative constructions have in common a rule of compounding (Snyder) that allows the creation of complex predicates. However, the formulation of the parameter in these terms overgenerates since it would allow the creation of goal of motion interpretations in any case in languages with a positive setting for the parameter, contrary to fact. For example, in Dutch, a language that allows resultatives and goal of motion expressions with manner verbs, constructions with locative PPs and manner verbs cannot have a goal of motion reading. She notes that in order to create a complex predicate of the resultative sort, it is necessary to have a lexical item that is associated with an incremental interpretation. This is only possible with directional Ps or postpositions in Dutch, or locative Ps if the verb itself is resultative. Thus, the semantics associated with certain lexical items is a necessary condition to derive the appropriate type. The problem of the account, though, is that it provides two explanations for the verb-framedness of Romance languages, for example. Thereby, these languages, besides not having a rule of complex predicate formation, do not exhibit prepositions associated with an incremental meaning, and therefore they cannot form goal of motion expressions with manner verbs. Gehrke's proposal would allow us to derive Son's types, since it would be possible to have some languages with a positive setting for the compound rule, but without the appropriate type of preposition in their lexical inventory. However, it is not clear if this account renders the existence of a compounding parameter irrelevant, which loses its explanatory power. Moreover, it is difficult to see in the case of adjectival resultative constructions in English, in which sense As are lexically associated with an incremental interpretation in a resultative construction. But they are not in a depictive construction, if they are morphologically identical:

(453) (a) I wiped the table clean (resultative)

(b) I ate the meat raw (depictive)

In this work I accept the claim that in Romance there is a gap in the inventory of directional prepositions. However, I consider this fact to be an empirical observation, and not an explanation in itself. Actually, I argue that the lack of pure goal directional P_s in certain languages is caused by the fact that paths cannot be lexicalized on their own. As argued in chapter 3, this fact has consequences in the expression of manner in other constructions, such as resultative constructions, obtaining the correlation established in the R-parameter. But how can this proposal account for Latin or Slavic?

Acedo-Matellán (2010) studies Latin and the properties it has as a satellite-framed language. This language behaves in a similar way to the Slavic languages, in that a prefix is necessary in order to derive a directed motion reading with a manner of motion verb. Prefixes are also compulsory to derive resultative meanings in resultative PP constructions. The same is observed in Slavic languages, as shown in Arsenijevic et al. (2006); Gehrke (2008). I copy below examples from Acedo-Matellán (2010:184, examples 40 and 41) to illustrate this point:

(454) (a) *Qui ubi *(ad-)equitavit portis...*
 who.NOM.SG as soon as at-ride.PRF.3SG doors.DAT
 (Latin; Caes. Liv. 22, 42, 5)

This one, as soon as he had ridden up to the gates ...

(b) **(Iz-)kopah sukrovishte (iz dupkata)*
 out-dig.PST.1SG treasure.the out hole.the
 (Bulgarian; Angelina Markova, p.c.)

I dug a treasure out of the hole

For this reason, Gehrke classifies Slavic languages into the verb-framed group contrary to Talmy's original classification, because there is the need to express

morphologically the result in the verb in these languages. The lack of AP resultatives can be expressed in these terms: “Thus, there seems to be some morphological requirement to express resultativity on the verb in these languages. Indicative of this approach is that these Slavic languages lack adjectival resultatives of the English type (e.g. *hammer the metal flat*) but generally have to use accomplishment/achievement verbs (that are additionally marked for resultativity by an internal prefix) and/or PPs in such constructions.(Gehrke 2008:203)”. The problem of her account is that it is not clear what prevents a prefix from being attached to an activity verb in an AP resultative in these languages.

Following also the intuition that prefixation is what is behind the lack of AP resultatives in Slavic, Acedo-Matellán (2010) proposes creating a subtype of language within the group of satellite-framed languages under his Split Satellite-framedness Hypothesis, which I reproduce below:

(455) The Split S-framedness Hypothesis (Acedo-Matellán 2010:207)

There are two main types of s-framed languages: the ones which feature a morphologically independent Path –strong s-framed languages– and the ones which feature an affixal Path– weak s-framed languages.

Thus, satellite-framed languages can be divided at the same time according to the morphophonological properties of Path: path is affixal or not affixal. If Path is affixal, then, adjectives with a resultative interpretation are adjectives that contain a path P in their inner structure, and therefore they must also be prefixed onto the verb. The lack of adjective prefixation is related with the existence in a language of gender agreement in the adjective.

In the proposal outlined here, I have concluded that variation on this level depends on the points of externalization of a syntactic structure. My view of variation can be compatible with morphological or morphosyntactic approaches, and at the same time yields the microparametric scenario outlined before. Thus, the basic structure of a directed motion event contains, crucially, three components: a

verbal component and a complex prepositional component that contains a transitional (path) and a non-transitional part (place). The different patterns of variation arise from the existence of one, two or more points of transfer to lexicalization, yielding three possibilities that differ with respect to the analyticity/syntheticity of the patterns. The underlined heads constitute points of access to the interface, that is, phase heads:

- (456) (a) v V p Path p Place (weak or strong satellite-framed type)
 (b) v V p Path Place (weak or strong satellite-framed type)
 (c) v Path p Place (verb-framed type)
 (d) v Path Place Root (resultative/change of location verb)

The difference between weak and strong satellite-framed depend on prefixation of the path component. Here we run into a problem with the account outlined so far. As stated in Chapter 3, we have proposed that lexicalization proceeds at the level of phase, and that, following Marantz (2007a), words are built at the domain of a phase. Thus, weak satellite framed languages would be like verb-framed languages in the sense that path and verb, although lexicalized by two distinct morphemes, belong to the same word, and hence must belong to the same phase. However, Latin and Slavic allow the presence of manner verbs in directed motion events. If Path and V belong to the same phase, we predict that a manner component is not possible, since under our definition, manner is a root locally dominated by v. If Path belongs to the same phase, a root cannot be inserted between these two heads, according to our definition of root in Chapter 3. A way to solve this problem would be to relativize Marantz's contention to the level of morpheme, that is, morphemes are built at the domain of a phase. Thus, the difference between weak and satellite-framed languages would be purely morphological, and prefixation of Path into the verb would be a morphological operation.

Moreover, how would the typology outlined so far account for the lack of resultatives in weak satellite framed languages, if prefixation is a purely morphological process, but agreement relations are established in syntax? Here I provide a tentative answer, and I leave for further research its development and consequences. The fact that place or path prepositions are phase heads has been linked with the notion of defectivity in the set of ϕ -features. Moreover, the difference between adjectives and prepositions has been argued to be purely morphological following the insight that adjectives are prepositions with a conflated root (Mateu and Amadas 2001). Thus, if this is the case, we can add that in certain languages the difference between prepositions and adjectives can also be characterized in terms of presence versus absence of ϕ -features in the phase head. In other words, prepositions are defective in ϕ -features, but adjectives are not. This can be clearly shown by the existence of agreement in the adjective in certain languages (let's dismiss this case for now). If this is the case, we can argue that in weak satellite framed languages, adjectives contain a set of full ϕ -features in the p head of Place, since adjectives show agreement both in the resultative and the depictive variants. Thus, in the adjective the set of ϕ -features of Place agrees with the DP subject of the predication, and in a way this agreement renders p not able to raise into Path, as has been argued for most of the satellite-framed languages. Thus, path is left alone, and to be lexicalized, and then prefixed into the verb. This solution is pointed out in Acedo-Matellán (2010) and it seems to be natural under the approach defended in the dissertation.

As hinted by Acedo-Matellán (2010), AP complex resultatives would be possible if Path receives a phonological interpretation. However, this is not possible for this author since the only prefix that could instantiate Path would be *re*, and the context of insertion is not compatible with the formation of a complex verb obtained by root adjunction (Acedo-Matellán 2010:206, example 98):

(457) $re \longleftrightarrow \text{Path} / [\text{Path Path } v]$

As Path does not belong to the Place phase, it cannot receive the phonological specification by feature percolation, only by vocabulary insertion. However, this is not possible since in addition to *re* according to Acedo-Matellán's analysis, the rest of the Latin prefixes are always Place prefixes that express the Path through prefixation to *v*. Thus, according to the data discussed in Acedo-Matellán's dissertation, there are no pure path prefixes in Latin.

One possible interpretation of this fact would be to consider path also to be defective in Latin, as in Romance. However, Latin presents a different strategy to salvage this defectivity: in Latin it is included within the Place phase, and in Romance it is included within the verbal phase. Latin, however, shows an exception to this behavior in the adjectival domain, in which Phase contains the whole set of uninterpretable phi features and agrees with the subject of the predication. In a way, this agreement relation allows Place to be frozen and does not allow the mechanism of Phase extension. Therefore, defective path stays in the next phase domain, *v* in this case.

The examples of simple resultatives in Latin can be analyzed as instances of path and verb forming part of the same phase domain. All the examples provided by Acedo-Matellán contain the prefix *re* analyzed as a root adjoined to Path. In the appropriate context of insertion (457), that is when the verb does not express Manner, it can be prefixed. In our approach, we may dismiss contexts of insertion in favor of the phase-based proposal outlined in the dissertation. Thus, the presence of *re* when manner is not present can be derived from the fact that path and verb do not belong to different phasal domains, and *re* and the functional verb that appear in these constructions are morphologically formed by the process of Vocabulary Insertion plus feature percolation. This kind of construction, similar to verb-framed constructions, is expected in our approach. I reproduce below one example that the author provides (Acedo-Matellán 2010:209, example 100):

- (458) *Eam* *[servitutum]* [...] *lenem*
 that.ACC.F.SG serdom.(F)ACC.SG mild.ACC.F.SG
reddere Latin; Plaut. Capt. 197
 render.INF
 To make that serfdom mild

On this view the difference between Latin and Romance languages is reduced. Both languages share the defectivity in the Path domain and differ in the strategies they use to overcome this defectivity.

6.3.2 The conflation-incorporation asymmetry

Mateu (2011), with Beavers et al. (2010), notes that satellite-framed languages frequently exhibit path incorporating verb, that is, verb framed constructions. The same is attested by Gehrke (2008) and den Dikken (2003, 2006, 2010b) in Dutch with locative prepositions with verbs of inherent motion. Tungseth (2008) also provides some examples in Norwegian.

- (459) (a) The bottle entered the cave
 (b) *Hij klimt in de stoel* (Dutch; den Dikken 2006)
 He climbs in the chair
 He climbs in/into the chair
 (c) *Per hoppet i vannet* (Norwegian; Tungseth 2007)
 Per jumped in water.DEF
 Per jumped in/into the water

In Mateu (2011) this fact is explained by saying that verb-framed structures are formed by incorporation, as dejectival or denominal verbs of the *shelve* type. Instead, in order to create a satellite-framed construction, a rule of compounding must be available, to allow a null light verb and a root to form a compound. Thus, a morphological rule of conflation is only available in certain languages, satellite-framed languages, but the rule of incorporation is available cross-linguistically.

This account however remains mysterious about what makes a particular rule available in certain languages, but not in others. Moreover, it does not relate the morphological properties of paths with the satellite/verb-framed distinction. That is, why path incorporating structures must be available at all in all languages, why an analytic strategy without manner incorporation is not the most pervasive structure among languages, and why satellite-framed languages must exhibit incorporating strategies at all.

The same asymmetry is observed in Troberg (2011) in a diachronic study: there is a subset/superset relation between satellite-framed and verb-framed languages. How would the system outlined in this dissertation account for this effect?

The approach outlined here explains the difference between verb-framed and satellite-framed languages in terms of defectivity associated with the Path domain. As argued in Chapter 2, Paths are defective in Romance languages. But, as argued in Chapter 3, the crucial difference between satellite-framed languages and verb-framed languages is the availability of a non-defective path, since defective paths are always available in all types of languages. Thus, the conflation/incorporation asymmetry is obtained in terms of the availability of non-defective paths, since defectivity is the default or unmarked scenario. In morphosyntactic terms the absence of features is the unmarked option, or parameter. This claim can be sustained on learnability principles in language acquisition since in order to develop a rich agreement system it is necessary to have positive evidence in the input. Moreover, languages that exhibit rich agreement patterns also display instances of defectivity in this domain, showing a subset-superset relation similar to the conflation-incorporation system discussed above. For example, Tense is a non-defective domain in Romance as shown by the agreement patterns between the verb and the subject. However it can display defectivity in some contexts, such as in infinitive clauses. In the examples below, the subordinate clause shows a nondefective T that agrees in number and person with the subject, which receives nominative case, and shows tense morphology, in this case future. In the second

example, we see a defective T head, where no agreement is established with the subject, the DP ‘El Joan’, that has to receive case by Exceptional Case Marking from the matrix clause. Moreover, T in example (460 b) does not have tense morphology.

(460) (a) *He* *sentit* *que el Joan*
 Have.1STP.SG heard.PARTICIPLE that the Joan.3RDPSG
cantarà (Catalan; non defective T)
 will sing.3RDPSG
 I have heard that Joan will sing

(b) *He* *sentit* *el Joan* *cantar*
 Have.1STP.SG heard.PARTICIPLE the Joan.3RDPSG to sing
 (Catalan; defective T)

I have heard Joan singing

In contrast, Chinese displays a defective T agreement pattern, so that it cannot show a non-defective counterpart in any context. The examples below, from Hsieh (2009), show that Chinese does not show inflection for tense or agreement with the subject, and there is not a non-defective counterpart.

(461) (a) *John kan dianshi* (Chinese)
 John watch TV
 John watches TV

(b) *John kan dianshi*
 John watch TV
 John watched TV

In conclusion, the conflation-incorporation asymmetry can be explained on the same principles as other morphosyntactic domains, and it does not constitute an exceptional case in linguistic variation.

6.4 Concluding remarks

Finally, this section points to possible questions that I have had to leave outside of the dissertation but that would be interesting to address in further research.

First, I have left aside the study of languages that express motion events through constructions that do not fit well in the bipartite typology of Talmy. Languages of this type show serial verb constructions in which manner and path are expressed in two different predicates that have the same status in the clause, or that form a compound. Mateu (2011) shows that serial verb constructions in Japanese and Chinese exhibit properties similar to the verb-framed and the satellite-framed type, respectively. As shown in this study, superficial analysis based on the surface morphological properties of languages is not enough to properly characterize the expression of motion events and related constructions in a language. However, it would be interesting to provide an analysis of this type of language within the theory of lexicalization outlined in the dissertation. I leave this task for further work.

I have left outside the scope of the dissertation the study of other lexicalization patterns that can be related with the expression of locative relations through PPs. For example, languages show different ways in which predicative expressions are lexicalized. Brucart (2009) has proposed that the *ser/estar* alternation in Spanish in locative copulative constructions is related to the properties of prepositions *a* and *en* in this language, in contrast with other Romance languages that exhibit the copulative verb *ser* and exhibit a locative preposition *a*. Thus, the precise lexicalization of PPs in languages can have different consequences in the lexicalization of other types of constructions that I have had not time to deal with.

A critical analysis of the theoretical framework outlined here has been left partially aside for reasons of space. Specifically, with respect to its relation with other theoretical frameworks that have a similar view of how lexicalization proceeds, like Phrasal Spell out (Starke 2009). The difference between my account

and nanosyntactic theories of lexicalization is the need to, on the one hand, avoid a loop between the syntactic and the lexical component, and on the other hand, to provide an explanation of why lexicalization patterns follow certain paths, without assuming that the lexicon of a language is just a list of lexical items that package different amounts of morphosyntactic information. I have shown that one can draw generalizations about certain linguistic types, and that linguistic variation is constrained in a predictable way.

One of the contributions of this dissertation is the unification of the l-syntax and s-syntax through the theory of cyclicity assumed in Phase Theory and its application to the study of certain lexicalization patterns. The phase has been reinterpreted as the domain of lexicalization and as the point of access of the interfaces to the derivation. Moreover, I have offered a new insight about the nature of the prepositional domain and the notions of directional and locative spatial expressions. I have shown that the expression of transition in Romance languages is restricted to the verbal domain. The study has also explored the notion of non-relational head or root and has derived its properties from the structural position that roots occupy in the derivation. Phases seen in this manner allow us to explain the emergence of linguistic variation.

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