

verbs movement and prepositions

edited by
António Leal

PORTO
- 2018 -

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TÍTULO	Verbs, movement and prepositions
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CONCEÇÃO GRÁFICA	Invulgar - Artes Gráficas, S.A.
ANO DE EDIÇÃO	2018
TIRAGEM	150 exemplares
ISBN	978-989-54104-5-3
DEPÓSITO LEGAL	442271/18

Esta publicação é financiada pela Fundação Calouste Gulbenkian, no âmbito do projeto “Verbos e Preposições em Português Europeu” (referência 139614).

CONTENTS

<i>Preface</i>	5
 <i>On source prepositions and their relationship to paths</i>	
Ignacio Bosque	11
 <i>Stative/eventive alternations in Spanish</i>	
Yuko Morimoto	45
 <i>External possession in Portuguese</i>	
Inês Duarte and Fátima Oliveira	75
 <i>Empirical study of verbs and prepositions in European Portuguese with recourse to Web/Text Mining</i>	
João Cordeiro, Pavel Brazdil and António Leal	103
 <i>Stative and eventive alternations with some spatial verbs</i>	
António Leal, Luís Filipe Cunha and Fátima Silva	123
 <i>Verbs of inherently directed motion in two different modality languages, European Portuguese and LGP: some typological reflections</i>	
Ana Maria Brito and Celda Choupina	151
<i>References</i>	165

PREFACE

Verbs, movement and prepositions

Verbs are a central category in linguistic studies, as they constitute the core of predications, and there is an important body of literature that covers nearly all aspects regarding this class. There are, however, several areas of debate, such as the one of verbs of movement, which need further research. In fact, although this type of verbs has been studied for a long time, in various linguistic traditions and within different theoretical models, there are still numerous issues to deal with. One of them concerns the types of languages that can be defined by these verbs. The discussion about path or manner of movement expressed in a verb or outside the verb led to Talmy's seminal proposal of verb-framed languages and satellite-framed languages. This typology was then augmented by a third class of equipollently-framed languages and by more subdivisions, such as weak satellite-framed languages and strong satellite-framed languages, but these proposals are not without criticism. Other issues regarding verbs of movement are, for instance, the relation of movement (and location) with other conceptual domains, such as possession (and change of possession). The relation between verbs of movement and Aspect is another area of debate, especially the aspectual classes of predications and their connection to telicity. From a computational point of view, verbs of movement pose questions about the mapping of descriptions of motion in natural languages with formal representations that can be used in an array of applications.

One can also relate the study of verbs of movement to the study of a less analysed category, prepositions. In fact, prepositions are important in the context of some language families, such as Romance, because several semantic components of events of movement are denoted by prepositional phrases, namely Goal and Source. However, there are many matters of debate regarding prepositions. For instance, what is the relation of prepositions with other categories, such as adverbs? What is the syntactic status of prepositional phrases (arguments or adjuncts) in predications projected by verbs of movement? What is the contribution of prepositions to the

definition of the aspectual profile of these predications? What theta-roles can prepositional phases exhibit?

In general, the use of prepositions is a problematic area in any language. As to European Portuguese, several arguments support this claim. For instance, there are contexts in which a few prepositions can occur with verbs of movement, whereas there are contexts in which only a particular preposition can occur. Furthermore, in a context in which several prepositions can occur, the choice between one preposition and another is associated with a different meaning, whereas in other cases apparently there is no change in the meaning of the sentence. This heterogeneity increases if we consider other Portuguese varieties, namely African and Brazilian Portuguese, which exhibit different uses of prepositions. This variety of uses poses some problems in different areas of application, from teaching to automatic translation.

This book deals with a diversity of issues that relate to verbs, namely verbs of movement, and prepositions. It was planned within the project “Verbs and Prepositions in European Portuguese”, which had two main goals: the description of the possibilities of combining verbs and prepositions in contemporary European Portuguese and the investigation of a set of constructions involving verbs of movement and directional prepositions.

The project team included linguistics and computer sciences researchers from two R&D units – Centre of Linguistics of University of Porto (CLUP) and INESC TEC (Porto) – who developed work in both areas (theoretical research and application). Some of their findings were presented in a workshop that took place on May, 2017 at FLUP.

This volume has six chapters and four of them were previously presented at the workshop. They all analyse topics that address at least two of the project’s themes – verbs and prepositions, verbs and movement, prepositions and movement.

The chapters of this volume

Ignacio Bosque addresses Source prepositions in four Romance languages – Spanish, Portuguese, French and Italian – in what concerns mainly their spatial interpretations.

After arguing that, in these Romance Languages, Source and Goal prepositions share some properties (e.g. incorporation processes), but also exhibit relevant differences, namely their contribution to the characterization of the Paths, the author addresses two issues related to Source prepositions.

The first issue concerns the fact that the same prepositions are used in these different Romance languages in the same spatial and temporal contexts. The author argues for a unified explanation for this coincidence that relies on Path identification: spatial Source prepositions require spatial paths, whereas temporal Source prepositions require temporal (durative) paths.

The second issue is related to the fact that these languages do not present the same number of Source prepositions: in Italian, there are two; in Spanish and Portuguese, there are three; and, in French, there are four different lexical possibilities of marking the spatial origin of a displacement with different types of verbs. The author argues that these differences are related to the way these prepositions lexicalize some components of the Path (only the initial point or the whole path) and to the bounded or unbounded nature of the path itself.

Yuko Morimoto's chapter concerns mainly the aspectual event/state alternation in Spanish. She analyses different types of constructions that include: verbs of motion like *atravesar* 'to cross'; comparative expressions like *estar cada vez más guapa* 'look more and more beautiful'; predicates of activity like *cantar en locales nocturnos* 'to sing in nightclubs'; and expressions with the so-called aspectual *se* in combination with the verb *estar* 'to be_{ESTAR}'.

Morimoto argues that the alternations between state and event readings with verbs of motion are not cases of recategorization or coercion. Instead, the analysed verbs and verbal predicates are considered to be aspectually neutral and the definition of the aspectual profile of predications relies on contextual factors. This conclusion is similar to the one that Leal, Cunha and Silva point out in their chapter, concerning European Portuguese data. The other alternations analysed in Morimoto's chapter are used to support her proposal that states constitute a heterogeneous aspectual class, including states with a controlling subject, and that "stativity" can be ascribed to different layers of Aspect, namely to the verb, to the sentence and to the utterance.

Inês Duarte and Fátima Oliveira research the constructions that express external possession in European Portuguese. They start by analysing the patterns of argument realization found in external possession structures in European Portuguese and compare them to other Romance languages. They conclude that, as in other Romance languages, structures with change of state verbs combined with dative clitics are less restricted than structures with other types of verbs or with DP with the preposition case marker *a*. They also conclude that the concept of affectedness commonly used needs to be refined due to e.g. the variation in the human feature

of the possessor or the verb classes that can occur with possessor datives. So, in the second part of the chapter, the authors discuss and propose a more accurate definition of affectedness that combines the *R-integrated relation* of Moltmann (2003), the Hole (2005) concept of *affectee* and Beavers (2006, 2011) “Affectedness Hierarchy”. The authors argue that their definition of affectedness can account for the fact that common patterns of external possession across the Romance languages they analyse involve specific possession relations with human possessors and occur only with certain verb classes. Finally, they argue that affectedness in Portuguese is encoded in an aspectual head of the *v*-V system that is a complement of *v* and selects a VP complement.

João Cordeiro, Pavel Brazdil and António Leal present the system that they developed in the course of the project “Verbs and Prepositions in European Portuguese”. Their main goal was to characterize the current use of prepositions in predications with verbs of movement in some Portuguese newspapers. To do so, they designed and implemented an automatic system that extracts relevant examples of combinations of verbs and prepositions and stores them in a relational database. The authors describe the technical details of the method they used, along with some difficulties that they had to overcome and main results they achieved.

António Leal, Luís Filipe Cunha and Fátima Silva analyse the event/state alternation of predications with verbs of motion in European Portuguese. They start by presenting a series of tests that point out to the conclusion that predications with verbs of motion with stative readings in European Portuguese are instances of individual level non-phase states. In the second part of this chapter, the authors take into consideration the conditions underlying the stative/eventive readings of predications with verbs of motion, in particular the contribution of different tenses, temporal adverbials and denotational properties of the Figure argument. They also analyse the interaction of these grammatical components that result in the rise of eventive or stative readings of predications with verbs of motion.

The authors argue that the European Portuguese verbs of motion analysed are lexically underspecified in what concerns the state/event distinction and that the aspectual readings of these predications are defined compositionally, which is a conclusion similar to the one Yuko Morimoto presents for Spanish verbs in her chapter. Leal, Cunha and Silva also suggest the existence of an aspectual tripartite division of spatial verbs, between state verbs, event verbs and verbs that are underspecified regarding the state/event distinction.

Ana Maria Brito and Celda Choupinha analyse some uses of verbs of motion *ir* ‘to go’ and *vir* ‘to come’ in European Portuguese and their equivalents in Portuguese Sign Language. They discuss Talmy’s typology and its application to these languages in particular, and they argue that European Portuguese (and Romance languages in general) does not always behave as a verb-framed language. As for Portuguese Sign Language, the authors argue that it is closer to an equipollently-framed language than to a verb-framed language.

I hope that the results presented in these six chapters can enrich the scientific debate and point to new directions for fresh and stimulating research in the areas of verbs, movement and prepositions.

Acknowledgements

Firstly, I want to acknowledge the support of Fundação Calouste Gulbenkian, sponsor of the project “Verbos e Preposições em Português Europeu” (ref.139614), which provided the funding that made this book possible. I also want to acknowledge all the support provided by the Faculty of Arts and Humanities of University of Porto and the Centre of Linguistics of University of Porto in the organization of the workshop “Verbos e Preposições” (5/5/2017) and in the publication of this volume, in particular Daniela Oliveira, Deolinda Gomes and Paula Cristina Pereira (Projects Unit) and Ana Paula Soares (Publications Unit).

I would like to thank the kind collaboration of our undergraduate and graduate students in helping with an initial analysis of the corpus of the project, as well as in the organization of the workshop: Ana Lisa Oliveira, Ana Neto, Ana Sofia Ferreira, Andreia Pinho, Carlos S. Silva, Cristiana Teixeira, Dariya Antipova, Elisabete Pinto Ribeiro, Filipa Ferreira, Joana Ferreira, José Carlos Barbosa, Maria Francisca Silva, Nuno Jales, Maria Luís Queirós, Mariana Pinho, Marlene Santos, Rute Rebouças, Sara Salgado, Tânia Meireles, Tânia Miranda, Tiago Marques and Violeta Magalhães.

A special thanks to Purificação Silvano for all the work in the project and in the preparation of this volume.

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On Source Prepositions and their Relationship to Paths¹

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Abstract

Source prepositions are two-place predicates. They are interpreted as relational concepts because they are identified as components of Paths. These may be thought of as linear, oriented spaces, as in displacement or propulsion verbs, but also as much more abstract concepts, as Paths characterizing verbs of perception, communication, ruling and other forms of action at a distance. Two central problems of Source prepositions are addressed in this chapter: (i) the same prepositions are used in Romance in temporal and spatial contexts, what naturally calls for a unification analysis; and (ii), a considerable variation among Source prepositions systems in Romance is attested, since languages may choose between two, three or four different prepositions expressing Source. A set of grammatical criteria is then needed in order to account for the relevant choices. As regards (i), a number of parallelisms between temporal and spatial Sources are introduced, including the view of duration as a Temporal Path. As regards (ii), variation in the Romance systems of Source preposition is centered in two parameters: (in)visibility of the full Path after the initial point, and (un)boundedness of the Path itself.

Keywords

Source, Path, prepositions, semantic verb classes

¹ I am very grateful to Ana Bravo, Ángela Di Tullio, Luis García Fernández and Yuko Morimoto for their comments and remarks on some of the previous versions that this chapter has gone through. My deep gratitude extends to Antonio González, António Leal, María Lozano Zahonero and Fátima Oliveira for providing me with examples from various Romance languages. Needless to say, all possible errors or misinterpretations are my own.

1 - Introduction. Temporal and spatial Source

The notion of SOURCE has received much less attention in the literature than its direct opposite: GOAL. In principle, there is a good reason for this: since basic aspectual distinctions crucially hinge on (a)telicity and (im)perfectivity, one expects richer lexical and grammatical consequences on the ways events finish than on the ways they start up, and this expectation is certainly met. Source complements come in two main varieties, at least: temporal Source (TempS), as in (1a), and spatial Source (SpaS), as in (1b):

- (1) a. *Desde enero.* [Spanish]
‘Since/ From January’
- b. *Desde París.* [Spanish]
‘From Paris’

TempS and SpaS prepositions may simply be distinguished as in (2):

- (2) a. A TempS preposition is a Source preposition taking a temporal complement.
- b. A SpaS preposition is a Source preposition taking a spatial complement.

To these two main Source classes, one may add other meanings, as it is often done in most grammatical descriptions. Source prepositions may introduce means or resources interpreted at metaphorical extensions of this notion, as in (3):

- (3) a. *Ele perdeu a memória, mas conseguiu recuperá-la a partir de alguns dados dispersos.* [Portuguese]
‘He lost his memory, but he was able to recover it from some unrelated data’
- b. *Le molybdène s’obtient à partir du cuivre.* [French]
‘Molybdenum is obtained from copper’
- c. *Desde nuestro más profundo agradecimiento.* [Spanish]
‘From our deepest gratitude’

These concepts are close to that of “cause”, one of the well-known interpretations of the very notion of “origin” or “provenance”, as standardly assumed in classical Philosophy. In fact, the English preposition *since* unsurprisingly means ‘because’ in one of its standard readings. Languages substantially differ in these

potential extensions of Source. For example, Julien & Garbacz (2014) notice that one may say in Norwegian the equivalent of “I’m sick since McDonalds” to express that the food that I ate in McDonalds is the cause of my illness:

- (4) *Eg bler dårli av McDonalds-mad* [Norwegian]
 I become sick from McDonald-food
 ‘I am sick because of (something I ate in) McDonald’s’

Similar extended interpretations exist in other languages. I will have very little to say here on the various connections that the notion of Source maintains with causality, a topic worthy of cross-linguistic research. In this chapter I will mainly concentrate on SpaS and some of its natural extensions. SpaS—it seems to me—is a notion still poorly understood, as compared to TempS. In fact, my impression is that our current level of understanding of TempS is not too bad: the licensing of TempS PPs crucially depends on predicates able to express duration on lexical or compositional grounds. On French, see Rohrer (1976, 1981), Lysebraate (1982), Asic (2008) and Lagae (2012); on Spanish, see García Fernández (2000) and Martínez-Atienza (2007, 2014); on English, see Heinämäki (1978), Brée (1985), and many others. Duration may be achieved on compositional grounds through event quantification in the main predicate. This is accomplished through tense adverbials, distributive and measure quantification, copulative coordination and similar resources (Móia 2000, 2001, 2006). Durative aspect is also provided by the perfect, affecting the licensing of Source adverbials (Iatridou & von Stechow 2005). The complement of TempS prepositions is subject to important variation among close languages (Schaden 2005, 2007). If this complement is sentential, other meaning differences are obtained (on Spanish, see Lope Blanch 1997, Bosque 2006, and García Fernández & Camus Bergareche 2011). Finally, at least some Romance TempS prepositions, such as *a-à partir de / a partire de* ‘from... onwards’, are licensed in intensional environments (Bosque & Bravo 2016), among other contexts.

But how about SpaS? In principle, one might expect SpaS to be a simpler or more basic notion than TempS, if only because other well-known uses of temporal particles are extensions of spatial ones. But this, I believe, is not correct. An interesting property of Romance Source prepositions is the fact that almost all of them allow for either TempS or SpaS readings. Here are some examples to be added to the pair in (1):

- (5) a. *A partire de {quel momento / quella linea}*. [Italian]
 ‘From that {moment / line} onwards’
 b. *Dalla {stanza / primavera}*. [Italian]
 ‘From {the room / Spring}’
 c. *Desde {o ano passado / a cidade velha}*. [Portuguese]
 ‘From {last year / the old city}’
 d. *A partir de {segunda feira / determinada localização geográfica}*. [Portuguese]
 ‘From {Monday / some specific geographical point}’
 e. *Depuis {lundi / ma fenêtre²}*. [French]
 ‘From {Monday / my window}’
 f. *Dès {10 ans / son premier article}*. [French]
 ‘Since s/he was 10 years old / From his very first article’

Counterexamples to (5) are not too numerous in Romance, but some may be attested.³ In any case, they do not contradict the fact that the pattern in (5) naturally calls for a unified analysis. Needless to say, many other prepositions allow for temporal and spatial uses in many languages, as has been repeatedly observed: Bennett (1975), Traugott (1978), Lindstromberg (1998), Levinson (2003), among others. For good overviews of this double-sided nature of prepositions, see Haspelmath (1997) and Kemmerera (2005). Notice that these associations —often considered to be metaphorical— do not relieve us of the task of approaching unification of contexts on strictly grammatical bases, whenever this is possible, as Piñón (1993) and Zwarts (2005) have emphasized.

As regards Source, most licensing conditions for TempS prepositions are aspectual requirements on their external argument. The natural question may, thus, be put as in (6):

² Often considered incorrect in prescriptive grammars, but overwhelmingly present in texts, as in *Depuis la porte, on ne voyait rien* ‘You couldn’t see anything from the door’, from Lagae (2012).

³ For instance, Sp. *de* is a TempS preposition, but only if inserted in *de...a...* ‘from... to...’ complex PPs (Xiqués 2015):

- (i) a. *Viví aquí de 1980 a 1989*. [Spanish]
 ‘I lived here from 1980 to 1989’
 b. *Vivo aquí {*de / desde} 1980*. [Spanish]
 ‘I have lived here since 1980’

(6) THE UNIFICATION PROBLEM OF SOURCE PREPOSITIONS:

Given that many prepositions of TempS are also appropriate in spatial contexts (SpaS), in which specific patterns should one formulate their licensing conditions in order to naturally match both sets of environments?

Certainly, the correct answer might perhaps be “in none” (then rejecting unification attempts, as Kemmerera 2005 seems to do on psycholinguistic grounds). But massive cross-linguistic temporal-spatial prepositional matches are found, as emphasized by Haspelmath (1997), suggesting that a positive response is possible. Support for this position also comes from the attested fact that non-native speakers must learn exceptions to these associations on individual bases (as in the case of Eng. *since*, inappropriate for SpaS).

At first sight, there is a straightforward answer to (6); namely, Path unification. We may assume that Source Ps are two-place predicates. They select for Paths as external arguments, and force their internal argument to be interpreted as their initial point (*beginning of path*, BP). We may then suppose that we get TempS if Paths are intervals, and we obtain SpaS if Paths are longitudinal spaces. That is, Paths might be different, but they are always lineal entities with parallel BPs and similar serial integrity, since duration is just a name for Temporal Path. The grammar is, thus, expected to be sensitive to the parallelism between TempS and SpaS by allowing for similar lexical choices in prepositions. If Paths are temporal, the external argument of the TempS preposition denotes a durative event, as in (7a); if they are spatial, a displacement predicate provides a locational BP in some trajectory as in (7b).

- (7) a. *Vivo en Madrid desde enero.* [Spanish]
 ‘I am living in Madrid since January’
 b. *Viajé a Madrid desde París.* [Spanish]
 ‘I traveled to Madrid from Paris’

We may reasonably argue that punctual events do not provide temporal Paths, so that no BP for a potential TempS preposition could be licensed by them. At the same time, since these very events may be displacement predicates, they are expected to be compatible with a spatial Path, and license a SpaS PP. This easily accounts for contrasts such as the one in (8a). We may also account for the inverse contrast, as in (8b): *esperar* ‘wait’ denotes an activity, which licenses TempS; but it is not a displacement predicate, and it rejects SpaS.

I believe that this analysis is not exactly wrong, but rather rough or incomplete. Notice that it gives us no explanation for the two options in (8c), since *trabajar* ‘work’ is not a displacement verb.

- (8) a. *Saldré desde {*las ocho/ su casa}.* [Spanish]
 ‘I will be out since 8 o’clock / I will leaving his/her home’
 b. *Te esperó desde {las ocho / ?*su casa}.* [Spanish]
 ‘S/he waited for you from {8 o’clock / home}’
 c. *María trabaja desde {las ocho / su casa}.* [Spanish]
 ‘María works from {8 o’clock / home}’

More generally, an obvious limitation of an approach along these lines is its inability to account for SpaS PPs modifying non-displacement predicates. This is a quite standard situation, as I will explain below, and it shows that Paths are not just temporal or spatial linear entities, but also much more abstract concepts.

The connections between TempS and SpaS extend to the complement of the preposition. In fact, TempS complements may be derived from other types. For example, the French preposition *dès* ‘since, from the very moment of’ is supposed to select for temporal complements (that is, NPs denoting events and temporal points), but the truth is that non-temporal NPs are allowed as well, provided they are adapted to a temporal interpretation. For instance, the French nouns *article* ‘article’ and *gare* ‘station’ are not temporal nouns, but the sentences in (9) are fully grammatical.

- (9) a. *Dès son premier article, elle s’est positionnée clairement contre cette idée.* [French]
 ‘From her very first article, she clearly stood against that idea’
 b. *Le bus était plein dès la gare de départ.* [French]
 ‘The bus was full from the departure station’

A plausible solution to the paradox is coercion of the NP complement into a free relative sentence denoting a temporal point. The PP in (9a) would then mean “Since she wrote her first article” (see Lagae 2012 for a similar proposal). The predicate *write*, absent from (9a), could be provided by Pustejovsky’s (1995) telic *qualia*, given that the relationship between *article* and *write* (or *publish*) is lexical. A similar process might apply to (9b), so that the SpaS PP would be interpreted as “Since the bus left the departure station”. The Path obtained in these cases is, no doubt, a durative one, but at the same time it suggests a series of publications in

(9a), and a bus route starting at some station in (9b); that is, the hearer is able to decompose a temporal Path by figuring out a series of consecutive landmarks within it which do not necessarily constitute temporal points.⁴

Other Romance prepositions are sensitive to a similar process. Notice that (10a) is an ambiguous sentence. If *desde Roma* means ‘since we were in Rome’ (or ‘since an event x, related to Rome’), it is interpreted as a TempS PP, but if it means ‘from Rome’, a SpaS reading is obtained. The former interpretation is licensed by the durative nature of the predicate, whereas the second is possible because *hablar* ‘talk’ is a communication verb (see below). Schaden (2007) points out that English *since* is only possible in SpaS PPs when a temporal reading is inferred or deduced, as in (10b).

- (10) a. *No he hablado con María desde Roma.* [Spanish]
 ‘I haven’t talked to Mary since/from Rome’
 b. *John hasn’t said a word since Strasbourg.*

An argument in support of the coercion process sketched above comes from the fact that the preposition’s complement may naturally be substituted by temporal wh-words. For example, Port. *golo* ‘goal’ is not a temporal noun, but the Source PP in (11) could be substituted by *a partir de quando* or *a partir de que momento* ‘from what moment on’:

- (11) *O treinador mudou de estratégia a partir do segundo golo.* [Portuguese]
 ‘The coach changed his strategy from the second goal (onwards)’

As it is obvious, the coercion strategy will turn some SpaS PPs into TempS PPs, provided it is able to solve the lexical problem related to the recovery of the appropriate missing verb in the temporal free relative. But, even if this problem is properly solved, the TempS vs. SpaS dilemma must inevitably face another unescapable difficulty in Romance:

- (12) THE LEXICAL CHOICE PROBLEM OF SOURCE PREPOSITIONS: Romance systems for source prepositions may be...
 a. BINARY, as in Italian: *da, a partire da*;

⁴ As L. García Fernández points out to me, Fr. *dès* is close to Sp. *ya desde* ‘already from’, in which the presence of the adverb *ya* implies the existence of a previous phase in which the situation obtains.

b. THREE-FOLD, as in Spanish, Portuguese or Catalan: *de, desde* (Cat. *des de*),
a-à partir de; or

c. FOUR-FOLD, as in French: *de, dès, depuis, à partir de*.

Given that Source is a conceptual primitive, on what specific lexical and/or grammatical bases do speakers make the right choices among these items?

This chapter could not possibly cover all aspects of Source prepositions in Romance, especially so since a number of monographs exist on just a few of their temporal variants, as I have just recalled. I will thus limit myself to provide a tentative—and, I have to admit, fragmentary—answer to some aspects of problems (6) and (12) in the pages to follow. I will argue that the understanding of Source crucially depends on that of Path; and, more specifically, on the idea that Paths constitute abstract and—somehow surprisingly—multiform conceptual primitives. The unification problem may be solved if duration is reinterpreted as one of the possible manifestation of Paths. I will show that SpaS PPs may be licensed on lexical (§ 3) or compositional (§ 4) grounds, and I will provide some clues to address the variation displayed by SpaS PPs in Romance. But before going into that, I will briefly address (§ 2) the issue of why Sources are not the exact conceptual opposites of Goals.

2 - Source-Goal (a)symmetries

Source and Goal are parallel in some respects, but not in others. The natural question is to what extent we are able to derive both situations. Both Source and Goal prepositions allow for similar alternations in incorporation processes. The Source preposition may not be incorporated at all into its predicate, as in (13a). When it gets incorporated, either a subsequent lexical change may be obtained, as in (13b), or may not be necessary, as in (13c,d).

- (13) a. *Salir de la ciudad* > **Salir la ciudad* ('To leave the city'). [Spanish]
b. *Sortir de la ville* > *Quitter la ville*. ('To leave the city'). [French]
c. *Exit from the city* > *Exit the city*.
d. *Flee from the country* > *Flee the country*.

The situation in (13c,d) is not common in Romance with Source PPs, but some examples exist. The Source preposition *de* is optative in (14), and it somehow reproduces the meaning of the prefix, as in the English examples (13 c,d).

- (14) *La cuestión excede (de) sus competencias.* [Spanish]
 ‘The matter goes beyond his/her competence’

On the other hand, the Spanish adverb *donde* ‘where’ is known to derive from Lat. *unde* ‘from where’, preceded—in a largely redundant way—by the preposition *de*. Until at least the XVII century one finds examples in which Sp. *donde* means ‘from where’, as Eng. *whence* (see NGLE, § 22.8a and 22.8t for attested evidence), sometimes in alternation with *de donde*. But this is not a generalized pattern in English and modern Romance languages, in which locational complements are known to allow for either Goal or Place interpretations. The following examples, from Svenonius (2010), are ambiguous in these two readings:

- (15) a. *The plane flew behind the trees.*
 b. *The rabbit jumped inside the cage.*
 c. *The submarine sailed below the ice.*
 d. *The marathoners ran beyond the city limits.*

That is, (15a) is about a flying process that takes place behind the trees, or about one ending in that place. Various lexical and grammatical solutions are able to account for this ambiguity, but—whatever we might pick up—we must explain why the ambiguity does not extend to Source complements. I agree with a number of authors—including Jackendoff (1983, 1990, 1996), Tenny (1994), and Gehrke (2007, 2008)—on the idea that syntactic solutions to these problems are preferable to lexical ones, in principle, and I have adopted them myself for Spanish somewhere else (Bosque 2015). If we introduce a null (\emptyset) preposition for Goals in the grammar, a simple incorporation process is able to explain why the same locational PPs may express both meanings:

- (16) a. John lives [_{PLACE} across [_{THING} the river]]
 b. John moved [_{GOAL} across the river]
 (17) a. John moved [_{GOAL} \emptyset] [_{PLACE} across the river]
 b. John moved [_{GOAL} \emptyset + across]_i [_{PLACE} t_i the river]

Present-day Spanish displays this very situation in relative and interrogative adverbs, since *dónde* ‘where’ and *adónde* ‘to where’ freely alternate in goal complements, as in *¿Dónde vas?* / *¿Adónde vas?* ‘Where do you go?’. As it is well-known, English *where* and *there* are also ambiguous in these very interpretations (as

against this conclusion by dwelling on Dutch data, but also on the idea that the English prepositions selected by *run* (such as *towards* or *away*) may change the diagnosis, as in *John ran away from the car in ten minutes*. Morimoto (2001) and Romeu (2014) argue, with Spanish examples, that implicit goals provide telicity, just as overt ones, as in (22a). A consequence of this asymmetry is the fact that Sources, unlike Goals, are not bound to telicity, as (22b) confirms.

- (22) a. *Los niños vinieron de su casa {en/ *durante} dos horas.* [Spanish]
 b. *He ran from the station (*to his house) for ten minutes*
 [iterative reading disregarded]

Pantcheva (2010) supports the Source-Goal asymmetry. She claims that a number of languages built Source Paths on top of Goal Paths, rather than the reverse. Lakusta (2005) argues that Goal-Source asymmetries extend to the acquisition of spatial notions beyond language. I will conclude —limiting myself to the Romance area— that Source and Goal are relatively symmetric components as regards incorporation processes, but asymmetric in their contribution to the characterization of Paths. The latter property follows from the basic semantic components of *Aktionsarten* classes and the specific relation of Goal to telicity, but also from the idea that Source has a lexical status, whereas Goal displays a peculiar mixture of grammatical and lexical properties.

3 - Lexical restrictions on Source complements

3.1 - Sources and lexical structure

Source is a relational concept because Sources are the initial components of Paths. This implies that Paths are not just linear spaces, given that the very existence of a Source point implies an oriented process. In other words, if “a path has a starting point” (Zwarts 2008), something has necessarily to be started. So-called “fictive movement predicates” (as in the *The Arabian Peninsula extends from Iraq to Yemen*) provide an apparent counterexample. However, these are generally taken to be metaphorical extensions from the corresponding active readings (Gawron 2005; Koontz-Garboden 2011). In fact, dictionaries do not regularly assign separated senses to these interpretations, then suggesting that they do not constitute different lexical readings.

At the same time, providing a Path for every instance of Source is not straightforward. The task becomes more complex when one becomes aware of the

many differences that may be attested among possible Paths, on purely descriptive grounds, in spite of the basic conceptual unity that all these varieties display. Although relevant differences among authors exist, it is not hard to find a certain consensus on the idea that arguments focalize conceptual aspects of lexical meaning by highlighting information already present in the lexical structure of predicates. On different aspects of this idea see Jackendoff (1983, 1990), Zwarts (2005), Ramchand (2008), Pantcheva (2011), Marantz (2013), Williams (2015), and Müller & Wechsler (2015), among many others. In fact, adjuncts often make parts of the lexical information provided by the predicate overt, as well as redundant in various degrees. Examples of this redundancy are particularly transparent in Goal and Source complements: Sp. *emerger* ‘emerge’ implies ‘to the surface’, but *emerger a la superficie* ‘emerge to the surface’ is a natural expression. Similarly, Sp. *zarpar* ‘shove off, leave a harbor’ implies ‘from some harbor’, but *zarpar de este puerto* ‘leave this harbor’, with a Source PP, is, again, well-formed. Many other similar cases exist. In the pages to follow I will apply a similar strategy to other predicates selecting for SpaS PPs.

Since we cannot freely add Source adjuncts to predicates (ex. **She is happy from her home*), the natural question is on what grounds they are grammatically restricted. But, as pointed out above, this is a subsidiary issue of other, more fundamental, questions, namely “How are Paths detected?” and “How exactly are they obtained from the predicate’s meaning?”. There are various forms of gathering semantic classes of verbs which coincide in allowing for Source complements. I will pick up a somehow unusual criterion here:

- (23) A. Semantic classes of verbs which show a consistent variation in the Romance preposition chosen for Source complements.
- B. Semantic classes of verbs which show very little variation, or no variation at all, in the Romance preposition chosen for Source complements.

On A, see sections 3.2. to 3.4; on B, see section 3.5.

3.2 - Source PPs with displacement verbs

SpaS PPs are licensed by DISPLACEMENT verbs, as in (7b). This means that in displacement contexts, the external argument of Source prepositions provides a movement event taking place along a Path. For example, the displacement to what

(7b) refers covers a physical Path starting in Paris.

Romance ternary Source prepositional systems are generally split as in (12b). In a number of analyses of the *de-desde* (both ‘from’) alternation in Spanish, the choice of *de* has been argued to focalize the BP (so that Path is not accessible, even if it is conceptually necessary), whereas *desde* has been associated to the presence of an implicit Goal. See Morera (1988) and Romeu (2014); see also Asic (2008) and Lagard (2012) on *de* vs. *depuis* in French. According to this account, the presence of *hasta* ‘until’ in displacement predicates is implied if *desde* is picked up, so that *desde... hasta...* is interpreted as a complex preposition which externally delimitates an atelic event. As a result, a complete path is visualized. This is rather close to Piñón’s (1993) and Zwarts’s (2005) concept of BOUNDED PATH, adapted by Pancheva (2010) for several languages, and more recently for Xiqués (2015) for Catalan.

I will take the interpretation of the *de/desde* alternation along these lines to be basically correct as regards displacement, not necessarily in relation to other classes. Even so, two qualifications are in order. First, it is worth recalling that external delimitation of events requires durative predicates, what implies that “from...to...” complex PPs cannot possibly be licensed with punctual verbs denoting displacement, regardless of whether *de* or *desde* are picked up:

- (24) a. *Este tren {*sale / va} de Madrid a Barcelona.* [Spanish]
 ‘This train {*departs / goes} from Madrid to Barcelona’
 b. *Este tren sale desde la Estación Central (*hasta Barcelona)* [Spanish]
 ‘This train departs from Madrid (*until Barcelona)’
 c. *Me caí desde la escalera (*hasta el suelo).* [Spanish]
 ‘I fell down from the top of the staircase (*until the ground)’

Second, *de...a...* and *desde... hasta...* are not fully parallel, since *de* is able to focalize BPs with no external delimitation. The opposite distribution of Source Ps in (25) is thus expected:

- (25) a. *No te muevas {de / *desde} aquí.* [Spanish]
 ‘Don’t you move from here’
 b. *Caminé {*de / desde} mi casa.* [Spanish]
 ‘I walked from home’

Desde is rejected in (25a) because *moverse* ('move', pronominal) is a punctual predicate, in the relevant reading, as opposed to *mover* ('move', non-pronominal),⁵ so that no external delimitation is possible. *De* is allowed in this sentence because this preposition focuses the BP and does not visualize the full Path. On the contrary, external delimitation is provided by *desde* in (25b) —implying '...to a certain place, recoverable from context'—, and not by *de*. External delimitation is, thus, the only possibility for *caminar* 'walk' to accept a Source PP in (25b), since this is a durative predicate of displacement. The choice of *desde* implies that an implicit Goal is visible, so that a full Path is licensed.

On equal terms, the *de-desde* alternation with displacement verbs is in accordance with the general lines suggested by the authors mentioned above. I will present some arguments in their support.

1) The distinction offers a meaning difference for subtle contrasts such as (26). The choice of *desde* suggests 'to the ground' more transparently, whereas only the beginning of the dropping process is captured if *de* is picked up.

- (26) *La maceta cayó {del / desde el} quinto piso.* [Spanish]
'The flower pot fell from the fifth floor'

2) If some Path cannot be visualized for pragmatic reasons, *desde* is likely to be rejected. The prediction is, again, met, as attested in (27):

- (27) a. *Se cayó de {un árbol/ un trapezio/ un quinto piso/ un caballo/ una bicicleta/ una silla}.* [Spanish]
'S/he fell from {a tree/ a trapeze/ the fifth floor/ a horse / a bike / a chair}'
b. *Se cayó desde {un árbol/ un trapezio / un quinto piso/ ?un caballo/ ??una bicicleta/ ??una silla}.* [Spanish]
'= (27a)'

3) The "intentional effect" associated with *desde* in some contexts may be derived from the spatial extension implicated by the mere conceptualization of a Path. Speakers coincide on the idea that some special effort, intention, merit or credit

⁵ Again, in some of its readings: *mover la pelota* 'move the ball' [atelic] vs. *mover la escalera* 'move the staircase' [telic]. Many well-known differences between pronominal telic verbs vs. non-pronominal atelic verbs are attested in the literature, as in *dormir* 'sleep' vs. *dormirse* 'fall sleep', or *irse* 'leave' vs. *ir* 'go'.

is implicated by the choice of *desde* in pairs such as (28). This implication is not necessarily conveyed if the other alternative is chosen, since it merely expresses the point of departure of some displacement:

- (28) *Había venido {de / desde} Tokio.* [Spanish]
 ‘S/he had come from Tokio’

A very similar effect is obtained in the pairs in (29). *Desde* is expected to be awkward in (29a), but also natural in (29b), since only in the latter example the existence of a full Path (from the ground to the upright position) is implied:

- (29) a. *¿Todavía no te has levantado {de / ?*desde} la cama?* [Spanish]
 ‘You haven’t got up from bed yet?’
 b. *En los ejercicios difíciles cuesta un poco más levantarse {del / desde el} suelo.* [Spanish]
 ‘In the hard exercises, it takes more effort to get up off the floor’

4) Complex predicates may contain relevant information able to trigger the visualization of some Path. The choice of *desde* is a bit strange in (30a), since there is no reason for the speaker to focus on the full Path, instead of its beginning. But the Path followed by the train is quite relevant in (30b), what makes the opposite preposition choice to be expected.⁶

- (30) a. *El tren que viene {de / ?desde} París está entrando por la vía 5.* [Spanish]
 ‘The train from Paris is entering platform 5’
 b. *El tren viene lleno {?de / desde} París.* [Spanish]
 ‘The train is full from Paris’

⁶ In any case, some problems remain. For example, the *de/desde* alternation extends in Spanish to TRANSFER verbs (akin to *translate*, *transport*, *transmit*, *move*, etc.), somehow causative variants of displacement predicates. However, many speakers of Spanish alternate the prepositions *de* and *desde* in some verbs of this group, as in *traducir {del / desde el} ruso* ‘to translate from Russian’ with no clear semantic differences. These contrasts require further investigation.

The third choice in ternary Source prepositional systems is *a partir de/ à partir de/ a partire da*, a complex preposition with not direct English equivalent (approximately, ‘starting, from x onwards’). It is built out of the Romance descendants of the Latin verb *partire* ‘depart’, and it provides a straightforward instance of a “V > P” grammaticalization process, given that the verb *partire* denotes the event of initiating a displacement (Rohrer 1981, Lagae 2012, Bosque & Bravo 2016). The variant *a contar de* (lit. ‘counting from’, as in French *a compter de*) is used in Chile, and a few other American countries, as a TempS P, as in *a contar de enero* ‘from January onwards’.

Bosque & Bravo (2016) argue that the Spanish TempS preposition *a partir de* and its French and Italian counterparts take telic external arguments and license unspecific temporal points in open intervals. They argue that this preposition parallels indefinites in modal contexts, such as free-choice items, in the sense that they pick up unspecific points in some interval. According to this analysis, the approximate meaning of (31a) is: “The train departs at some unspecific point included in an interval of unknown end which starts at three o’clock”. One may address the question of why this analysis does not extend to SpaS; that is, how come we do not have sentences such as (31b):

- (31) a. *El tren sale a partir de las tres.* [Spanish]
 ‘This train departs sometime after three o’clock’
 b. **El tren sale a partir de Madrid.* [Spanish]
 ‘This train departs from Madrid’

Interestingly, example (31b) is ungrammatical whether it means (i) “The train departs from Madrid”, or (ii) “The train departs from some unspecific location after Madrid”. Some of my Portuguese informants admitted the (i) reading in examples similar to (31b), such as (32a), which makes the attested example (32b) entirely expected.

- (32) a. *O comboio sai a partir da estação central.* [Portuguese]
 ‘The train departs from Central Station’
 b. *“O trem sai a partir de qualquer estação”* [retrieved from the Internet]
 ‘The train departs from any station’ [Portuguese]

But, crucially, none of my informants (for any Romance language) accepted the reading in (ii), which I will take to be universally excluded for SpaS. In fact, its

very inexistence is relevant on theoretical grounds, and cannot simply be dismissed of functional or communicative assumptions. On the contrary, it shows us that in certain cases the parallelism between TempS and SpaS might not be as close as the pairs in (5) suggest. Ultimately, the fact that unspecific temporal points may be licensed by modal operators (see Bosque & Bravo 2016 for details) may simply be the natural consequence of modal projections' being located higher than temporal and aspectual ones in most syntactic configurations, an idea somehow reminiscent of the traditional subordination of tenses to mood distinctions. As it is obvious, no "locative projection" is expected to have any intervening role in this relationship, and no "locative inflection" exists in Romance languages.⁷

As we have seen, there is some cross-linguistic variation on the (i) reading of (31b). I suggest that the reason why Sp. *a partir de* is not appropriate in this pattern, as opposed to *desde*, lies in the fact that departure verbs do not provide unbounded paths. As we have seen, *desde* is admitted in these cases because it implies a Goal, then closing a Path as in the cases in (27) to (30). The preposition *de* is accepted as well, because it only focalizes the departing point required by the very meaning of departure predicates.

Sp. *a partir de* is accepted as a SpaS preposition with a few telic predicates. Bosque & Bravo (2016) suggest that atelic predicates are coerced into their inceptive readings, so that (33a) means 'We started to walk...'. If this is correct, it allows us to partially reduce this pattern to the situation in (13); that is, to cases in which Source prepositions partially reproduce the meaning of the predicate that selects for them.

- (33) a. *Caminamos varios 10 kms. a partir del cruce.* [Spanish]
 'We walked for several kms. from the crossroad'

⁷ Even so, parallelisms between TempS and SpaS persist in some of these cases. For example, Bosque & Bravo (2016) point out that an open interval is licensed by the future, but not by the preterit, in (ia). This property of TempS *a partir de* coincides with Lagae's (2012) observation on its SpaS counterpart in French, which she takes to be a prospective preposition. Most native speakers of French, she argues, interpret *Lyon* in (ib) as a point located after the position of the speaker (on some road) if *a partir de* is chosen, but before the place in which he or she is standing on this very road if *depuis* is picked up.

- (i) a. *Te {llamaré / *llamé} a partir de las diez.* [Spanish]
 'I {will call / called} you sometime after 10 o'clock'
 b. *Cette route bouchonne {depuis / à partir de} Lyon.* [French]
 'There are traffic jams in this road {from / starting in} Lyon'

The unification of TempS and SpaS *a partir de* in such cases is yet to be accomplished.

- b. *Continuaremos a partir del décimo compás.* [Spanish]
‘We will go on from the tenth bar’
- c. *A partir de este punto, la carretera se hace más estrecha.* [Spanish]
‘From that point onwards, the road narrows’

This restrictive group includes displacement verbs which focus the Path covered by movement, such as *caminar* ‘walk’, *desplazarse* ‘move, scroll’ or *recorrer* ‘go through, travel all over’, as in (33a). *A partir de* is also compatible with verbs denoting some event phases (*comenzar* ‘begin’, *seguir* ‘continue, keep’, *continuar* ‘continue’), as in (33b). Finally, gradual completion verbs are also allowed, provided the changes they denote may be associated to an initial physical point, as in (33c).

Other Romance languages, and particularly Portuguese, associate *a partir de* with the starting point of a physical Path which may be bounded (see below). For a detailed analysis of *a partir de* and its Romance counterparts as TempS prepositions, I refer to Bosque & Bravo (2016).

Displacement predicates allow for other varieties. SpaS PPs with JUMPING and LAUNCHING verbs (*jump*, *throw*, *launch*, *shoot*, etc.), sometimes called PROPULSION verbs, are interesting because they focus on the departure point of some displacement, but they license full Paths. The *de-desde* alternation analyzed above extends to them, so that a meaning difference akin to those attested in (25)-(31) is expected here, as in (34).

- (34) *Saltó {de / desde} la ventana.* [Spanish]
‘S/he jumped from the window’

Even so, some lexical preferences exist.⁸ Among the Romance languages addressed here, Portuguese is the only one allowing for the SpaS preposition *a partir de* to designate the Source point of these physical Paths, often in alternation with

⁸ Present-day European Spanish prefers *desde* in these cases, as in (ia), although *de* is not rejected. In any case, both options have a grammatical justification, as in the contrasts above. The presence of *de* with jumping and launching verbs is more frequent in present-day American Spanish (“%” stands for ‘subject to dialectal variation’):

- (i) a. *Han disparado {%de / desde / *a partir de} allí.* [Spanish]
‘They were shooting from there’
- b. “...*los militares se lanzaban de los helicópteros con paracaídas*”
[Proceso, Méx. 02/02/1997, CREA]
[Spanish]
‘Soldiers were jumping from the helicopters with their parachutes on’

de. Again, this is a natural extension of the behavior of this preposition in (32). It is relevant to point out that the direct equivalents of Port. *a partir de* in other Romance languages are strongly rejected in these contexts (“%” stands for ‘subject to dialectal variation’, as in fn. 8):

- (35) a. “...saltou a partir de um helicóptero, voando em direção ao vulcão”
 (24 Horas News [Brazil], 06/08/2017)
 [Portuguese]
 ‘S/he jumped from a helicopter flying towards the volcano’
 b. “...foi morto por homens armados que dispararam a partir de uma carrinha”
 (Público [Portugal], 08/10/2012)
 [Portuguese]
 ‘He was killed by some armed man firing from a truck’
- (36) a. *Il giornalista è saltato giù {da / *a partire da} un elicottero* [Italian]
 ‘The journalist jumped from a helicopter’
 b. *Le journaliste a sauté {d’ / *à partir d’} un hélicoptère.* [French]
 ‘The journalist jumped from a helicopter’
 c. *Le dispararon {%de / desde / *a partir de} un camión.* [Spanish]
 ‘He was shot from a truck’

Verbs of jumping and launching are also interesting as regards the way in which they lexicalize Goal. This semantic component may appear as a PP denoting place (introduced by *at* in English and by similar prepositions in Romance), but also as an indirect object, as *le* in (36c). I will return to this alternation below. The important point to remember by now is that Port. *a partir de* differs from its counterparts in other Romance languages in being appropriate to head a SpaS PP which focalizes the initial point of a bounded path.⁹

-
- c. “...ya que el enemigo disparando de las ventanas mantenía a distancia a los asaltantes”
 [J. R. Ponce, *El asalto de Concepción*, Chile; Google Books]
 [Spanish]

- ‘...since the enemy was holding off the attackers by shooting from the windows’
 d. “Enrique queda inconsciente al ser lanzado de su caballo”
 [I. Hernández, *La novela criolla en las Antillas*, Puerto Rico, CREA]
 [Spanish]

‘Enrique became unconscious when thrown from his horse’

⁹ I have not been able to find a clear answer in the literature to the natural question of why some movement verbs do not license Source PPs. Change of position verbs (*sit down, lie down, bend down, stand up, duck*, etc.) belong to

3.3 - Source PPs with perception verbs

Variation in the choice of preposition in Romance SpaS PPs is also attested with PERCEPTION verbs (equivalent to *see, look, observe, hear, listen, smell, contemplate, spot, perceive*, etc.). These verbs select for Source PPs in many languages, including English:

- (37) a. *I can see the bay from my window.*
b. *We could smell the roses from the lounge.*

To my knowledge, the first account of the compatibility of Source with perception predicates was proposed by Lakoff (1995), developing an idea by Charles Fillmore. As in the cases above, the presence of Source prepositions in (37) is possible because perception verbs involve Paths. More precisely, perception events are linguistically conceived as taking place along abstract Paths, even if these are rather different from those characterizing displacement predicates. The reason why a goal-PP (ex. *to the garage*) could be added to (38a), but not to (38b),

- (38) a. *I moved the car from the entrance.*
b. *I saw the car from the entrance.*

follows from the fact that the direct object in (38b) is semantically interpreted as the Goal of the perception process, implying that Goal is already saturated. As a consequence, the Path in (38b) is an abstract track going from the viewer to the perceived object, whereas in (38a) it is the linear space covered by the vehicle. Differences in the semantics of the Source-PPs in (38) thus follow from their respective Paths, but their very existence also follows from the fact that a Path is conceptualized in both situations.¹⁰

this restricted paradigm, with a few exceptions, as in (29b). I suggest that the exclusion of SpaS PPs with these verbs lies in the difficulty of obtaining a locative Path, maybe because this semantic group is interpreted by the speaker as a subclass of change of state predicates. In fact, many change of state predicates reject Source PPs as well, as in Sp. **Mi ropa se secó de su humedad* ‘Lit. My clothes dried from their moisture’.

¹⁰ Mass nouns are known to be able to incorporate into the predicate in so-called *non-quantized interpretations*. The direct object does not provide a Goal in these cases, and a double PP is available to represent the full Path, as expected:

- (i) a. *Veo el mar desde mi ventana (*hasta el horizonte).*
‘I can see the sea from my window (to the horizon)’

[Spanish]

The widespread use of Source prepositions in many languages with nouns such as *point of view*, *perspective*, *angle*, etc. are natural figurative extensions of the physical Paths just described. As in other cases involving figurative meanings, perception Paths are lineal entities, but at the same time they cannot be properly defined as sets of points or other similar conceptual primitives. As regards the preposition's choice, again Romance's solutions turn out not to be as straightforward as English's, which systematically picks up *from*. Portuguese seems to be the only Romance language which allows for the alternation of *de* and *a partir de* in these cases, which parallels the behavior of the latter preposition attested above with other predicates involving a physical Path:

- (39) a. *Posso ver toda a rua {da / *desde a/ a partir da} minha janela.* [Portuguese]
 'I can see all the street from my window'
 b. [Picture's caption at a restaurant] "*Vista da Plaza Mayor a partir da minha mesa*" [Retrieved from the Internet] [Portuguese]
 'A view of the Plaza Mayor from my table'

Present-day Spanish clearly prefers *desde* in these contexts; Italian chooses *da*; whereas present-day French shows an alternation of prepositions. The distribution obtained is as follows:¹¹

- (40) a. *From my window I can see the sea.*
 b. *{*Desde / Da} minha janela vejo o mar.* [Portuguese]
 c. *{Depuis / De} ma fenêtre je vois la mer.* [French]
 d. *{Desde / *De} mi ventana veo el mar.* [Spanish]

Other predicates selecting for Source prepositions are grammatically integrated in this group, regardless of the fact that dictionaries place them in other categories.

-
- b. *Veo mar desde mi ventana hasta el horizonte.* [Spanish]
 'The sea can be seen from my window all the way to the horizon'

¹¹ The choice of *depuis* in (40c) is not recommended by prescriptive grammars (recall fn. 2). Even so, for many speakers it implies that the whole Path (from the viewer to the perceived entity) is focused and becomes visible or accessible, an idea that recalls the basic contrasts in § 3.2. As regards Spanish, the preposition *de* is ungrammatical in (40d), but this pattern is attested in Old Spanish, as in (i):

(i) "*...de aquí veo yo más de cuatro [pelos]*" [Anonymous, *El hospital de los podridos*, 1611, CORDE]
 'From here, I can see more than four [hairs]'

Spanish examples include verbs such as *presenciar* ‘witness, attend’, nouns such as *testigo* ‘witness’, morphologically unrelated to the former, and adjectives such as *opaco* ‘opaque’.¹²

- (41) a. *Presenció el partido desde la tribuna.* [Spanish]
 ‘I attended the match from the gallery’
 b. *Fue testigo de los acontecimientos desde un balcón.* [Spanish]
 ‘He witnessed the events from a balcony’
 c. *El vidrio es totalmente opaco desde el exterior.* [Spanish]
 ‘The glass is totally opaque from the outside’

Perception verbs naturally extend to those denoting VIGILANCE or SURVEILLANCE, such as *monitor*, *supervise*, *keep an eye on*, *oversee*, etc., which also select for SpaS PPs. In fact, predicates such as *watch* correspond to both groups (perception and surveillance) with equal legitimacy. As in perception verbs, the Goal in surveillance verbs is lexicalized as a direct object, and a similar Path is conceived in both classes (from the agent-experiencer to the Goal), the main difference lying in the notion of attentiveness or care involved in the latter class. As expected, preposition alternations for Source PPs are similar in perception verbs and surveillance predicates. Portuguese alternates *de* and *a partir de* in the latter group, which naturally extends the alternations we attested in the former verb classes:

- (42) a. *Vigiavam os prisioneiros de uma torre.* [Portuguese]
 ‘They used to watch the prisoners from a tower’
 b. “...um edifício com celas onde os doentes mentais eram vigiados a partir de um ponto central” (*TSF Rádio Notícias*, 24-11-2017) [Portuguese]
 ‘...a building with cells in which mental patients were watched from a central point’

¹² A standard definition of the verb *presenciar* in Spanish dictionaries is “estar presente” ‘be present’. Nevertheless, this predicate rejects SpaS complements, which confirms that *presenciar* properly belongs into the class of perception verbs:

- (i) {*Presenció* / ?**Estuve presente en*} *el partido desde la tribuna.* [Spanish]
 ‘I {witnessed / ?*was present at} the match from the grandstand of the stadium’

As regards the adjective *opaco* ‘opaque’, standard definitions in Spanish dictionaries (“not letting the light pass through”) license Source PP because they contain a verb of movement (*pasar* ‘pass’). Interestingly, most definitions of *opaque* in English dictionaries contain a verb of perception (“not able to be seen through”).

3.4 - Source PPs with predicates of action at a distance

Variation in source PPs extends to another class, not far from the latter group on conceptual grounds. It is constituted by predicates denoting ACTION AT A DISTANCE. I will further subdivide these verbs in three subgroups.

a) The first one includes a large number of COMMUNICATION verbs (akin to *speak, call, shout, phone, write, respond, broadcast*, and many more), some of which are morphologically derived from nouns denoting instruments of communication (Levin's 1993 class 37.4). The Path they lexically contain is to be understood as a physical distance covered in the communication process. A Source PP is possible in sentences such as *John phoned me from New York* because the phoning event involves a Path going from New York to me. An interesting property of most verbs in this group is the fact that they allow for a particular sort of "Goal-Doubling": the PP-goal in (43a) is predicated from the direct object (*him* in that sentence), what gives rise to paraphrases such as *John called him_i when he_i was at the office*. This strongly reminds of a similar property of kicking verbs, restricted to parts of the body (Levin 1993, Levin & Rappaport Hovav 2013), as in (43b). The "doubling property" extends to some launching verbs as well (*launch, throw, shoot*, etc.), as in (43c), but not to perception verbs:

- (43) a. *John called him at the office.*
 b. *John kicked him in the face.*
 c. *John shot him in the leg.*
 d. **John saw him in the face.*

As in other predicates which provide bounded Paths, variation in the preposition's choice is attested in this pattern as well. The contrast between Portuguese and Spanish is as follows (the sentences in (44) have the same meaning; the sign "%" stands for dialectal or idiolectal variation, as in other examples above):

- (44) a. *Mary wrote me a postcard from Rome.*
 b. *A Maria escreveu-me um cartão postal {de / *desde/ %a partir de} Roma.*
 [Portuguese]
 c. *María me escribió una postal {*de / desde / *a partir de} Roma.* [Spanish]

Although only some of my Portuguese informants admitted *a partir de* in (44b), it is not hard to attest examples (most of them, from Brazilian Portuguese) which prove that this pattern is fully grammatical for many speakers. Again, it seems that no other Romance language parallels with Portuguese in this respect:

- (45) a. “*Marcelo ligou a partir de Braga para dizer ao radialista que...*”
(TV Media, 17-02-2017) [Portuguese]
‘Marcelo called from Braga to tell the radio host that...’
b. “*Me telefonou a partir de Itália para me tranquilizar*”
(TVi24, 9-02-2017) [Portuguese]
‘S/he phoned from Italy to reassure me’
c. “*Escrevo-lhe a partir de Leça da Palmeira para dar-lhe os parabéns pela...*”¹³
‘I am writing to you from Leça da Palmeira to congratulate you for...’

b) The second subgroup consists of verbs denoting external control or guidance over situations, including RULING verbs such as *lead*, *direct*, *run*, *control*, and similar predicates. Some verbs, such as *safeguard*, might belong to this group or to the perception group above. Again the distribution of Source prepositions is close in both classes. As in the case of communication verbs, no *de* / *desde* alternation is observed in Spanish (which amounts to say that the SpaS Ps must attest the existence of a closed Path), but Portuguese displays a *de* / *a partir de* alternation again. The sentences in (46) are synonyms:

- (46) a. *He rules his company from a beach in Miami.*
b. *Ele dirige a sua empresa {de / *desde / %a partir de} uma praia em Miami.*
[Portuguese]
c. *Dirige su empresa {*de / desde / *a partir de} una playa de Miami.*
[Spanish]
d. *Dirige la sua azienda {da / *a partire da} una spiaggia di Miami.* [Italian]
e. *Il dirige son entreprise {*d' / depuis / *à partir d'} une plage de Miami.*
[French]

As in perception verbs, UNTIL-PPs or TO-PPs are disallowed in this group, but a Path is lexically licensed in both cases: it is opened by the Source PP, and closed by the direct object.

¹³ Retrieved from a Blog at the Internet: <http://umtaldeblog.blogspot.fr/2010/>

c) The final subgroup may only be characterized on pragmatic grounds, since actions able to cause an effect at some distance do not always constitute a lexical paradigm. Notice that a country may destroy another one from some nuclear arsenal, and also that you can work from home, buy something or pay for it from a computer, or check your flight online from your mobile phone. This “pragmatic paradigm” is a natural extension of the lexical paradigms in “a” and “b”. In all these cases, Source prepositions are licensed because the actions they deal with are linguistically characterized as involving particular Paths. Their Source coincides with the place or the instrument that originates the effect to be caused at some distance, and their Goal is provided by the verb’s direct object. The variation attested in this paradigm is rather similar to the one presented in the former semantic groups. Again, all the sentences in (47) have the same meaning.

- (47) a. *Today you can buy whatever you want from a tablet.*
 b. *Atualmente podes comprar o que queres {°de / *desde / a partir de} um tablet.* [Portuguese]
 c. *Hoy puedes comprar lo que quieras {*de / desde / *a partir de} una tableta.* [Spanish]
 d. *Oggi puoi comprare quello che vuoi {da / *a partire da} un tablet.* [Italian]
 e. *Aujourd’hui, on peut tout acheter {*d’ / depuis / °à partir d’} une tablette.* [French]

One should keep in mind that the very fact that verbs such as *buy* involve a spatial Path is unexpected. I take this to be one of the linguistic shapes that this action may adopt, and it is fully compatible with other argumental structures of the same verb which entirely lack such a participant, as in *Yesterday, I bought this computer at a department store*.¹⁴

¹⁴ Building on the undeniable grammaticality of sentences such as *I wish you a merry Christmas from the bottom of my heart*, one might perhaps want to conclude that verbs of will (*want, wish, expect, hope, long*, etc.) provide abstract Paths, somehow similar to those of perception or communication verbs. However, it is not quite clear that other members of this group are equally compatible with Source phrases (recall (8b), for example). For this reason, I will leave the question open.

3.5 - Source PPs in Romance with little or no variation

Let me say something now on the group of predicates which display little variation, or no variation at all, as regards the choice of SpaS P (= group (23B) above). Here is an example: the Romance preposition heading SpaS PPs selected by verbs denoting MOVEMENT AWAY is *de* as the only option:

- (48) a. *Não te afastes {de / *desde / *a partir de} mim.* [Portuguese]
 ‘Don’t go away from me’
 b. *Sganciarono {dal / *a partire dal} treno l’ultimo vagone.* [Italian]
 ‘They unhooked the last wagon from the train’
 c. *Il faut éloigner la table {du / *depuis/ *a partir du} mur.* [French]
 ‘The table must be separated from the wall’
 d. *No te separes {de / *desde / *a partir de} mí.* [Spanish]
 ‘Don’t go away from me’

The same conclusion extends to other members of group (23B), which basically includes the following semantic notions:

- A) MOVEMENT AWAY (*separate, remove, divorce, retire, etc.*),
- B) GRABBING (*grab, hold, grip, secure, etc.*).
- C) DEMAND (*ask, demand, require, etc.*).
- D) OBTAINING (*obtain, inherit, learn, etc.*).
- E) PROTECTION (*protect, shelter, hidden, etc.*).
- F) RECOVERING (*recover, heal, cure, etc.*).
- G) AVOIDING (*disengage, shirk, sidestep, etc.*).

See specifically classes 10 to 13 in Levin’s 1993 classification of English verbs. One detects almost no variation in predicates in these semantic classes: *de* (Italian *da*) is the only preposition selected, with only a few exceptions.¹⁵ The natural

¹⁵ For example, some alternations of *de / a partir de* are related to the strong relationship which holds between the latter and the notion of “cause”, as pointed out as regards (3). The Spanish verb *aprender* ‘learn’, which belongs to group D, admits alternations as the following:

- (i) *Lo que aprendí {de / a partir de} tu experiencia.* [Spanish]
 ‘What I learned {from / on the basis of} your experience’

As the English glosses suggest, *de* directly introduces a Source, whereas *a partir de* implies a broad causal

question, then, is why there is no variation as regards the choice of Source Ps within this set of predicates, as opposed to the situation we found in (23A).

One might argue that predicates in (23A) select for SpaS PP adjuncts, whereas those in (23B) select for arguments (often called *complementos de régimen* in the Spanish grammatical tradition). But, since both groups are heavily constrained on semantic grounds, as we have seen, the “argument vs. adjunct” distinction seems to be scarcely enlightening as regards these contrasts. I will suggest that the main difference relies on another factor, namely the way in which Path is conceptualized. More specifically, the reason why a Goal PP can be added in (49a), but not in (49b), is related to the fact that a *de / desde* alternation is possible in the former, but not in the latter.

- (49) a. *Emigró de Irlanda (a EEUU).* [Spanish]
 ‘S/he immigrated to USA from Ireland’
 b. *Se independizó de sus padres (*a un pequeño apartamento).* [Spanish]
 ‘S/he gained independence from their parents (and moved) to a small apartment’

In other words, verbs in the (23B) group, which point towards more abstract concepts, do not make whole Paths visible, but just their initial point. Since Paths are not accessible, Goals are not either. English grammar introduces no lexical difference as regards these two groups (23A-B), as pointed out above, but other languages may go beyond the distinctions introduced for Romance, and might provide even more complex systems of Source prepositions. An interesting consequence of an account along these lines is the fact that it is able to explain why a single predicate may belong into either of the two main groups above (that is, 23A-B), depending on whether or not it conceptualizes a full Path. The verb *venir* ‘come’ shows this in minimal pairs such as (50):

- (50) a. *Su familia materna viene de Berlín.* (Ambiguous) [Spanish]
 ‘His/her mother’s family {comes / is coming} from Berlin’
 b. *Su familia materna viene desde Berlín.* (Unambiguous) [Spanish]
 ‘His/her mother’s family is coming from Berlin’

relationship which allows for paraphrases such as “by building on”. The extent to which these alternations may be extended to other predicates on the A-G classification above is yet to be investigated.

That is, (50a) is about a group's trip or a group's ancestry, where only the first reading is available in (50b). When *venir* expresses somebody's origin, background or provenance, it is not able to focalize a full Path, and no alternation with *desde* is available. Needless to say, the more abstract reading is a metaphorical extension of the physical one, but the relevant point is that syntax is sensitive to the distinction.

4 - Compositional aspects of Source

In the preceding section a number of semantic classes licensing Source PPs have been introduced, together with some of the factors which trigger variation among them in Romance grammar. As it is evident, Path identification would be a simple task if Paths were directly provided by the lexical structure of predicates in all instances, even counting on the contingency that prepositions may focus different components of Paths.

But in many cases Paths are not provided by the lexicon, but rather built up or figured out by the speaker and the hearer by assembling scattered pieces of information, quite a different picture from the situation attested in the previous section. Notice that the Path to be built up in order to make sense of the complex nominal in square brackets in (51) involves a series of films, the first of which (that is, the BP) is *Viridiana*, a piece of information that the hearer might not know, but would be forced to assume. The full NP in (51) is, thus, about a series of films sharing a certain actor.

- (51) *El intérprete imprescindible de [las películas de Buñuel a partir de "Viridiana"]* (*La Vanguardia*, 10/03/1994) [Spanish]
'The indispensable actor of Buñuel films from *Viridiana* onwards'

Interestingly, the Path created in (51) is a temporal one, even if *Viridiana* is not a temporal noun, but just the name of the first film in a series of them. In this section I will briefly address two factors relevant for the understanding of the compositional relationship between Sources and Paths.

- (52) Two compositional factors of SpaS licensing:
A. Coercion processes giving rise to displacement predicates.
B. Mereological structures.

The factor in (52A) is necessary to account for some apparent mismatches between SpaS PPs and semantic classes of predicates. The SpaS PP provided by a ‘FROM...TO...’ complex PP may not be lexically licensed by the predicate. This is what we find in (53) with the verbs *silbar* ‘whistle’ and *leer* ‘read’.

- (53) a. *María silba a diario de su casa al trabajo.* [Spanish]
 ‘María whistles every day from home to work’
 b. *Solo puedes leer un periódico desde Madrid hasta Sevilla, si viajas en tren.* [Spanish]
 ‘You can only read a newspaper from Madrid to Seville, if you travel by train’

In order to account for these mismatches, we need a grammatical device to reinterpret *silbar* as “walk while whistling” or “go while whistling”, and *read* as “travel while reading”. That is, if a displacement predicate is introduced in the paraphrase, it will be able to provide the Path matched by the SpaS PP. No doubt, this account introduces a rather unconstrained device on predicate formation, i.e. “V while X-ing (V being an unmarked displacement verb) > X”. But the phenomena in (53) shows that syntactically overt physical Paths may count as grammatical evidence of the presence of displacement processes, even if they are not lexically licensed. It is worth recalling that a well-known property of many non-displacement action verbs is their ability to license Goal PPs in English and many other languages, giving rise to a resultative predication, as in *sweep the trash to the corner*.

The factor in (52B) involves mereological (i.e., part-whole) relations. The role of these relations in the grammar is beyond doubts nowadays (for a general overview, see Simons 1987, Miéville 1998, Chaffin et al. 1988, Kleiber 1999, Poesio et al. 2006, and Irmer 2011, among many others). Some SpaS PPs may only be licensed if interpreted as parts of the entity denoted by their antecedent. The sentence in (54) constitutes an example of this situation, since the verb *read* does not qualify as a predicate able to lexically license a SpaS PP:¹⁶

- (54) *I read the book from the preface to the end.*

¹⁶ Unless it is interpreted as a perception verb, and the SpaS P’s complement denotes the place from which the reading takes place, as in *I can’t read the sign from here*.

The *from... to...* complex PP provides a Path in (54), but —contrary to the situation in (53)— it is not licensed through an incorporation process, but rather introducing a secondary predicate of the object. The Source-Goal complex PP in (54) provides both a physical measure of the book itself and the Path followed in the reading action; that is, these PPs are licensed as adjuncts of some accomplishments, whilst providing the extension of the entity to which the action applies.

Path reconstruction in these cases requires the necessary mereological relations to be properly identified. Consider the minimal pairs in (55):

- (55) a. *La serie televisiva me atrapó desde el primer episodio.* [Spanish]
 ‘The TV series caught me up from the first episode’
 b. *?*La serie televisiva me atrapó desde el salón de mi casa.* [Spanish]
 ‘The TV series caught me up from my living room’
- (56) a. *La cantante desafinó en el aria desde las primeras notas.* [Spanish]
 ‘The soprano sang off-key the aria from the very first notes’
 b. **La cantante desafinó en el aria desde el primer acto.* [Spanish]
 ‘The soprano sang off-key the aria from the first act’

A mereological relationship holds between *episodio* ‘episode’ and *serie televisiva* ‘series’ in (55a), and a similar picture is obtained in (56a). Notice that the numeral *first* introduces the Source PP in both cases, whereas the BP is identified in (54) by lexical means (prefaces being parts of books). Recall that Sources are only licensed if their proper Paths are grammatically constructed and identified. In order to license the Source PP in (55a) it is necessary to build up a Path out of the subject. Informally, this is possible because this PP reconstructs a whole paradigm of unmentioned episodes (second, third, fourth, etc.). We do not know about its end, but we know that it exists, and that it has to be a bounded Path. As in (54), the predicate applies to all components in the Path sequence, which gives rise to a series of consecutive events. In the absence of a mereological relationship, the Source PP in (55b) could only be licensed on lexical grounds. This forces a strange process of fishing or catching someone from his or her living room as the only possible interpretation of (55b). A parallel analysis accounts for the contrast in (56).

5 - Conclusions and remaining issues

The main difference between lexically and compositionally licensed SpaS PPs lies in the fact that the latter involve structures which are necessarily built out of pragmatic information, a property that Source identification unavoidably shares with anaphor, ellipsis and other syntactic patterns. As regards lexically licensed Source PPs, I have introduced to main problems in the outset, which I repeat now in (57):

- (57) A. THE UNIFICATION PROBLEM. Most Romance prepositions denoting Source are appropriate for both TempS and SpaS. Is it possible to reach grammatical generalizations which match both set of contexts?
- B. THE LEXICAL PROBLEM. Romance systems for Source prepositions are binary, ternary or quaternary. On what basis do speakers pick up the relevant option in each case?

Acknowledging that (57A) is not an exclusive problem of Source PP, I have argued that the natural answer to this question implies subordinating Source licensing to Path identification. Sources are licensed if their Paths are properly identified. TempS Ps require temporal Paths, and SpaS Ps require spatial Paths. Duration is often seen as an aspectual property of predicates, but we would achieve a better understanding of the picture if we saw it as one of the possible manifestation of Paths.

Spatial Paths may be obtained from durative predicates, just like temporal Paths may, but they may also be present in a number of punctual verbs which lack duration, such as departure and propulsion verbs, among others. I have argued that Paths may also be rather abstract entities, such as those involving verbs of perception, communication, ruling and other forms of action at a distance, which the grammar formally treats as if they consisted of similar linear components. Differences exist on the conceptual nature of these Paths, but also on the way their respective Goals are grammatically expressed. In fact, in the lexical classes considered above within group (23A), Goals may appear...

- (58) a. ...as OBLIQUE OBJECTS: verbs of displacement.
b. ...as DIRECT OBJECTS: perception verbs; verbs of surveillance; most ruling verbs and verbs denoting control over actions.
b. ...as INDIRECT OBJECTS: verbs of launching, verbs of communication (often in alternation with oblique objects).

As to question (57B), I have argued that it requires an analysis of Path components and the way they are lexicalized by prepositions. I have attested a consistent lexical variation, which centers around two main parameters; namely, (in)visibility of a full Path after the initial point, and (un)boundedness of the Path itself. In section 1, it was suggested that the quadripartite French system for SpaS Ps may be reduced to a three-fold system through a coercion process that converts SpaS to TempS for *dès* ‘since’ PPs (a similar process might perhaps apply to Brazilian Portuguese *desde*). Italian *da* combines *de* and *desde-depuis* contexts by making no lexical distinction among them. Since this has no consequences for the grammar of It. *a partire da*, the lexical problem of Source Ps distribution in the Romance languages considered here may be reduced to three-fold systems.

The preposition *de* focus the BP in Spanish, thus ignoring the Path itself, whereas *desde* implies a bounded Path, even if its Goal is left implicit. In any case, geographical and historical variation is attested for some semantic classes, particularly those of perception and propulsion verbs. If Paths are unbounded, *a partir de* is picked up in Spanish, what implies strong lexical restrictions on predicates in SpaS contexts. On the contrary, Portuguese picks up *de* and *a partir de* for bounded paths: the former preposition focuses the BP, whereas the second makes the Path visible. Port. *desde* is generally rejected with displacement, perception, communication or ruling verbs, in a sharp contrast with Spanish, but it may be licensed if the predicate contains grammatical information that makes the Path visible, as in *O comboio vinha *(cheio) desde Paris* ‘The train was full from Paris’.

As for French, no radical differences with Spanish are found as regards *à / a partir de*. The preposition *depuis* is extended to SpaS in present-day French, and it gives rise to alternations similar to the ones attested for Spanish, as in *Il a sauté {de / depuis} un balcon* ‘He jumped from a balcony’. However, Fr. *depuis* is more restricted than Sp. *desde*, since it shares its temporal complements with *dès* ‘since’.

Finally, predicates licensing SpaS with little or no variation in Romance have been shown to belong to semantic classes which not only focus the BP, but also hide or conceal the Path itself, even if it is conceivable on conceptual grounds (for example, separating an object x from a certain point might suggest that x occupies some exempt space).

Even if all this is on the right track, I will not hide or disguise the very fact that the grammar of Source still must face a number of challenges that require further investigation. I will mention just a few of them here in a rather schematic way. The first one is empirical: do the semantic groups of predicates distinguished above hold cross-linguistically? The answer is important because it would allow us to

know whether the conceptualization of Path is a cognitive process rooted in human language, or it is rather a cultural by-product, perhaps the result of metaphorical extensions of displacement expected to be subject to large crosslinguistic variation according to history and human experience.

The second challenge concerns our present uncertainty as to whether the failure of many durative predicates to provide SpaS comes from conceptual mismatches, or is rather to be derived from linguistic constraints. Notice that, if I buy a car in Lisbon, this city will be the place in which my owning of the car begins, but I cannot say **I have this car from Lisbon*, in either English or the languages I am familiar with. SpaS to TempS coercion processed are disregarded here, as the one mentioned above in relation to (10b). Maybe there are languages, or language families, in which access to SpaS points in states and activities is allowed on different grounds, just like TempS is licensed in them (universally, in principle).

The third challenge concerns Goal expression in abstract bounded Paths. We saw that internal arguments provide Goals which are parallel to the Sources lexically licensed by verbs of perception, communication or ruling, among other groups. The class of action-at-a-distance verbs gives rise to abstract bounded Paths starting in an agent or a location, and ending up in the entity denoted by the internal argument of the predicate. One may wonder whether or not the bounded Path that characterizes these predicates extends to the few unergative predicates that this class contains, as in *to work from home*. There is no doubt that the difference between working at home and working from home lies on the fact that the former VP provides a location, whereas the second provides a Path. One might argue that this Path is unbounded, since there is no grammatical indication of its possible endpoint. But our understanding of this phrase implies a connection between someone's home and the place to which his or her work is intended to be sent. If the Path is closed after all, it seems to be so throughout non-grammatical information. On similar grounds, recall that the constitution of the mereological dependences addressed above ultimately rest on pragmatic clues which are to be unveiled or deciphered on the basis of contextual information.

Finally, Paths are often assumed to force events to be decomposed, or rather be summed up in a concatenative operation which converts them into complex plural entities. Krifka's (1998) and Zwarts's (2005, 2008) "trace function" is intended to relate Paths to events in such a way. But maybe the abstract Paths depicted above do not exactly fit in this picture. Maybe the actions of seeing, phoning, ruling or working—which do not allow for stops along the way, unlike displacement events—are not to be decomposed into series of concatenated events, but rather conceptually

perceived as actions taking place on abstract Paths: we may recognize their Source and their Goal, but not truly the aligned components of the space which extends between them.

Stative/eventive alternations in Spanish

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Abstract

This chapter focuses on the stative/eventive alternation in Spanish with the purpose of providing evidence to support the following ideas: the heterogeneity of the states as an aspectual class, the existence of verbs and verbal predicates which are neutral with respect to the criterion of dynamicity and the necessity to single out different levels of aspectual analysis, from lexical to discourse level. In order to prove these ideas, I will analyse a small but varied series of examples showing the above-mentioned alternation. In particular, I will examine the semantic-aspectual characteristics of the Spanish verbs such as *atravesar* ‘to cross’ (*atravesar* ‘to cross’, *rodear* ‘to surround’, *cubrir* ‘to cover’, etc.), which are used in both stative and eventive contexts; comparative progressives of the type *estar cada vez más guapa* ‘to look more and more beautiful’, which denote a gradual change despite being based on the stative predicate; the predicates of activity used in the characterizing sentences, for instance *Juan canta en locales nocturnos* ‘Juan sings in nightclubs’; and finally the *estarse quieto*-type of construction, which consists in the combination of the so-called aspectual *se* and a stative predicate. The results of the analysis have some direct implications for our way of understanding of the states as an aspectual class and their relationship with the events.

Keywords

Aspectual alternation, aspectual composition, stativity, dynamicity, Spanish aspectual *se*

1 - Introduction

According to the ‘traditional’ aspectual classifications of verbs (Kenny 1963; Vendler 1957; Verkuyl 1972; Dowty 1979; among others), the state/event opposition is established with respect to the criterion of ‘dynamicity’, which implies the existence of progress in time.

The lack of progress or, in other words, the homogeneity of its internal structure thus constitutes the basic feature of the states as it is shown in the following definition provided by Bosque & Gutiérrez-Rexach (2008: 300), in which the authors distinguish between homogeneous (or non-dynamic) eventualities and heterogeneous (or dynamic) eventualities¹: “An eventuality is homogeneous or non-dynamic if it consists of homogeneous parts and does not undergo any change along its temporal development”; and by contrast, “An eventuality is heterogeneous or dynamic if it is subject to internal changes in its development, thus its temporal evolution is modified.”

At the same time, the above-mentioned authors note that verbs like *medir dos metros* ‘to be two meters tall/long’ or *ser alto* ‘to be tall’, which are clearly stative, belong to the group of homogeneous or non-dynamic eventualities, while others like *correr* ‘to run’ or *dibujar un círculo* ‘to draw a circle’, which usually serve as typical examples of the eventive predicates, represent a heterogeneous or dynamic eventuality. According to the same authors, the latter examples “are dynamic eventualities, since they can be considered as complex events consisting of different phases or stages” (Ibid.).

The lack of phases or stages attributed to the internal structure of states is shown in the following representations offered by Pustejovsky (1991: 56) for states and processes²:



[S = State; P = Process; e = event]

Figure 1 - Internal structure of states and processes by Pustejovsky (1991)

¹ Unless otherwise indicated, all English translations included in this chapter are my own, even when the Spanish originals are taken from other authors.

² Apart from these two, Pustejovsky (1988, 1991) includes the third class in his classification of eventualities, which he names ‘transition’. However, I would like to focus attention on states and processes. They are both atelic eventualities and are distinguished only by the dynamicity feature.

According to these representations, states are thought as an indivisible whole, while processes have an internal structure which allows further subdivision into stages or phases of their development.

In a similar way, if states are characterized by the absence of internal progression, we could understand that they are kept constant throughout their existence. This property, known as ‘sub-interval property’, allows Smith to establish the following entailment pattern for states: “When a state holds for an interval it holds for every sub-interval of that interval” (1997: 32).

This definition reflects the vision of states according to which they are maintained identical in each and every one of their temporal subparts. From this point of view, one could say that states preserve their nature even if they undergo a temporal division into smaller parts. In this respect, I should note that, although processes (or activities) also allow temporal subdivision without losing their nature, they are different from states in having a minimal limit beyond which they cannot be divided (for example, the action of running consists of continuous repetition of a set of movements, but none of these movements can separately represent the process of running).

In accordance with what I have said earlier, I could draw a conclusion that states are non-dynamic situations that lack internal progression. However, what I would like to emphasize here is that states, once they have been marked as homogeneous or non-dynamic situations, tend to remain excluded from any further division, as it happens in the table offered by Smith (1997: 20, (2)):

Situations	Static	Durative	Telic
States	[+]	[+]	[-] ³
Activity	[-]	[+]	[-]
Accomplishment	[-]	[+]	[+]
Semelfactive	[-]	[-]	[-]
Achievement	[-]	[-]	[+]

Table 1 - “Temporal features of the situation types” proposed by Smith (1997)

As can be observed, this classification divides situations into states and events, and further divisions only affect the latter.

Nevertheless, due to considerable advances of research on stativity over the

³ According to the author, this feature is irrelevant for the analysis of states (Smith 1997: 20).

past decade (Arche 2006; Cunha 2007; Martin 2008; Roby 2009; Rothmayr 2009; Gawron 2009; Carrasco Gutiérrez 2011; Koontz-Garboden 2011; Ernst 2016; among others), there is nothing new in pointing out the heterogeneous character of states as an aspectual class. Works cited above and many others have revealed remarkable heterogeneity of states, and, at the same time, have allowed us to see the lack of a clear-cut boundary between states and events.

Among the most commonly accepted classifications of states are the following: the one which distinguishes between permanent (i.e. individual-level) states –e. g. *ser de Murcia* ‘to be from Murcia’– and transitional (i.e. stage-level) states –e. g. *tener hambre* ‘to be hungry’– (Carlson 1977; Kratzer 1995; Olsen 1997; Escandell-Vidal & Leonetti 2002); the one that singles out temporally delimited states –e. g. *estar distraído* ‘to be distracted’– and those which are not temporally delimited –e.g. *amar* ‘to love’– (Robinson 1994; Marín 2000; Marín & McNally 2005); and the classification that separates states perceived as the result of a previous event –e.g. *estar resuelto* ‘to be resolved’– from those which do not presuppose any previous change of state –e.g. *ser inteligente* ‘to be intelligent’– (Bosque 1990; Moreno Cabrera 2003).

Moreover, I should mention Maienborn’s approach (2003, 2005, 2008), which distinguishes the statives referring to an eventuality –e.g. *dormir* ‘to sleep’– from those which are ‘pure statives’ such as *poseer* ‘to possess’; according to this author, the former would share the Davidsonian argument with eventive predicates, while the latter would carry a different kind of aspectual argument, the so-called Kimian state argument. Rothmayr (2009) uses this distinction as one of the fundamental criteria in her classification of stative predicates in the German language, in which each class of stative verbs is given a different lexical-semantic structure.

And finally, it is also revealing the difference between result states and derived statives studied by authors as Dubinsky & Simango (1996) and Koontz-Garboden (2011). The following two examples illustrate the difference in question:

- (1) a. *We found a broken mirror in her room.*
b. *What do white broken lines painted on the pavement mean?*

In the above examples, the verbal adjective *broken* receives two very different interpretations: while in the first example (1a) it refers to the result state of the event defined by the verb *to break* from which it is derived, in the example (1b) it indicates a property of being discontinuous without any implication that the line has previously suffered an action of breaking.

Regarding the difficulty of drawing a clear boundary between states and events, it has been noted that there are many verbs or even entire predicates that would allow a dual (stative/eventive) aspectual interpretation. This situation, which could be characterized as ‘aspectual ambivalence’, is shown in the examples (2)-(6):

- (2) a. *Conozco bien a María.* [State]
‘I know María well.’
b. *La conocí en una reunión.* [Event]
‘I met her in a meeting.’
- (3) a. *El camino atraviesa el bosque.* [State]
‘The path goes through the forest.’
b. *La bala atravesó el muro.* [Event]
‘The bullet went through the wall.’
- (4) a. *Está más guapa.* [State]
‘She is more beautiful.’
b. *Cada vez está más guapa.* [Event]
‘She looks more and more beautiful.’
- (5) a. *Carlos cantó una canción.* [Event]
‘Carlos sang a song.’
b. *Carlos canta en locales nocturnos.* [?State]
‘Carlos sings in nightclubs.’
- (6) a. *El niño estuvo quieto.* [State]
‘The boy was_{ESTAR}⁴ still.’
b. *El niño se estuvo quieto.* [?State]
‘The boy SE⁵ was_{ESTAR} still.’

The examples (2) show two different uses of the Spanish verb *conocer*: in (2a) it denotes a state and can be considered equivalent to the English verb *to know*, while in (2b) it refers to a corresponding inchoative event that is expressed by the English verb *to meet*⁶.

⁴ Bearing in mind that in Spanish there are two verbs that correspond to the English copulative verb *to be*, i.e. *ser* and *estar*, in my English translations of Spanish examples I will indicate which one of the two is used in the original text by means of the subindexes SER and ESTAR: ‘to be_{ESTAR}’ and ‘to be_{SER}’.

⁵ As will be explained later, the predicate in this example, *estarse quieto*, contains the clitic *se* (which has the following variants depending on person and number: *me, te, se, nos, os, se*). When translating the examples which contain this clitic, I will use the form SE in order to reflect its semantic contribution.

⁶ See Godoy & Soto Vergara (2017), for the similar alternation shown by the Spanish verb *saber* ‘to know’.

In a similar fashion, in the examples (3) the verb *atravesar* ‘to cross’ represents an aspectual alternation between state and event: in the example (3a), which is clearly stative, it defines a spatial situation of the path; whereas in the example (3b), which is eventive, it expresses the movement of the bullet. In their turn, examples (4) show that a stative predicate *estar guapa* ‘to be beautiful’ acquires a gradual change (hence, eventive) interpretation when it is used together with the comparative progressive expression *cada vez más* ‘(lit. each time more) more and more’.

In the case of (5), the sentence (5a) is eventive as it denotes a single, unrepeated action, that of singing a song; however, in the sentence (5b), despite the fact that it is constructed with the same verb *cantar* ‘to sing’, it acquires a characterizing interpretation as it now equals to *Carlos is a nightclub singer* and, in this sense, it can be considered stative.

Finally, the example (6a) –built with the verb *estar* ‘to be_{ESTAR}’– expresses a stative situation by attributing a property to the subject. On the contrary, the example (6b) –based on the pronominal form of *estar* (*estarse* ‘to be_{ESTAR}-SE’), is seen as equivalent to *The boy kept still*, and implies an active participation of the subject as it describes child’s behaviour over a certain period of time. This feature separates examples like (6b) from prototypical states.

In cases of the dual interpretation such as those we have just observed, it is usual to resort to the notion of recategorization, or an ‘aspectual coercion’, which allows a lexical unit to receive an aspectual interpretation different from the original one in accordance with the semantic demands of the syntactic context in which it is used (Pustejovsky 1995; Escandell-Vidal & Leonetti 2002). From this point of view, the inchoative interpretation of (2b), for instance, would be understood as a result of the aspectual coercion that functions over the stative verb *conocer* ‘to know’, triggered by the morphosyntactic context specific to this example.

It is important to note that I do not aim at questioning the validity of the coercion analysis for the example (2b) and for many other cases of dual interpretation. However, in what follows I would like to defend the idea that the origin of the aspectual ambivalence varies considerably depending on each circumstance, and that for some cases recategorization or coercion would not be the most adequate explanation. The point of view I have just offered is based on a series of theoretical assumptions that could be summarized in the following way:

- i) Recognition of the various types and degrees of stativity;
- ii) Recognition of the various levels of aspectual analysis;
- iii) Recognition of the existence of verbs and predicates which are aspectually ‘neutral’.

With respect to point (i), based on my previous works (Morimoto 2008, 2011) on *estarse quieto* ‘to be_{ESTAR}-SE still’-type construction –(6b)–, in section 4 I will defend the existence of states with a controlling subject. As we will see, this type of states represents some characteristics that are usually considered prototypical of the events (such as allowing an imperative or a progressive form), although their inherent temporal structure, lacking dynamicity and remaining inactive with respect to the temporal progression, perfectly adjusts to that of states in general.

Regarding the hypothesis (ii), I find it necessary to mention at least the following three levels or domains of aspectual analysis, taking into account the approaches of authors like Bertinetto (1994), Havu (1997), Guéron (2000, 2008), Horno Chéliz & Cuartero Otal (2010):

- Aktionsart domain: verbs and predicates
- Temporal-aspectual domain: sentences
- Discursive domain: utterances

However, unlike some authors like Bertinetto (1994), and following the ideas of Horno Chéliz & Cuartero Otal (2010), I argue that the stativity is applicable to all these levels; thus, I claim that it is possible to talk about stative verbs, stative sentences or stative utterances, although in each of these cases stativity will be defined by different factors.

And finally, as it is shown above –(iii)–, I argue for the existence of verbs and predicates which are ‘neutral’ regarding some aspectual criteria. Defending the existence of neutral verbs and predicates in connection with the criterion of stativity (or dynamicity) is one of my main goals in this chapter.

With these basic assumptions in mind, I will focus on the aspectual ambiguity previously presented in (3), (4), (5), and (6), starting with the first of them.

2 - Aspectual ambivalence at lexical level

Let us now return to the examples shown under (3), repeated here as (7):

- (7) a. *El camino atraviesa el bosque.* [State]
‘The path goes through the forest.’
b. *La bala atravesó el muro.* [Event]
‘The bullet went through the wall.’

In these examples, the same verb *atravesar* ‘to go through’ appears to be ambivalent in terms of the criterion of stativity (or dynamicity). As may be seen below in examples (8) and (9), verbs like *cubrir* ‘to cover’, *tapar* ‘to cover’, *adornar* ‘to adorn’ or *llenar* ‘to fill’ share a similar alternation:

- (8) a. *Esta valla tapa la vista de la sierra.*
‘This fence covers the views of the mountains.’
b. *El pan de oro cubre toda la cúpula.*
‘The gold leaf covers the entire dome.’
c. *Varias esculturas adornan el parque.*
‘Various sculptures adorn the park.’
d. *Retratos de antiguos presidentes llenan las paredes.*
‘Portraits of former presidents fill the walls.’
(9) a. *Taparon el agujero con una chapa de hierro.*
‘They covered the hole with a steel sheet.’
b. *Cubriremos esta pared {con/de} papel pintado.*
‘We will cover this wall with wallpaper.’
c. *Los niños adornaron la sala con motivos navideños.*
‘The children decorate the room with Christmas motifs.’
d. *Llenaron la casa {con/de} muebles baratos.*
‘They filled the house with cheap furniture.’

This kind of alternation was characterized by Rothmayr (2009) as an ‘instrumental alternation’⁷. According to this author, in the stative use of these verbs, the subject corresponds to the instrumental modifier in their eventive use. Nevertheless, I think that the semantic function of the subject of the examples like (8) –e. g. *esta valla* ‘this fence’ in (8a)– and of the prepositional modifier in (9) –e. g. *con una chapa de hierro* ‘with a steel sheet’ in (9a)– is not instrumental but that of *locatum*, the location of

⁷ See also Kratzer (2000), who points out the aspectual ambivalence (stative/eventive) of the verbs like *obstruct*, *surround*, *cover* or *support*, and argues that these verbs express ‘causal’ relationship even when used in their stative meaning.

which constitutes an essential part of the eventuality expressed by the verbs.

As for this group of verbs, and in accordance with what I have described in my previous work (Morimoto 2013), I would like to propose the idea that they are neutral with respect to the stative/eventive opposition. In other words, I would like to defend the idea that stativity or dynamicity of the situation expressed by these verbs is determined at the sentence and discourse levels. Examples as the following help illustrate this idea:

- (10) a. *Los enemigos rodearon la ciudad durante varios meses.* [State]
‘The enemies surrounded the city for several months.’
- b. *Los enemigos rodearon la ciudad en una hora.* [Event]
‘The enemies surrounded the city in an hour.’
- (11) a. *En otoño, las hojas caídas tapan la pista.* [State/ Event]
‘In autumn, fallen leaves cover the track.’
- b. *Las hojas caídas tapan la pista poco a poco.* [Event]
‘The fallen leaves cover the track little by little.’
- (12) *Ese chico me tapa la pantalla.* [State/ Event]
‘That boy blocks my view of the screen.’

These pairs represent the cases in which the sentences based on verbs like *rodear* ‘to surround’ allow both stative and eventive interpretations.

In the examples (10) and (11) the same sentence expresses a state or an event depending on the temporal or aspectual modifier it appears with: with PP *durante varios meses* ‘for several months’, the sentence (10) acquires a stative interpretation, while temporal PP headed by *en* ‘in’ imposes an eventive reading. In the example (11) we can observe that the adverb *poco a poco* ‘little by little’, referring to the dynamicity of the situation it modifies, imposes an eventive reading on the sentence, which is ambiguous in itself with respect to stativity/eventuality. In a similar way, the example (12) will be interpreted as stative if the subject is understood to be blocking the view of the screen just by the way he stands, even without intention to do it; the same sentence will be interpreted as eventive if it is assumed that the subject is voluntarily doing something to obstruct the view of the screen.

As far as semantic value of these verbs is concerned, I maintain that, as lexical units, they are limited to defining a spatial relationship between two entities. In their stative use –(13)–, they define the spatial situation of the subject with respect to the direct object (*rodear* ‘to surround’ places one entity around another one; in the case of *tapar* ‘to cover’ and *cubrir* ‘to cover, to coat’ one entity hides the surface of another, etc.):

- (13) a. *Una muralla medieval rodea el pueblo.*
‘A medieval wall surrounds the town.’
b. *Esta valla tapa la vista de la sierra.*
‘This fence covers the view of the mountain range.’
c. *El pan de oro cubre toda la cúpula.*
‘The gold leaf covers the entire dome.’

My semantic characterisation of the *rodear* ‘surround’-type verbs might seem inadequate in view of their eventive use shown in example (14), since in this case the same verbs express causative event of change with an impact on the object:

- (14) a. *Rodearon el pueblo con alambradas.*
‘They enclosed the village with barbed wire.’
b. *Taparon el agujero con una chapa de hierro.*
‘They covered the hole with a steel sheet.’
c. *Cubrieron esta pared {con/de} papel pintado.*
‘They covered the wall with wallpaper.’

In these examples, the entity referred to by the direct object is affected as consequence of the event expressed by the verb: as a result of the event expressed in (14a), the village would be surrounded; the event of (14b) would end at the moment when the hole is covered; and, finally, the event of (14c) implies that the wall would end up being completely covered by wallpaper.

Nevertheless, I would like to draw the attention to the fact that the change of state expressed by these verbs presupposes the existence of an object that ends up in a determined location in relation to the affected object. For example, if we cover the hole with a steel sheet, the steel will end up in a particular location with respect to the hole. Furthermore, this spatial relation also underlies their use as verbs of gradual change –(15)– or as displacement verbs –(16)–:

- (15) Gradual change of state:
a. *La nieve cubrió la casa rápidamente.*
‘The snow covered the house quickly.’
b. *Los libros llenaron la casa en muy poco tiempo.*
‘The books filled the house in a very short time.’

(16) Spatial displacement:

- a. *Rodeamos el lago por un camino.*
'We went around the lake following a road.'
- b. *Hoy hemos cubierto mucha distancia en poco tiempo.*
'Today we have covered a long distance in little time.'

Although I cannot delve into this class of verbs here, I would like to indicate the possibility that this kind of analysis is also valid for other groups of verbs, such as the following:

(17) *Atravesar*-type verbs (*atravesar* 'to cross', *colgar* 'to hang', etc.):

- a. *Una cinta azul atraviesa el cuello del vestido.* [State]
'A blue ribbon goes through the neck of the dress.'
- b. *Atravesó un palo en la puerta.* [Event]
'He blocked the door with a stick.'

(18) *Limitar*-type verbs (*limitar* 'to limit, to border')

- a. *La finca limita con un terreno rústico.* [State]
'The farm borders with a rustic land.'
- b. *Limitaremos la finca con una valla.* [Event]
'We (will) enclose the farm with a fence.'

(19) Displacement or situational verbs (*ir* 'go', *recorrer* 'travel, walk', *llegar* 'arrive', etc.):

- a. *Esta carretera va hacia la frontera.* [State]
'This road goes to the border.'
- b. *Vamos hacia la frontera.* [Event]
'We are going to the border.'

In this respect, I would like to refer to the analysis put forward by Horno Chéliz & Cuartero Otal (2010) for the utterances like the following—which are similar to the stative examples of (17)–(19)—:

- (20) a. *Las carreteras recorren la costa.*
'The roads run along the coast.'
- b. *Las lámparas cuelgan del techo.*
'The lamps hang from the ceiling.'

c. *La tela esconde el regalo.*

‘The cloth hides the gift.’

(Horno Chéliz & Cuartero Otal 2010: 99, (21a-c))

In the work cited above, Horno Chéliz and Cuartero Otal single out two fundamental classes of the stative utterances: classifying and situative⁸. According to the same authors, a classifying stative “assigns a particular participant to a specific group and characterizes it by attributing a particular property to it” (op. cit. 90), while situative utterances, despite being stative, “behave in a very similar way to eventive predicates” (op. cit. 95). In consideration of this division, Horno Chéliz and Cuartero Otal draw a conclusion that examples like (20) constitute situative stative utterances based on an eventive predicate (op. cit. 99), and that in this type of utterances stativity arises due to a certain syntactic process.

I share the opinion of the authors that the stativity of the examples (20) is determined syntactically. However, from my point of view, the key factor of this stativity is the spatial relation that underlies the utterances in question. I also believe that contextual dependence of the stative interpretation of verbs like *recorrer* ‘to travel, to walk’, *colgar* ‘to hang’ or *esconder* ‘to hide’ does not necessarily imply that they undergo aspectual recategorization. If we accept the fact that stative interpretation of these verbs comes from syntax, there is no reason to deny the syntactic nature of their eventive interpretation.

In the work cited above, Horno Chéliz and Cuartero Otal establish that situative interpretation of the examples (20) and similar utterances are achieved only when the syntactic subject position is occupied by an argument or an adjunct different from the lexical subject (the theme argument in case of the verb *recorrer* ‘to walk, to travel’ and the agent argument in case of *esconder* ‘to hide’ and *colgar* ‘to hang’). According to the same authors, examples like (21) show that when the predicates under consideration appear with the lexical subject in their syntactic subject position, the only possible stative interpretation is a classifying one:

- (21) a. *Este tren recorre la costa.* [Classifying stative]
‘This train goes along the coast.’

⁸ This opposition is parallel to that of individual-level predicates and stage-level predicates. The authors defend the use of the terms *clasificador* ‘classifying’ (o *caracterizador* ‘characterizing’) and *situativo* ‘situative’ for the characterization of the stative utterances and, in this way, they try to maintain lexical stativity clearly separated from the stativity of utterances.

- b. *Esa máquina cuelga lámparas.* [Classifying stative]
'That machine hangs lamps.'
- c. *Los perros esconden huesos.* [Classifying stative]
'Dogs hide bones.'

(Horno Chéliz & Cuartero Ota 2010: 99, (22a-c))

However, I would like to point out that the subject-related patterns formulated by Horno Chéliz and Cuartero Ota are not always systematic, as it can be proven by examples (22):

- (22) a. *Ese señor me tapa la pantalla.*
'That man blocks the view of the screen.'
- b. *Un fuerte dispositivo de seguridad rodea el recinto durante el encuentro.*
'A high-end security device surrounds the premises during the meeting.'

Stativity of the examples (22), thus, depends crucially on its locative interpretation, which is compatible with the agentivity of the subject. Although I admit that the distinction between situative stative utterances and classifying stative utterances is more than justified, I also believe that it would be difficult to account for all the mode-actional variants of the verbs under examination without taking into consideration the common semantic feature underlying their stative interpretation, that of indicating a specific locative relation.

3 - Recategorization versus composition

In this section, I would like to focus on the examples (4) and (5) of our initial list. These examples also present a clear aspectual ambivalence, even though they are based on an unambiguous predicate (*estar guapa* 'to be beautiful' = stative; *cantar* 'to sing' = eventive) unlike the cases addressed in the previous part. I will start with the examples under (4), which will be repeated here:

- (23) (=4) a. *Está más guapa.* [State]
'She is more beautiful'
- b. *Está cada vez más guapa.* [Event]
'She looks more and more beautiful.'

As I have pointed out in the Introduction, while *estar más guapa* ‘to be more beautiful’ –(23a)– defines a state based on a comparison, *estar cada vez más guapa* ‘to look more and more beautiful’ –(23b)– expresses a progressive situation consisting in a gradual change of state. In this latter example, based on a progressive comparative construction, “successive stages of an increasing (or decreasing) degree of property are being compared” (NGLE: §45.12).

At this point it is important to ask if *estar más guapa* ‘to be_{ESTAR} more beautiful’ has been recategorized and turned into an event. My answer to this question is negative. I sustain that *cada vez* ‘each time, day by day’, when used together with the comparative *más* ‘more’, projects the situation described by the rest of the sentence –e.g. *Está guapa* ‘She is beautiful’, in (23b)– onto the temporal axis associated with the whole construction, so that the temporal progression necessarily implies a parallel increase of the property’s degree. From this point of view, instead of recategorization, it would be more appropriate to talk about aspectual composition in the sentence domain.

Turning to the examples (5) of our initial list, repeated here under (24), it seems clear that the situation of these examples differs considerably from the previous case:

- (24) (=5) a. *Carlos cantó una canción.* [Event]
 ‘Carlos sang a song.’
 b. *Carlos canta en locales nocturnos.* [?State]
 ‘Carlos sings in nightclubs.’

Example (24b) illustrates the use of eventive predicates in a characterizing utterance: unlike example (24a), which describes an accomplishment-type event, (24b) characterizes the subject by indicating his habitual activity. This type of predicates are known as ‘attitudinal predicates’, which, according to Bertinetto (1994), express an activity of the subject that has come to characterize it. Additional examples that also represent this kind of utterances are given below:

- (25) a. *Juan fuma tabaco rubio.*
'Juan smokes blond tobacco.'
b. *Carmen escribe novelas.*
'Carmen writes novels.'
c. *Juan repara coches de lujo.*
'Juan repairs luxury cars.'
d. *Carmen arregla ropa de vestir.*
'Carmen mends clothes.'

As it has been pointed out quite frequently, this kind of sentences can be paraphrased into sentences based on a stative predicate. The examples in (26) that belong to Martínez-Atienza (2007) prove this equivalency:

- (26) a. *Juan y Nuria bailan danza clásica.* = *Juan y Nuria son bailarines de danza clásica.*
 ‘Juan and Nuria dance classical dance. = Juan and Nuria are_{SER} classical dancers.’
 b. *Paco canta ópera.* = *Paco es cantante de ópera.*
 ‘Paco sings opera. = Paco is_{SER} an opera singer.’
 (Martínez-Atienza 2007: 157, (11a-b))

From my point of view, this is a typical case of stativity in the discourse domain. In this sense, I fully agree with Horno Chéliz and Cuartero Otal (2010) when they include this kind of examples in their ‘classifying stative utterances’ (2010: 90).

Moreover, as it has been also frequently noted, not all eventive predicates can develop a characterizing meaning. For example, Bertinetto (1994: 413) emphasizes the importance of the ‘typification’: acts like singing, smoking, eating a lot, writing novels are interpreted more easily as a characterizing habit of the subject, unlike sharpening a pencil or building a fence. These would serve as ‘pure’ habitual predicates but it would be more difficult to turn them into characterizing predicates.

However, as the author himself admits, it is practically impossible to determine which predicates can be understood as characterizing ones and which cannot. In this respect, I would like to add that this judgement may vary considerably according to the personal and sociocultural background of each speaker or interlocutor and, additionally, to the information they have about the subject. Some simple examples like the following could help clarify this point of view:

- (27) a. *María recoge {fresas/colillas/exámenes/migas}.*
 ‘Maria picks up {strawberries/cigarette butts/examination papers/bread crumbs}.’
 b. *Pelan {patatas/melocotones/plátanos}.*
 ‘They peel {potatoes/peaches/bananas}.’

If we consider that *recoger fresas* ‘to pick up strawberries’ or *pelar patatas* ‘to peel potatoes’ can generate attitudinal predicates more easily than, for instance, *recoger migas* ‘to pick up bread crumbs’ or *pelar plátanos* ‘to peel bananas’, this

judgement depends on various extralinguistic factors, and there is no guarantee that any other speaker, with a different socio-cultural background, shares it.

Therefore, I conclude that the characterizing stative interpretation of the examples like those in (24) and (25) does not imply any recategorization of their predicates. Stativity arises at the different levels of analysis, as it is the case with boundedness or telicity. In view of this situation, it would be interesting to achieve a more systematic description of different types of aspectual ambiguities.

4 - Stative predicates with a controlling subject: *estarse quieto*-type construction

4.1 - Aspectual *se* as an indicator of the endpoint

Let us now turn to the difference of interpretation between the following pair of examples (already presented in the Introduction):

- (28) (=6) a. *El niño estuvo quieto.* [State]
 ‘The boy was_{ESTAR} still.’
 b. *El niño se estuvo quieto.* [?State]
 ‘The boy SE was_{ESTAR} still.’

Example (28b) shows a use of the Spanish so-called aspectual *se*, that is, the aspectual use of the Spanish reflexive pronoun *se*, which also appears in the examples in (29). Aspectual *se* has aroused the interest of many authors, and there is an extensive bibliography on its nature and function.

- (29) a. *Espera que me fume este cigarrillo.*
'Wait until I finish smoking this cigarette.'
b. *Necesito irme ahora mismo.*
'I need to leave right now.'
c. *No podía dormirme a causa del ruido.*
'I couldn't fall asleep because of the noise.'

Regarding the role of this aspectual clitic within the sentence, there is a more or less general consensus that it serves to focus on the endpoint of the event expressed by the verbal predicate (Maldonado 1999; De Miguel & Fernández Lagunilla 2000; Teomiro García & Romero Pascual 2012).

The concept of endpoint is closely linked to that of change. In fact, as we will

see below, in all the examples shown in (29) it is possible to associate the presence of the clitic *se* with the idea of change or with that of total affectedness, which would mark the endpoint of the situation conveyed by the sentence.

In the situation expressed by (29a), the change consists in the total consumption of the cigarette. It is evident that, in case of consumption acts, the existence of an endpoint depends crucially on the boundedness of the consumed object; in fact, the use of the clitic *se* proves to be impossible in sentences like *Mi padre (*se) fuma cigarrillos* ‘My father SE smokes cigarettes’ or *Mi hermano (*se) comió carne* ‘My brother SE ate meat’, in which the object has no quantitative limit.

In the example (29b), *irse* ‘to go-SE’ is interpreted as “to leave (a place)”; in this case, the change, which is locative in nature, takes place at the moment when the subject moves away from its original location. Note that this interpretation is impossible with the non-pronominal form of the verb *ir* ‘to go’; in fact, the absolute use of *ir* ‘to go’ as a verb of movement is limited to the situations in which the information about the goal is given by the context. For instance, it is possible to say *¡Voy!* ‘I’m coming!’ when addressing a person behind the door. In a similar fashion, *dormirse* ‘to sleep-SE’ used in (29c) indicates a change of state consisting in the transition from being awake to being asleep, in clear contrast with the non-pronominal form *dormir* ‘to sleep’, which is usually classified as a verb of activity (cf. *Durmió hasta las seis* ‘(He/She) slept until six o’clock’; *Suelo dormir ocho horas diarias* ‘I usually sleep eight hours a day’).

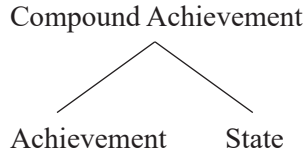
With these observations in mind, I will now concentrate on the aspectual effect of *se* in combination with the copular verb *estar* ‘be_{ESTAR}’.

4.2 - *Estar* *quieto*-type construction and previous achievement

As I have mentioned earlier, one of the problems we have to solve when studying the use of *estarse quieto*-type construction is that it is based on a predicate of state. If we bear in mind the usual definition of states as non-dynamic situations which lack internal progress, it is difficult to admit that a predicate of state may contain a natural endpoint in its structure.

In this regard, one interesting solution comes from De Miguel & Fernández Lagunilla (2000). The idea presented by these authors could be summarized as follows: the clitic *se* indicates that the given event contains a culminating point which results in a change of state. According to this proposal, a verb can appear with the aspectual *se* if its event structure presents an achievement followed by a

state. Although there are different kinds of events that meet this requirement⁹, the one which is called ‘compound achievement’ by the aforementioned authors can be considered a paradigmatic case of an achievement that triggers a change of state.



Examples: *marearse* ‘to get sick’, *ocultarse* ‘to hide’, *sentarse* ‘to sit’, etc.

Figure 2 - Compound Achievement based on De Miguel & Fernández Lagunilla (2000: (17e))

If the presence of the aspectual *se* is linked to the existence of an achievement followed by a state, as argued by De Miguel and Fernández Lagunilla, stative predicates, lacking a culminating point in their temporal structure, could not be used with that clitic. However, although the ungrammaticality of examples like **Juan se amó a tres mujeres* ‘Juan SE loved three women’ or **Ana se detesta las espinacas* ‘Ana SE hates spinach’ could be attributed to this restriction, it is obvious that not all stative predicates reject the presence of aspectual *se*:

(30) a. *Me sé la lección.*

‘I SE know the lesson.’

b. *Me estuve callada.*

‘I SE was_{ESTAR} silent.’

(De Miguel & Fernández Lagunilla 2000: (18c), (18d))

According to the same authors, the use of *se* with *estar* ‘to be’ or with other stative verbs like *saber* ‘to know’ is possible because, despite containing a stative predicate, examples like (30) allow to assume the existence of a previous achievement that triggers a new state (for instance, the achievement of ‘moving into knowing the lesson’ or ‘entering the state of being silent’ –De Miguel & Fernández Lagunilla 2000: 28–29–). This means that the authors admit the existence of an achievement

⁹ Among the eight classes of the events singled out by De Miguel & Fernández Lagunilla (2000) there are three which contain an achievement followed by a state: transition (T1) –*leer un libro* ‘to read a book’, *ver la película* ‘to watch a film’, etc.; transition (T2) –*aparecer(se)* ‘to appear’, *bajar(se)* ‘to go down’, etc.–; and compound achievement, mentioned here. For a more detailed description, see the above-mentioned work, pp. 27–28.

followed by a state in the temporal structure of the sentences like those in (30).

However, although De Miguel and Fernández Lagunilla do not provide explanation concerning the ‘previous achievement’ associated with the stative predicates like those in (30), I would like to put forward the following idea: the achievement, instead of being a part of the situation referred to by the predicate, is located outside that situation while maintaining a cause-effect relationship with it in a broad sense.

Contrary to what happens with the prototypical achievements like *ocultarse* ‘to hide’, for the meaning of *estarse callado* ‘to be_{ESTAR}-SE quiet’ the presence of the prior achievement remains only presupposed; in other words, the change does not pertain to the situation expressed by *estarse callado*. This idea is reinforced by the fact that this construction, unlike *quedarse callado* ‘to {become/remain} quiet’, for instance, cannot refer to the exact moment of change:

- (31) *El niño no dejaba de gritar y de corretear; pero en el momento en que pusimos su película favorita {se quedó/ ?se estuvo} callado.*

‘The boy wouldn’t stop screaming and running around; but the moment we put his favourite film, he {SE became / SE was_{ESTAR}} quiet.’

In the context shown in (31), which activates the interpretation of change, *quedarse callado* ‘to {become/remain}-SE quiet’ accepts this interpretation without any problem, while *estarse callado* ‘to be_{ESTAR}-SE quiet’, in the same context, appears to be strange or considerably less adequate than *quedarse callado*. This contrast seems to confirm that even in a context in which interpretation of change is preferred, the *estarse quieto*-type construction keeps referring to the maintenance of state and not to the moment of change. Using the now classical terminology of Langacker (1987), I assume that the change, though it is present in the scene evoked by *estarse callado*, is a part of the base and not of the profile.

A possible representation of the state expressed by the *estarse quieto*-type construction is thus given below:

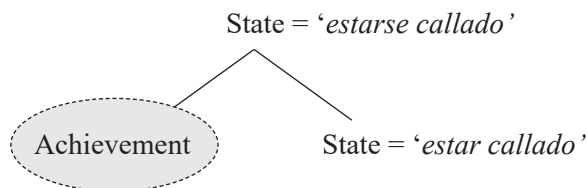


Figure 3 - State with a ‘presupposed’ achievement

My proposal is that the state denoted by the *estarse quieto*-type construction consists of the two components which appear at the bottom line of the figure 3: the achievement of ‘becoming quiet’ and the state of ‘being quiet’. The shaded part codifies the implication associated with *estarse callado* ‘to be_{ESTAR}-SE quiet’. If we compare figure 3 with figure 2, which represents verbs like *marearse* ‘to get sick’ or *ocultarse* ‘to hide’, the aspectual effect attributed to the clitic *se* would become even more obvious: unlike the structure shown in figure 2, corresponding to an achievement, the structure in figure 3 defines a type of state; however, both structures share a common feature: the existence of an achievement followed by a state.

The idea that the *estarse quieto*-type construction implies the existence of a previous stage is congruent with the characterization of the predicates with *estar* as stage-level predicates, that is, temporally anchored ones (for this see Escandell Vidal & Leonetti 2002, among others). A temporally anchored state presupposes possible prior and subsequent stages although there is no explicit mention to either of them. The effect of *se* in the construction examined here would thus be to indicate the relevance of that presupposition. Nevertheless, I have to admit that to make this work it would be necessary to explain why the use of *se* does not extend to all predicates with *estar*.

4.3 - Durativity and *estarse quieto*-type construction

While acknowledging the existence of a prior achievement associated with the event structure of the *estarse quieto*-type construction, I also believe that this construction has a further aspectual property, that is, the sense of permanence already noted by authors as Bello (1847) and Cartagena (1972).

In his *Gramática* Bello points out the semantic similarity between *estarse* ‘to be_{ESTAR}-SE’ and *permanecer* ‘to remain, to stay’ (Bello 1847 [1988]: §764). A similar observation can be found in Cartagena (1972: 204 ff.), who considers that sentences like *Me estoy aquí* ‘I SE am_{ESTAR} here’, *Permanezco aquí* ‘I {remain/stay} here’ and *Me quedo aquí* ‘I {remain/stay}-SE here’ are equivalent to each other; the same author also indicates that the sense of permanence or inherent durativity of *estarse quieto*-type construction explains the frequent use of durative modifiers like *horas enteras* ‘whole hours’ or *toda la tarde* ‘all afternoon’ with it. Example (32), provided by the author, illustrates this point:

- (32) *Mientras encuentre de comer aquí en esta casa, aquí me estaré.*
‘As long as I find things to eat in this house, I will stay here.’
(Juan Rulfo, “Macario”, taken from Cartagena 1972: 204; author’s emphasis)

The meaning of permanence can also be seen quite clearly in the following example:

- (33) a. *Puedo estarme aquí al menos ocho minutos más antes de que empiece la cuenta atrás.*
‘I can SE be_{ESTAR} here at least eight minutes more before the countdown starts.’
(C. Rico Godoy, *Cómo ser una mujer y no morir en el intento*, taken from CREA (country: Spain; topic: novel); author’s emphasis)
- b. *Te conozco y eres capaz de que te entre la contemplativa y estarte allí solo durante horas como San Simeón el Estilita, [...].*
‘I know you, and you are capable of falling into a contemplative state and of SE being_{ESTAR} there alone for hours like Saint Simeon Stylites.’
(L. Ortiz, *Luz de la memoria*, taken from CREA (country: Spain; topic: novel); author’s emphasis)

In connection with this point, it is important to note the difference of interpretation between the two examples in (34):

- (34) a. *No voy a estarme en la tienda hasta mañana.*
‘I am not going to SE be_{ESTAR} in the shop until tomorrow.’
- b. *No voy a estar en la tienda hasta mañana.*
‘I am not going to be_{ESTAR} in the shop until tomorrow.’

While the most natural interpretation of the example (34a) is that of the negation of permanence (equivalent to *I’m not going to stay in the shop*), example (34b) allows quite naturally a reading of absence (equivalent to *I am going to be absent from the shop*). Thus it seems clear that *estarse en la tienda* ‘to be_{ESTAR}-SE in the shop’ is not simply a description of a spatial location but it also indicates the permanence in it.

Of course, the existence of a prior achievement, pointed out in the previous section, and the duration of the resulting state are not incompatible with each other. Moreover, I do not discard the possibility of including the sense of permanence in a

representation of Figure 3. However, instead of developing this idea, I will dedicate the next section to the role of the subject in the *estarse quieto*-type construction in order to clarify its semantic and aspectual properties.

4.4 - Stative predicates and controlling subjects

There is a considerable number of authors who consider the agentivity of the subject, as well as several other properties closely connected with the agentivity like volition, effort or involvement, as a more or less stable characteristic of the sentences marked by the aspectual *se* (see, among others, Bull 1952; Maldonado 1997; Sánchez López 2002). In theory, predicates of state do not accept the presence of an agentive subject since they denote non-dynamic situations that occur or can be experienced, but that cannot be realized or executed by any agentive subject. Nevertheless, some stative verbs, among them the verb *estar* ‘to be_{ESTAR}’, have been frequently used to illustrate the agentivity meaning of the predicates marked by *se*. The following is taken from the *Gramática* of Bello (1988 [1847]: §764): “[...] if we focus our attention on the variety of meanings that the complementary reflexive case usually gives to the neutral verbs, we can notice a certain tinge of action that a subject seems to exercise by itself. *Estar* is to remain voluntarily in a certain situation or state [...]”.¹⁰ In this respect, Sánchez López (2002: 121) points out that with some verbs the presence of the clitic indicates the intentionality of the subject. For this author, *estarse* ‘to be_{ESTAR}-SE’, like *reírse* ‘to laugh-SE’, is a good example of this intentional *se*. According to her, “the subject of *estarse* has agentive properties and is considered responsible for the process denoted by the predicate”¹¹ (2002: 121). Examples (35), provided by the same author, show the difference between *estar* and *estarse* with respect to the degree of compatibility with the volitional adverb *deliberadamente* ‘deliberately’:

- (35) a. ??*Estuvo en casa de un amigo deliberadamente para que no pudieran localizarlo.*

‘He was_{ESTAR} deliberately at a friend’s house so that no one could find him.’

¹⁰ The Spanish original by Bello (1988 [1847]: §764): “[...] si fijamos la consideración en la variedad de significados que suele dar a los verbos neutros el caso complementario reflejo, percibiremos cierto color de acción que el sujeto parece ejercer en sí mismo. *Estar* es permanecer voluntariamente en cierta situación o estado [...]”

¹¹ The Spanish original by Sánchez López (2002: 121): “El sujeto de *estarse* tiene propiedades agentivas y se considera responsable del proceso denotado por el predicado.”

- b. *Se estuvo en casa de un amigo deliberadamente para que no pudieran localizarlo.*

‘He was_{ESTAR} deliberately at a friend’s house so that no one could find him.’
(Sánchez López 2002: 121, (106a) and (106b))

In his turn, Bogard (2006) in his diachronic study of the clitic *se* highlights the feature of ‘subjective involvement’ in combinations like *saberse* ‘to know-SE’, *conocerse* ‘to know-SE’ or *creerse* ‘to believe-SE’. The author argues that, when used in this context, the clitic should be considered an ‘affectedness marker’, which he distinguishes from the aspectual *se* (2006: 771). Thus the author brings back one of the most frequent characterizations of *se* in the traditional grammar, which can be observed, for example, in the Real Academia Española’s prior *Gramática de la lengua española* published in 1931: “In these sentences, the pronouns *me*, *te*, *se*, *nos*, *os* do not represent a direct object but an indirect or dative one, which means that the subject is not merely an agent of the action expressed by the verb, but it is also interested in that action in a certain way and verifies it for itself or for its own benefit [...]”¹² (Real Academia Española 1931: §277).

It seems clear that the feature of intentionality or involvement discussed above has to do with the strong tendency of the verb *estar* to take the clitic *se* in its imperative form. Indeed, as *Diccionario Panhispánico de Dudas* of the Real Academia Española (s.v. *estar(se)*) puts it, the pronominal form *estarse* is the only possible one for the imperative of the second person singular. Intentionality or involvement is probably not the only relevant factor for explaining this tendency; but it is noteworthy enough that the imperative, typically used to exert influence on the interlocutor’s actions, clearly prefers *estarse* to *estar*.

Examples like (36) and (37) help to confirm the feature of intentionality or involvement associated with our construction:

- (36) a. *Te estarás aquí hasta que amanezca.*

‘You SE will be_{ESTAR} here until dawn.’

- b. **Este abeto se estará aquí hasta Navidad.*

‘This fir tree SE will be_{ESTAR} here until Christmas.’

¹² The Spanish original by the Real Academia Española (1931: §277): “En estas oraciones, los pronombres *me*, *te*, *se*, *nos*, *os* no son complemento directo, sino indirecto o dativo, lo que viene a significar que el sujeto no es mero agente de la acción del verbo, sino que se interesa en ella en cierto modo y la verifica para sí o en su provecho [...]”.

- (37) a. *El fugitivo se estuvo escondido en una cueva durante semanas.*
'The fugitive SE was_{ESTAR} hiding in a cave for weeks.'
b. **El cadáver se estuvo escondido durante semanas entre los escombros.*
'The corpse SE was_{ESTAR} hidden for weeks in the rubble.'

These examples show that the subject of *estarse* has to refer to an entity capable of controlling the situation described by the sentence: it should be an animate, preferably human, entity.

Nevertheless, the control does not necessarily imply realization of an action: in order for a subject to bear the controller role, it would suffice to carry responsibility for the situation expressed by the sentence. In fact, in *estarse quieto*-construction, unlike what happens in sentences like *Juan se comió el filete* 'Juan SE ate the steak', the subject does not realize any action. Precisely for this reason, I propose the use of 'controlling subject' instead of 'agentive subject' to refer to the subject of this construction.

Furthermore, the contrast of grammaticality observed in example (38) also appears to confirm the control feature in our construction. The combinations of (38b) prove to be ungrammatical because, in a clear contrast with (38a), they refer to a state difficult to control by the subject:

- (38) a. *El niño se estuvo {callado/ quieto/ sentadito}.*
'The boy SE was_{ESTAR} {quiet/ still/ sitting}.'
b. **El niño se estuvo {perdido/ atónito/ enfermo}.*
'The boy was_{ESTAR} {lost/ astonished/ sick}.'

Hence, it seems reasonable to assume that *estarse quieto*-type construction has a controlling subject. However, this conclusion might seem problematic, since it means that in our construction the theme or experiencer of a state bears the control feature. I will discuss below how we can understand this apparently contradictory situation.

4.5 - Control as a classifying criterion for states

The consideration of the semantic role of the subject as a criterion for the internal division of states is not new. In fact, it was initially motivated by the peculiar behaviour of the English posture verbs (*to sit, to stand*, etc.) and of those of attitude

(*to be polite*, etc.) when they undergo some common tests on stativity.

According to Dowty (1979), stative predicates are divided into agentive and non-agentive, and the posture verbs like *to sit*, *to stand*, *to lie*, etc. in combination with a human subject¹³ belong to the first group, while *to be asleep*, *to love*, *to know* are included in the second. He also points out that predicates like *to be polite* or *to be a hero* admit both agentive and non-agentive readings¹⁴.

Similarly, Bach (1986: 6) separates the posture verbs from other types of stative predicates: in his aspectual classification, posture verbs (*to sit*, *to stand*, *to lie*) are labelled as ‘dynamic statives’ in contrast with ‘static statives’, which include, according to this author, predicates like *be drunk*, *be in New York*, *own x* or *resemble x*. In his turn, Dik (1997), in his well-known typology of states of affairs, acknowledges the existence of non-dynamic situations (our ‘states’) marked by the control feature; the author includes the verb *to sit* in its progressive form among his examples for this type of situations.

The division established by these authors has a clear grammatical consequence. In English, verbs like *to sit* and predicates like *to be polite* allow the progressive form, while prototypical statives like *to know* as a rule do not allow it:

- (39) a. John was sitting in front of you.
b. John is being too polite.
c. *John was knowing the answer.

As can be observed in the examples (40) and (41), predicates like *to be polite*, as opposed to those like *to know*, are compatible with the imperative, with the verb *forzar* ‘to force’ and with the adverb *deliberadamente* ‘deliberately’, all of which require agentive predicates, according to Dowty (1979: 184).

- (40) a. Be polite.
b. My parents forced me to be polite to him.
c. I’m being deliberately polite.
(41) a. *Know the answer.
b. *John forced Harry to know the answer.
c. *John deliberately knew the answer.

¹³ These verbs also allow an inanimate subject (for example, *The socks are lying under the bed* ‘Los calcetines están debajo de la cama’), which naturally cannot act as an agent.

¹⁴ Dowty (1979: 184) points out that in some of their agentive uses these predicates could be classified as activities.

However, not all of these tests can be applied to *sit*-type verbs due to their dual (stative/eventive) interpretation. As is shown in the examples (42a-b), these verbs, when they appear in the imperative or as the object of the verb *to force*, receive an inchoative interpretation, which blocks their stative interpretation. In contrast, in the example (42c) the inchoative reading of *to sit* is now blocked by the use of the progressive form. Note that this example, despite its stative reading, accepts the volitive adverb *deliberately*, which allows us to confirm the compatibility of the stative interpretation of these verbs with agentive contexts:

- (42) a. Sit down. [inchoative]
 b. They forced me to lie on the ground. [inchoative]
 c. I was deliberately sitting there. [stative]

Yet, though Dowty uses the term ‘agentive’ for verbs like *to sit* and *to lie*, I believe that it is justified to assume that he is referring to what we call ‘control’ feature.

It should be reminded that in the Spanish language the pronominal construction with *estar* ‘be_{ESTAR}’ can be used both in the imperative and with the volitive adverb *deliberadamente* ‘deliberately’, although its subject does not realize any action. In my opinion, this lack of dynamic action is common for all ‘agentive’ stative predicates in Dowty’s classification. To be seated or to stand presuppose certain control by the person taking these postures; however, this control does not imply any action. The same applies to the *to be polite*-type predicates: being polite, for example, requires some control on the part of the subject; even if the politeness can be manifested through concrete actions, it cannot be adequately defined by any of these actions.

I thus conclude that the defining feature of Dowty’s ‘agentive’ stative predicates, which include dynamic statives of Bach’s classification (1986), is that of control, and that, in this sense, *estarse quieto*-type construction of the Spanish language does not represent a totally unique case.

In the Spanish language, the pseudocopulative verbs *mantenerse* ‘to keep’ and *conservarse* ‘to keep’ also manifest the control feature. Examples (43)-(44), which I reproduce from Morimoto & Pavón (2007: 1792-1793), will illustrate this point:

- (43) a. *Él se mantiene {despierto/ *dormido}*. [Porroche 1990:109]
 ‘He stays {awake/asleep}.’
 b. *Él sigue {despierto/ dormido}*.
 ‘He is still {awake/asleep}.’

- (44) a. *{Sigue/ Continúa/ Se mantiene/ Se conserva} en forma.*
 ‘{He/She} {is still/keeps himself/herself} in good shape.’
 b. *{Sigue/ Continúa/ *Se mantiene/ *Se conserva} en coma.*
 ‘{He/She} {is still/keeps} in coma.’

In the above-mentioned work (Morimoto & Pavón 2007), we presented the idea that examples like these demonstrate that, despite the continuative meaning shared by *mantenerse*, *conservarse*, *seguir* and *continuar* (all of which are more or less equivalent to the English verbs *to keep*, *to remain*, etc.), the first two differ from the rest in requiring attributes referred to states that can be controlled by the subject. It should be noted that the states expressed by *despierto* ‘awake’ and *en forma* ‘in shape’ are considered, to a certain extent, susceptible to control by the subject, as opposed to the non-controllable states expressed by *dormido* ‘asleep’ and *en coma* ‘in a coma’. Therefore, the contrast of grammaticality observed in (43) and (44) can be considered as further evidence of the relevance of the control feature in the classification of stative predicates.

In short, English verbs of posture and of behaviour, on one hand, and *estarse* ‘to be_{ESTAR}-SE’, *mantenerse* ‘to keep’ and *conservarse* ‘to keep’ of the Spanish language, on the other, all have a subject that, being a central participant of the state, bears the control feature as well.

I believe that the key to explain this dual function of the controlling subject of stative predicates consists in acknowledging that the controller does not belong to the attributive (or locative) relation defined by the predicates. In order to articulate more precisely this point of view, I assume the existence of a function, CONTROL, which indicates the existence of control between a person and a situation. This function would yield a conceptual structure like (45)¹⁵:

- (45) [CONTROL ([_{ENTITY}], [_{SITUATION}])]

The structure above represents a relation of control between an entity –the first argument of the CONTROL function– and a situation –the second argument of the same function–; the use of the term ‘situation’ reflects the fact that this second argument can be a state as well as an event. Two different realizations of this conceptual structure can be seen below in (46):

¹⁵ Semantic representations included in this section are based on the conceptual decomposition system developed by Jackendoff (1990).

- (46) a. Juan keeps the grass green:
[CONTROL ([JUAN], [_{STATE} BE ([GRASS], [GREEN]))]
b. Juan lets the child cry:
[CONTROL ([JUAN], [_{EVENT} CRY ([CHILD]))]

In the same fashion, the control relation expressed by the construction with *estarse* ‘to be_{ESTAR}-SE’ could be represented as follows:

- (47) [CONTROL ([Xi], [_{STATE} BE_{ESTAR} ([Xi], [Y])])]

In the conceptual structure (47), control is established between a person, X, and a state, the theme (or experiencer) of which is correferent with the first X (this relation is indicated by the subindex ‘i’). In (48) it is shown how this kind of analysis is applied to the actual realizations of the construction:

- (48) a. *Juan se estuvo quieto*. ‘Juan SE was_{ESTAR} still.’
[CONTROL ([JUAN], [_{STATE} BE_{ESTAR} ([JUAN], [STILL]))]
b. *Alicia se estuvo aquí (toda la tarde)*. ‘Alicia SE was_{ESTAR} here (all afternoon).’
[CONTROL ([ALICIA], [_{STATE} BE_{ESTAR} ([ALICIA], [HERE]))]

Given that the structure (47) only reflects the relation of control existing in the meaning of *estarse quieto*-type construction, we cannot accept it as the full conceptual structure of the construction. In my opinion, the conceptual structure in question would contain the representation of (47) integrated into another one as shown below:

- (49) *Juan se estuvo quieto*. ‘Juan SE was_{ESTAR} still.’:

$$\left(\begin{array}{c} [\text{BE}_{\text{ESTAR}} ([\text{JUAN}], [\text{STILL}])]i \\ \text{STATE } [\text{CONTROL } ([\text{JUAN}], [\sub{STATE}]i)] \end{array} \right)$$

In this representation, the main description of the state expressed by *Juan se estuvo quieto* ‘Juan was still’ appears in the first line (in which the state of the subject is shown); the second line codifies the relation of control existing in the same state (which is established between the subject and his own state). The identity between the state defined in the first line and the one that appears as the second argument of

CONTROL is guaranteed by the subindex ‘i’.

It should be further noted that the conceptual structure (49) reflects my opinion that the theme of the state of *estarse quieto* ‘to be_{ESTAR} still’ also acts as the controller of the same state: the subject of the construction, represented as JUAN, is the first argument of both the BE_{ESTAR}-function and the CONTROL-function.

A similar idea could be found in the analysis proposed by Gisborne (2001) for sentences like *Jane is looking scary*. According to this author, this type of progressive construction “denotes the adjustments the referent of the subject is making to their appearance” (op.cit., p. 613). His analysis, centered on the force dynamics (Talmy 1985) of the construction, consists in establishing a cause-effect relation between the subject and the state to which it belongs. The force dynamics scheme the author proposes for the above-mentioned English sentences can be seen in (50):

(50) *Jane is (deliberately) looking scary.*

initiator	→	endpoint
‘Jane’		‘Jane scary’

[Example and representation are based on Gisborne 2001: 614]

This analysis coincides with my view –cf. (49)– in attributing a dual function to the subject: *Jane* in the representation (50), apart from being the argument of *scary* in the state defined as ‘Jane scary’, acts as the initiator of the same state.

Although Gisborne focuses on the initial phase of the state and hence opts for the term ‘initiator’, I believe that his proposal is totally compatible with the presence of a controller in a stative predicate like *estarse quieto*. If we admit that the controller is responsible for initiating and maintaining the situation, we can assume that the concept of controller encompasses that of initiator. In this sense, it would also be possible to consider that the English construction studied by Gisborne and the Spanish *estarse quieto*-type construction basically share the same conceptual structure and the same force dynamics.

5 - Conclusions

In this chapter I have focused on a series of stative/eventive alternations shown by some Spanish verbs and verbal predicates. Through my analysis I have tried to support the following fundamental ideas on the differentiation between states and events: firstly, there are different types and degrees of stativity and hence states

do not constitute a homogeneous aspectual class; secondly, in order to obtain better understanding of aspectual ambivalence, it is necessary to recognize the existence of different levels of the aspectual analysis (lexical, phrasal, sentence and utterance level); and, finally, there are verbs and verbal predicates which are neutral with respect to the stative/eventive opposition and, therefore, receive both stative and eventive interpretations depending on the contextual factors.

The alternations studied in this chapter are: the dual (stative/eventive) interpretation of verbs like *atravesar* ‘to cross’ (*atravesar* ‘to cross’, *rodear* ‘to surround’, *cubrir* ‘to cover’, etc.)—§ 2–; the eventive interpretation of the progressive comparative expressions like *estar cada vez más guapa* ‘look more and more beautiful’—§ 3–; the characterizing interpretation of predicates of activity like *cantar en locales nocturnos* ‘to sing in nightclubs’—§ 3–; and the interpretive effect of the so-called aspectual *se* in combination with the verb *estar* ‘to be_{ESTAR}’—§ 4–.

Based on the semantic and grammatical analysis of verbs as *atravesar* ‘to cross’, I have defended that this type of verbs defines an aspectually neutral spatial relationship and the aspectuality of the situation expressed by these verbs is determined at the sentence or utterance level. The eventive interpretation of *estar cada vez más guapa* ‘to look more and more beautiful’ and the habitual use of the predicates like *cantar en locales nocturnos* ‘to sing in nightclubs’ only corroborate the idea that stativity (or dynamicity) is determined at different levels of analysis. The study of *estarse quieto*-type construction, in its turn, has allowed to attribute the feature of control to the subject of the construction. Taking into account the absence of dynamicity in its meaning, I have concluded that the construction in question serves as evidence for the existence of stative predicates with a controlling subject. This conclusion clearly reinforces the consideration of states as a heterogeneous aspectual class.

External possession in Portuguese

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Abstract

In this paper we look at external possession structures in Portuguese, which shares some properties with other Romance languages, but shows a much wider range of possessor datives as they are not restricted to human possessors and are possible even with state verbs. Possessor raising structures were also considered and we show that they are restricted to the transitive, non-causative variant of Agent/Possessor Alternation verbs.

In order to understand why the external possession structures common to Romance involve part-whole relations and present the event as a change that affects the possessor, we consider the properties of *affectedees* in terms of Proto-Roles, the characterization of the part-whole relation as the semantic *R-integrated relation*, and an *Affectedness* hierarchy defined in terms of a scalar structure measuring the degree of change suffered by the object of the verb.

As for Portuguese external possession structures which depart from the ones found in more restrictive Romance languages, it is suggested that their analysis requires making assumptions about the internal structure of the affected Theme when *possessum* and possessor hold a part-whole relation and about the grammaticalization of the affected feature in some languages.

We suggest that Portuguese encodes affectedness in a functional head of the *v*-V system and we assume that this head, of aspectual nature, is a complement of *v*, selects VP as its complement, and, following Fernández-Alcalde (2014: 81) for Spanish, “plays a double role: semantically, it is the locus of the affected interpretation found in the dative argument; syntactically, this head is responsible for dative case assignment to the DP via agreement”.

Keywords

External possession, datives, possessor raising, part-whole, affectedness

1 - Introduction

The domain of possession covers essentially three types of relations between what is generally called a possessor and a *possessum*: whole-part relations (e.g., body parts), kinship relations, covering both relations by blood and by marriage, and ownership relations in a strict or looser sense (like being “the owner of”, “the producer of” or “the topic of”). Possession relations are encoded in the grammar of all known languages, although the means used to express them vary crosslinguistically, namely, wrt the patterns and licensing conditions of external possession (Deal, 2013). Variation in the expression of external possession in the Romance area has long been a topic of interest (Guéron 1985, Vergnaud & Zubizarreta 1992, Lamiroy & Delbecque 1998, Lamiroy 2003, Pujalte 2009, Fernández-Alcalde 2014, a.o.; Miguel 1992, Miguel, Gonçalves & Duarte 2011 for Portuguese). This work allowed finding some regularities across Romance and to single out wellformedness conditions of external possession structures, crucially, the part-whole relation between *possessum* and possessor and the affectedness condition on the possessor.

Our goal in this chapter is threefold. First, we will describe the patterns of argument realization found in external possession structures in Portuguese¹, keeping the type of possession relation constant, but varying the verb classes and the semantic features of the possessor. Secondly, we will discuss and propose a more accurate definition of affectedness, ultimately, one enabling us to understand why the common patterns of external possession across Romance involve specific possession relations, occur with certain verb classes only, and just concern human possessors. Finally, we will suggest a principled account of the external possession structures in Portuguese, a language which does not satisfy the strict conditions met by the external possession structures common to Romance.

¹ Throughout, the variety of Portuguese considered is European Portuguese.

2 - Patterns of argument realization in external possession structures in Portuguese

It is well known that possession relations may surface in two major types of structures: either possessor and *possessum* occur within the same DP constituent or the possessor, although semantically dependent of the *possessum*, surfaces as a syntactic dependent of the verb (Guéron 1985, Vergnaud & Zubizarreta 1992 for French; Kempchinsky 1992 for Spanish; Landau 1999 for Hebrew; Lee-Schonfeld 2006 for German, a.o.). The former are internal possession structures, the latter are external possession structures, also called possessor datives (Landau 1999, Deal 2013).

In Portuguese, the possessor may occur as a dative clitic or as a DP introduced by the dative Case marker *a* 'to', as shown in (1).

- (1) a. *Parti-lhe* *o* *braço*.
broke.1st.sg.DatCL.3.sg the arm.
'I broke his arm.'
- b. *Parti* *o* *braço* *ao* *Pedro*.
broke.1st.sg the arm to.the Pedro.
'I broke Peter's arm.'

Previous work on Romance languages assumes that possessor datives are in general more constrained than internal possession structures. However, some Romance languages are more restrictive than others. So, in Spanish, *possessionum* and possessor may be associated through part-whole, kinship or (loose) ownership relations, whereas French only allows part-whole relations, as the contrast between (2) and (3)-(4) shows².

- (2) a. *Je lui ai lavé les mains.*
 I DatCl.3.sg have.1.sg washed the hands
 b. *Le lavé as manos.*
 DatCl.3.sg washed.1.sg the hands
 ‘I washed his/her hands.’

² The same contrast, although not so sharp, obtains for Italian:

(i) a. *Le ho visto les gambe.* (Cinque & Krapova 2008: 68)
b. ?? *Le ho visto la madre/ la macchina.* (id.)

- (3) a. **Je lui ai endormi l'enfant.*
I DatCl.3.sg have.1.sg put.to.sleep the child
b. *Le adormeci el hijo.*
DatCl.3.sg put.to.sleep the child
'I put his/her son to sleep.'
- (4) a. **Je lui ai perdu le livre.*
I DatCl.3.sg have.1.sg lost the book
b. *Le perdi el libro.*
DatCl.3.sg lost the book
'I lost his/her book.'

Portuguese behaves like Spanish in this respect (see (5)).

- (5) a. *Lavei-lhe as mãos.*
washed.1.sg.DatCl.3.sg the hands
'I washed his/her hands.'
- b. *Adormeci-lhe o filho.*
Put-to.sleep.1.sg.DatCl.3.sg the son
'I put his/her son to sleep.'
- c. *Perdi-lhe o livro.*
Lost.1.sg.DatCl.3.sg the book
'I lost his/her book.'

Data from Romance show that the core cases of possessor datives require [+human] possessors. The contrast shown in (6) is claimed to be a consequence of this requirement in French.

- (6) a. *Marie, Max lui a lavé les cheveux.*
Marie, Max DatCl.3.sg has washed the hair
'Marie, Max washed her hair.'
- b. **La voiture, Max lui a lavé les vitres.*
the car, Max DatCl.3.sg has washed the glasses

However, Portuguese allows for [-human] possessors with dative marking.

- (7) a. *O Max lavou-lhe o cabelo (, à Maria).*
the Max washed.DatCl.3.sg the hair (, to.the Maria)
'Max washed her hair (Maria's hair)'

- b. *O Max tem um carro novo e lavou-lhe os vidros.*
 and washed.3.sg.DatCl.3.sg the glasses
 ‘Max has a new car and he washed its glasses.’

The [+ human] requirement has been considered the result of a condition on external possession: the possessor with dative marking has to be “affected” by the predicate. Once affected, the possessor gets an extra-interpretation: he becomes the benefactive or the malefactive of the event. But an intuitive concept of affectedness is not enough to account for the contrast between (6b) and (7b).

The type of possession relation that possessor datives may encode is another locus of variation that the intuitive notion of affectedness cannot cope with. As already mentioned above (see (2b, c) vs. (3b, c)-(4b, c)), possessor datives are restricted to part-whole relations in French, in particular to body-part relations (Guéron 1985, Vergnaud & Zubizarreta 1992, a.o.); however, in Portuguese, possessor dative structures may be used to encode kinship or loose ownership relations, as the contrast between (8) and (9) shows.

- (8) a. **Le médecin lui a sauvé la mère.*
 the doctor DatCl.3.sg has saved the mother
 b. **Pierre lui a perdu le chien / le parapluie.*
 Pierre DatCl.3.sg has lost the dog / the umbrella
- (9) a. *O médico salvou-lhe a mãe.*
 the doctor saved.DatCl.3.sg the mother
 ‘The doctor₁ saved his₂/her₂ mother.’
 b. *O Pedro perdeu-lhe o cão / o guarda-chuva.*
 the Pedro lost. DatCl.3.sg the dog / the umbrella
 ‘Pedro₁ lost his₂/her₂ dog /umbrella.’

The affected reading on dative marked possessors has been claimed to entail that only verbs selecting for affected themes are allowed; this would exclude both event verbs selecting for effected themes and stative verbs, a prediction borne out for French (see (10)).

- (10) a. **Leonardo lui a peint le portrait.*
 Leonardo DatCl.3.sg has painted the portrait

- | | | | |
|----------------|------------|----------------|-------------------------|
| b. * <i>Tu</i> | <i>lui</i> | <i>aimes</i> | <i>bien les jambes.</i> |
| | | | (Kayne 1977: 159) |
| you | DatCl.3.sg | love.pres.2.sg | much the legs |

Again, possessor datives are possible in Portuguese³ with event verbs selecting for effected themes and with some stative verbs (probably with phase stative verbs only).

- (11) a. *Leonardo pintou-lhe* *o retrato.*
Leonardo painted.Past.Dat.Cl.3.sg the portrait
'Leonardo painted his/her portrait.'
b. *Reconheço-lhe* *muitas qualidades.*
recognize.1.sg.DatCl.3.sg. many qualities
'I acknowledge he/she has many qualities.'

Thus, variation concerning the human feature of the possessor, the type of possession relation and the verb classes accepted in possessor datives strongly argue in favour of the need to refine the intuitive concept of affectedness, a topic we will address below.

Along with possessor datives of the kind presented so far, with a dative clitic, in Romance the possessor may surface as a DP headed by the dative Case marker *a* ‘to’, as shown in (12).

- (12) a. *Max a tordu le bras à Luc.*
 Max has twisted the arm to Luc
 (French; Lamiroy 2003: 257)
- b. *Juan le torció el brazo a Pedro.*
 Juan DatCl.3.sg twisted the arm to Pedro
 ‘Max/Juan twisted Luc’s/Pedro’s arm.’

The *a*-DP possessor dative structure is even more restricted than the clitic one (Boneh & Nash 2013): it is generally confined to part-whole relations of human possessors, as the contrast between (12) and (13) shows.

³ In this respect, Spanish behaves alike, except for the presence of clitic doubling:

(i) *Le he pintado la cara.* (Lamiroy 2003: 7; adapted)

(ii) *Juan le respeta las ideas (a María).* (Pujalte 2009: 12; adapted)

- (13) a. * *Max a tordu le bras au plateau tournant.*
Max has twisted the arm to.the record player
b. * *Juan le torció el brazo al tocadiscos.*
Juan DatCl.3.sg twisted the arm to.the record player

However, in Portuguese this restriction seems to be softer, as native speakers invited to judge the well-formedness of (14) did not consider there was a sharp contrast between the a. and the b. sentences.

- (14) a. *O João torceu o braço ao Pedro.*
The João twisted the arm to.the Pedro
'João twisted Pedro's arm.'
b. (?) *O João torceu o braço ao gira-discos.*
The João twisted the arm to.the record player
'João twisted the record players's arm.'

Another pattern of external possession was, to our knowledge, first discussed in Keenan (1976) for Malagasy. To account for sentences in which a possessor surfaces as the subject of the clause, Keenan proposed a transformation, POSS Raising, that would pick up a genitive internal to an NP and move it to subject position. The same kind of analysis, reframed as possessor ascension, was proposed in Aissen (1987) for Tzotzil, a Mayan language spoken in Mexico. For Brazilian Portuguese, Rodrigues (2010) argued that A-movement was involved in the derivation of transitive sentences with the possessor in subject position and the *possessum* as direct object (see (15)).

- (15) [*o João*]₁ encontrou [*o pro_{1/*2} irmão*].
(Rodrigues 2010: 469)
the João found the *pro_{1/*2}* brother
'João found his brother.'

We will dismiss here cases like (15)⁴ and concentrate on structures like the ones in (16), which Cançado (2010), Munhoz & Naves (2012), Andrade & Galves (2014)

⁴ It is doubtful that sentences like (15) involve raising of the possessor to subject position. Indeed, as discussed below, instances of possessor raising in Romance are incompatible with passivization. However, in cases like (15), passive is available, as shown in the passive counterpart of (15):

(i) *O irmão foi encontrado pelo João.*
'The brother was found by João.'

a.o. consider cases of possessor movement to subject or topic position in Brazilian Portuguese⁵. In European Portuguese, as categorical person-number agreement on the verb shows, the Possessor surfaces as the subject – see (16).

- (16) a. *Tu cortaste o cabelo.*
you cut.2.sg the hair
Reading 1: someone cut your hair
Reading 2: you cut your own hair
b. *João partiu o braço.*
João broke.3.sg the arm
Reading 1: someone/something broke João's arm
Reading 2: João broke his own arm

Out of the blue, the sentences in (16) are ambiguous between a reading in which the possessor is the Causer of the eventuality (reading 2) and a reading in which the possessor is presented as a Patient (reading 1), the preferential reading depending on encyclopaedic knowledge about the type of eventuality and about the Hearer's/João's lifestyle habits. This is exactly the ambiguity found in the English counterparts of (16).

- (17) a. *You cut your hair.*
b. *John broke his arm.*

In French and in Spanish, there is no ambiguity between the causative and the non-causative variant, since the former “translates” into an ordinary transitive clause whereas the latter “translates” into a middle-reflexive clause.

- (18) a. *Marie s'est cassé le bras.*
b. *Maria se rompió el brazo.*

One way to account for the ambiguity in (16) is to consider that *cortar* ‘cut’ and *partir* ‘break’, which are transitive causative verbs, allow alternations in the alignment of θ -role and grammatical functions: a causative alternation, in which the Agent θ -role is aligned with the grammatical function of subject, and a non-causative

⁵ In the case of (16b), Brazilian Portuguese speakers would use the verb *quebrar* ‘break’, a lexical choice which is irrelevant for the matter under discussion.

alternation, in which the Agent θ -role is not projected in syntax and the possessor is aligned with the subject grammatical function. Only certain subclasses of externally caused verbs of change of state (Levin & Rappaport Hovav 1995) accept this alternation, in particular some body care verbs and some *break*-type verbs.⁶

If the causative variant of the verb is selected, three external possession structures will be possible, as shown for body care verbs in (19) and for *break*-type verbs in (20).

- (19) a. *O João₁ cortou o cabelo ao filho₂.*
the João cut the hair to.the son
'João cut his son's hair.'
- b. *O João₁ cortou-lhe₂ o cabelo.*
the João cut.DatCL3.sg the hair
'João cut his/her hair.'
- c. *O João₁ cortou [pro₁ o cabelo] com uma máquina elétrica.*
the João cut [pro the hair] with an electric razor
'João cut his own hair with an electric razor.'
- (20) a. *O João₁ partiu o braço ao Pedro₂.*
the João broke the arm to.the Pedro
'João broke Pedro's arm.'
- b. *O João₁ partiu-lhe₂ o braço.*
the João broke.DatCL3.sg the arm
'João broke his arm.'
- c. *O João₁ partiu [pro₁ o braço] com um martelo*
[para não ir para a guerra].
the João broke [pro₁ the arm] with a hammer
[for not go.Inf to the war]
'João broke his own arm to avoid going to war.'

A fourth pattern is possible, with a subclass of *break*-type verbs, in which the possessor is assigned the Theme θ -role and the *possessum* occurs inside a PP headed by the Locative preposition *em* 'in, at'.⁷ (20d) illustrates this pattern.

⁶ Examples of body care verbs with this alternation are: *cortar* 'cut', *lavar* 'wash', *limpar* 'clean', *pentear* 'comb'. Examples of *break*-type verbs accepting this alternation are: *arranhar* 'scratch', *ferir* 'bruise', *magoar* 'hurt', *partir* 'break'.

⁷ Although further research is needed, it seems that only *break*-type verbs responsible for temporary, easily reversible result states allow this pattern.

- (20) d. *O João arranhou/feriu o Pedro na mão.*
the João scratched/hurt the Pedro in.the hand
'João scratched / hurt Pedro's hand.'

On the contrary, if the non-causative variant is selected, only one external possession structure will be available for body care verbs (see (21a)) and for *break*-type verbs (see (21b)).

- (21) a. *O João cortou [~~o~~ João o cabelo] no cabeleireiro.*
the João cut [~~the~~ João the hair] at.the hairdresser's.
'João had his hair cut at the hairdresser's.'
- b. *O João partiu [~~o~~ João o braço] a jogar à bola.*
the João broke [~~the~~ João the arm] playing football.
'João broke his arm (unintentionally), while playing football.'

With the same *break*-type verbs that allow the pattern shown in (20d), another structure with possessor raising is possible: a middle-reflexive clause, with the possessor aligned with the grammatical function of subject and the *possessum* in a PP headed by the Locative preposition *em* 'in/at', as shown in (21c).

- (21) c. *O João feriu-se na mão.*
the João hurt.SE in.the hand
'João hurt his hand.'

Let us now take a closer look at the alternation at stake in (16) to (21), which we will call Agent/Possessor Alternation⁸. At first glance, it is close to the Causative Alternation analysed in Burzio (1986) and Levin & Rappaport Hovav (1995) among many others, illustrated in (22).

⁸ See Cançado (2010), who distinguishes two types of alternation – Agent/Possessor and Body/Possessor –, based on data from Brazilian Portuguese. See also Cançado & Gonçalves (2016), a.o.

- (22) a. *O João abriu a porta / O João abriu-a / A porta foi aberta pelo João.*
 ‘João opened the door / João opened it / The door was opened by João.’
 b. *A porta abriu(-se) / Ela abriu-se / A porta abriu-se com o vento.*
 ‘The door opened / It opened / The door opened with the wind.’

However, a number of significant properties distinguish these alternations. Two such properties concern the causative variant and result from the fact that possessor datives are non-core datives, that is, they are not arguments selected for by the verb⁹. As such, and contrary to core datives, they do not allow passivization and they cannot occur as arguments of nominalizations (Authier & Reed 1992, Boneh & Nash 2013 for French; Demonte 1995, Pujalte 2010 for Spanish, a.o.) – see the contrast between (23) and (24).¹⁰

- (23) a. *O livro foi dado / enviado à Maria.*
 The book was given / sent to.the Maria.
 ‘The book was given/sent to Maria.’
 b. *Já guardei o livro dado / enviado à Maria.*
 already stored.1.sg the book given/sent to.the Maria.
 ‘I have already stored the book given/sent to Maria.’

⁹ For tests distinguishing core from non-core datives in Portuguese, see Brito (2009), Miguel, Gonçalves & Duarte (2011), Gonçalves (2016).

¹⁰ However, judgements on the grammaticality of passive possessor dative clauses with dative clitics, although not unanimous, increase significantly, as shown in (a-b’) below.

- a. (?) *O cabelo foi-lhe cortado pelo João.*
 the hair was.DatCl.3.sg cut by.the João
 ‘His/her hair was cut by João.’
 a’. (?) *O braço foi-lhe partido pelo João.*
 the arm was.DatCl.3.sg broken by.the João
 ‘His/her arm was broken by João.’
 b. (?) *Já lhe fotografiei o cabelo cortado.*
 already DatCl.3.sg photographed the hair cut
 ‘I have already photographed his/her cut hair.’
 b’. (?) *Já lhe tratei o braço partido.*
 already DatCl.3.sg treated the arm broken
 ‘I have already treated his/her broken arm.’

According to Authier & Reed (1992), it is also the case that judgements of native speakers concerning passive clauses with non-core dative clitics are not unanimous in French. We will not pursue this matter here.

- (24) a. * *O cabelo foi cortado ao filho pelo João*
 the hair was cut to.the son by.the João
 a'. * *O braço foi partido ao Pedro pelo João.*
 the arm was broken to.the Pedro by.the João
 b. * *Já fotografei o cabelo cortado ao filho.*
 [I]already photographed the hair cut to.the son
 b'. * *Já tratei o braço partido ao Pedro.*
 [I] already treated the arm broken to.the Pedro

Two other properties distinguishing the Causative Alternation from the Agent/Possessor Alternation concern the non-causative variant. First, in the Causative Alternation, the non-causative variant is unaccusative, that is accusative Case is not available, and secondly, the external Causer may be expressed through a PP headed by the preposition which introduces instrumentals and commitatives, *com* ‘with’ (see (22b)); on the contrary, in the non-causative variant of the Agent/Possessor Alternation, accusative Case is still available and the external causer cannot surface as a *com*-PP (see (25)).

- (25) a. *O cabelo, a Maria cortou-o no cabeleireiro.*
 the hair, the Maria cut.Clit-Acc.3.sg in.the hairdresser
 ‘Her hair, Maria had it cut at the hairdresser.’
 a'. *O braço, o João partiu-o a jogar à bola.*
 the arm, the João broke-Clit.Acc.3.sg to play.Inf to.the ball
 ‘His arm, João broke it playing football.’
 b. * *A Maria cortou o cabelo com o cabeleireiro.*
 the Maria cut the hair with the hairdresser
 b'. * *O Pedro partiu o braço com o jogo de futebol.*
 the Pedro broke the arm with the game of football

Table 1 summarizes the patterns of external possession discussed so far, with verbs entering the Agent/Possessor Alternation, for the core possession relation part-whole and human possessors.¹¹

Agent/Possessor Alternation	<i>Break-type</i> verbs	Body care verbs
<i>Causative variant</i>		
Pattern 1: Agent ₁ <i>a</i> -Possessor ₂ Theme <i>possessum</i> subject dative direct object	✓	✓
Pattern 2: Agent ₁ Possessor ₂ Theme <i>possessum</i> subject dative clitic direct object	✓	✓
Pattern 3: Agent ₁ = Possessor ₁ Theme <i>possessum</i> subject direct object	✓	✓
Pattern 4: Agent Possessor Theme <i>possessum</i> subject direct object Locative PP	✓/*	*
<i>Non-causative variant</i>		
Pattern 5: Possessor Theme <i>possessum</i> subject direct object	✓	✓
Pattern 6: Possessor Theme <i>possessum</i> subject SE Locative PP	✓/*	*

Table 1 - Patterns of external possession

As mentioned above, possessor datives are possible in Portuguese with event verbs which do not select for affected themes, that is, they select effected themes, and even with some stative verbs. Again, sticking to the part-whole relation, examples of possessor datives with a causative verb selecting for an effected Theme with an unaccusative internally caused verb of change of state and with a phase stative verb are presented in (26)–(28).

- (26) a. *O João desenhou uma pata ao elefante.*
the João draw a foot to.the elephant
‘João draw a foot on the elephant.’

¹¹ With non-human possessors, only patterns 1 and 2 are available.

- b. *O João desenhou-lhe uma pata.*
the João draw.DatCl.3.sg a foot
'João draw a foot on it.'
- (27) a. *Os dentes já nasceram ao bebé.*
the teeth already be.born to.the baby
'The baby's teeth grew already.'
- b. *Os dentes já lhe nasceram.*
the teeth already DatCl.3.sg be.born
'His teeth grew already.'
- (28) a. (?) *Todos reconhecem qualidades ao Pedro.*
all acknowledge qualities to.the Pedro
'Everyone acknowledges Pedro's qualities.'
- b. *Todos lhe reconhecem qualidades.*
all DatCl.3.sg acknowledge qualities
'Everyone acknowledges his/her qualities.'

Interestingly, possessor datives with effected Themes cannot be paraphrased by internal possession structures with a genitive Possessor, contrary to what happens in general when possessor datives occur with verbs selecting for affected Themes. So, the meanings of (29b) and (29a) are essentially the same, whereas the meanings of (26a) and (29c) are different.

- (29) a. *A Maria lavou as mãos à filha.*
The Maria washed the hands to.the daughter
'Maria washed her daughter's hands.'
- b. *A Maria lavou as mãos da filha.*
The Maria washed the hands of.the daughter
'Maria washed her daughter's hands.'
- c. *O João desenhou uma pata do elefante. ≠ (26a)*
the João draw a foot of.the elephant
'João draw one of the elephant's feet.'

This difference in readings between (26a) and (29c) is due to the different interpretations of indefinites. In the first case the indefinite is a discourse referent introducing a new 'object' (the effected one), whereas in the second case the interpretation is partitive, allowing the inference of a larger set from which the indefinite selects one element.

The examples in (27) illustrate possessor dative structures with an unaccusative verb. Whereas the non-causative variant of Agent/Possessor Alternation verbs allow possessor raising to subject, unaccusative verbs do not, as the ungrammaticality of (30) shows.¹²

- (30) * *O bebê nasceu os dentes.*
 the baby grew the teeth

As shown in (28), possessor datives are possible with some phase state verbs. However, the *a*-DP pattern is not accepted unanimously by the native speakers. With many stative verbs, particularly non-phase states, possessor datives are entirely out, even when surfacing with a dative clitic. The contrast in (31) shows this difference, as (31a) exhibits a phase state and (31b) a non-phase state.

- (31) a. *Todos lhe detestam a arrogância.*
 (arrogância da Maria)
 all DatCl.3.sg hate the arrogance
 (Maria's arrogance)
 b. * *Eles sabem-lhe a letra. (a letra da canção)*
 they know.DatCl.3.sg the lyrics (the lyrics of the song)

3 - Refining the intuitive concept of affectedness

As mentioned before, although some Romance languages are more restrictive than others with respect to the patterns and relations they allow for possessor datives (part-whole, kinship or (loose) ownership relations), all of them accept this type of structure with part-whole relations¹³. The reason possibly lies on the relation being more general than the other possession relations, as it is a mereological relation holding also in nominal and verbal domains. Moltmann's *R-integrated relation*, based on Simmons (1987), helps us understand the relevance of part-whole relations in

¹² According to Cançado (2010) and Munhoz & Naves (2012), a.o., possessor raising to subject/topic is possible in Brazilian Portuguese with one place unaccusative verbs. On the differences between the Brazilian and the European variety wrt possessor raising to subject / topic, see Cançado & Gonçalves (2016), Gonçalves & Miguel (2017).

¹³ The part-whole relation is a much wider relation than the one we are using here. Generally, this relation is used in semantics for distinctions, among others, between individuals, mass-count, plurals. In the context of the present study, this relation is used in a much more restricted way, particularly in body-parts relations.

external possession structures. Defined informally as “An entity x is an *R-integrated whole* if there is a division of x such that every member of that division stands in the relation R to every other member and no member bears R to anything other than members of the division.” (Moltmann, 2003: 24), the *R-integrated relation* is considered as a set of general parts that exhaust the object.

According to Moltman, the notion of integrated whole has two properties: it is not an absolute property as it is more a matter of degree, that is, “a whole-property may represent a greater degree of integrity than some other whole-property” (Moltmann 2003: 26). A second property is the dimension, as an object may have integrity in some dimension and may fail to have it in some other dimension. This means that an entity may have different sets of parts in different dimensions.¹⁴ Depending on the phenomena the R relation is applied to, an entity is an integrated whole in a situation or it is an integrated whole essentially or not.

We would like to suggest that there is a correlation between the degree of integration, its dimension and the transitivity of the relation. Indeed, in some cases, the R -relation cannot be transitive, as shown in the two following examples: a leg is a part of a person and a person is a part of a group, but a leg is not a part of a group; a page is part of a book and a book is part of a library, but a page is not a part of a library. However, the blocking of transitivity does not always take place. There are types of part structures that allow transitivity, and this is the case for body parts: for instance, a hand is part of an arm, an arm is part of a body, and a hand is also a part of a body. So, we suggest that among the possession relations under analysis, the part-whole relation (particularly, body parts-body) is the only one that is transitive and the only one in which the integrated whole is taken to be ‘essential’. Thus, we may speculate that the variation observed in Romance with respect to the types of possession relation allowed in external possession structures is related to the stricter or wider way each of these languages view a possession relation as a type of part-whole relation, that is, whether or not they view the *possessum*-possessor relation as a part of an essentially integrated whole.

Almost all current analyses of external possession structures include the idea

¹⁴ The definition of an *R-integrated whole* relation has also some auxiliary notions, that is: a mereological division of an entity ($\forall y (y \in X \rightarrow y < x)$) & ($\forall y (y < x \rightarrow (\exists z (z \in X \text{ \& } z O < y)))$); the division must be closed, and it must be connected. The formal definition goes like this, where DIV stands for ‘division’, CL for ‘closure’ and CON for ‘connectedness’:

“For a nontrivial two-place relation R and an entity x ,
 x is an *R-integrated whole* (R -INT-WH(x)) iff there is a nonempty set
 X such that $\text{DIV}(X, x)$, $\text{CL}(R_{\text{trans}}, X)$, and $\text{CON}(R_{\text{trans}}, X)$ ” (Moltmann, 2003:25).

that there is an interpretive difference between them and their internal possession counterparts: only in the former is the possessor presented as affected by the eventuality. That the possessor is presented as an entity affected by the eventuality is corroborated by the impossibility of producing an external possession structure in the context given in (32) – see Hole (2005).

- (32) Pedro died one month ago. João, one of his friends, just learnt that Pedro's father died last night and he calls Ana, Pedro's ex-girlfriend.
- a. *Morreu ontem o pai do Pedro.*
died yesterday the father of.the Pedro
'Pedro's father died yesterday.'
 - b. # *Morreu ontem o pai ao Pedro.*
died yesterday the father to.the Pedro
 - c. # *(O Pedro), morreu-lhe ontem o pai.*
(the Pedro) died-DatCl3.sg yesterday the father

(32b, c) are infelicitous because, being dead, Pedro can no longer be presented as an entity affected by his father's death, since he is not conscious of the event described in the clause. In work on non-core datives in German, Hole (2005) resorts to Proto- θ -Roles (see Dowty 1991) to refine the concept of *affectedee*. According to him, *affectedees* combine properties of the Agent and the Patient Proto- θ -Role:

(33) Hole (2005: 220)

- a. "Affectedees are consciously/sentiently involved in the eventuality at hand, i.e. they have one property of the Agent Proto-Role."
- b. "Affectedees are causally affected by the eventuality at hand, i.e. they have one property of the Patient Proto-Role."

Assuming Hole's proposal, the assertion in (33a) helps us understand why in Romance languages in which external possession structures are more severely restricted only human possessors are allowed. On the other hand, it has been generally assumed that the affectedness requirement imposed on both the possessor and the *possessum* entails that only verbs selecting for affected themes are possible in these structures. However, as described in section 2, although this entailment is met by French and to a certain extent by Italian, it is not the case that it is valid for either Spanish or Portuguese. So, a more accurate definition of affectedness is a relevant step to better understand differences among Romance languages with respect to the

verb classes accepted in external possession structures.

Indeed, affectedness has been a key concept in analyzing argument realization and defining direct objecthood (Dowty 1991; Beavers 2006, 2011). It is known to determine telicity (Tenny 1987; Krifka 1989) and it is also correlated with other syntactic operations such as passivization.

Since affectedness usually has to do with change, that is, an event and a state that obtains for some entity as a result of that event and as such conceived as a persistent change of a participant (see Kratzer's 2000 "target state"), two of the tests used to identify affected objects focus on the event or on the resulting state it entails.

The first one was proposed by Cruse (1973) and consists in making the following assertion about the object: "What happened to X is Y". (34b) shows the application of this test to the Theme argument of (34a).

- (34) a. The Romans destroyed the barbarian city.
(Beavers 2011)
b. What happened to the barbarian city is that the Romans destroyed it.

The second test that works rather well is entailment.¹⁵ It consists in continuing the sentence about the object with a contrast clause which denies the predicate; if the contrast clause is infelicitous, the object is affected. (35) shows the application of this test to some of the verbs in the examples presented in section 2.

- (35) a. *O João partiu agora mesmo o braço do Pedro* #*mas o braço não está partido.*
'João just broke Pedro's arm, # but his arm is not broken.'
b. *O João cortou agora mesmo o cabelo da filha,* #*mas o cabelo não está cortado.*
'João just cut his daughter's hair, # but her hair is not cut.'
c. *O João coçou agora mesmo as costas da Maria,* ?*mas as costas não estão coçadas.*
'João just scratched Maria's back, ? but her back is not scratched.'

¹⁵ Effected Themes behave like affected arguments wrt this test (see (i)).

(i) *O João desenhou a casa,* # *mas a casa não ficou desenhada.*
'João draw the house, but the house is not drawn.'

However, several authors consider that affectedness is a property exclusive of prior existing entities.

- d. *O João viu agora mesmo o carro da Maria, ? mas o carro não está visto.*
‘João just saw Maria’s car, ? but her car is not seen.’

The literature proposes different hierarchies of affectedness determined by various criteria: grades of affectedness can depend on the change of state of the patient or on the movement of a theme along some path; these grades can also depend on the type of change or on the domain to which the change applies, such as existence, location or sensation.

The “Affectedness Hierarchy” proposed in Beavers (2006, 2011) considers that change is related to dynamic predicates and that prior existence is relevant for affectedness. His hierarchy is based on a scalar structure, encoding the degree of change imposed on the theme by the predicate (see (36)).¹⁶

- (36) a. x undergoes a quantized change
e.g., accomplishments/achievements (*despedaçar, destruir, partir x; pintar x; comer, consumir, devorar, suprimir x; arranhar, ferir x; lavar, limpar x; transformar x em y*).¹⁷
b. x undergoes a non-quantized change.
e.g., degree achievements (*alargar, encurtar x; aquecer/arrefecer x; cortar x*).¹⁸
c. x has a potential for change
e.g., surface contact/impact (*coçar x; esfregar x; esmurrar x*).¹⁹
d. x is unspecified for change
e.g., other activities/states (*cheirar, ouvir, ver x; conhecer, contemplar, respeitar x*).²⁰

(Beavers 2011: (60), 24; adapted)

According to this hierarchy, the most affected objects are the ones that undergo

¹⁶ The implicational “Affectedness Hierarchy” (Beavers 2011: (62), 24): for all x, \emptyset, e ,
 $\exists s[\text{result}'(x, s, g_{\emptyset}, e)] \rightarrow \exists s \exists g[\text{result}'(x, s, g, e)] \rightarrow \exists s \exists \emptyset[\text{exists}(x, s, e)] \rightarrow \exists \emptyset'[\emptyset'(x, e)]$
(quantized) (non-quantized) (potential) (unspecified)

¹⁷ The English counterparts are respectively: *shatter, destroy, break x; paint x; eat, consume devour, suppress x; scratch (=make small hurts), hurt x; wash, clean x, transform x into y*.

¹⁸ The English counterparts are respectively: *widen, shorten x; heat, cool x; cut x*.

¹⁹ The English counterparts are respectively: *itch x; scrub x; punch x*.

²⁰ The English counterparts are respectively: *smell, hear, see x; know, contemplate, respect x*.

a quantized change, and this happens usually with predicates used to describe telic events. The examples in (37) illustrate the decreasing degree of affectedness contemplated in the hierarchy.

- (37) a. *O Pedro comeu a sopa.* (the soup is completely gone)
‘Pedro ate the soup.’
b. *O Pedro aqueceu a sopa.* (not necessarily to a particular degree: could be hot or not)
‘Pedro heated the soup.’
c. *O Pedro pontapeou a bola.* (ball impinged, not necessarily affected)
‘Pedro kicked the ball’
d. *O Pedro viu a bola.* (ball not affected)
‘Pedro saw the ball.’

However, the Affectedness Hierarchy has been mainly used for objects or oblique complements and not to possessors. But, as Wierzbicka (1988) pointed out, when the speaker chooses an external possession structure over an internal possession one, he is describing the eventuality as something that happened to **the** possessor and not only to his or her possession. This idea, together with the relations and concepts addressed and developed above, help us understand the minimal conditions upon external possession structures common to Romance: the possession relation is of part-whole type, the possessor is human and the verbs are change of state verbs.

Indeed, if a distinctive property of these structures is the fact that they present an eventuality as something that happens to the possessor and not only to the *possessum*, it follows that the type of possession relation which better fulfils this aim is a **part-whole relation**, in particular a body parts-body relation, for this is the one which satisfies Moltmann’s *R* relation. Actually, being in an *R* relation, what happens to the *possessum* also happens to the possessor.

Next, the limitation to **human possessors** found in the more restrictive Romance languages follows nicely from Hole’s claim that affected arguments share not only properties of the Patient Proto-Role but also properties of the Agent Proto-Role: in particular, they are a conscious or sentient participant in the eventuality, hence it is expected that whenever the world model in which the sentence is evaluated shares the properties of the so-called real world, the possessor will be human.

Finally, Beaver’s *Affectedness Hierarchy* is an enlightening contribution, which deepens our understanding of what affected arguments are and relates the

concept of affectedness to the types of verbs that typically select for affected objects or obliques. Possessors in external possession structures are *affectees*, so this hierarchy measures the degree of change they suffer as the integrated whole to which the *possessum* is a part. Thereafter, it is expected that **event verbs**, in particular those used to express telic events, are the highest in the hierarchy.

4 - What about Portuguese?

As shown in section 2, external possession structures in Portuguese in which possessor and *possessum* are *R*-related are not restricted to conscious or sentient possessors or to predicates expressing telic events. Our aim in this section is then to try and find out whether the proposals in section 3 provide a principled way to capture not only the “core” external possession structures common to Romance but also those which seem not to satisfy some of the conditions discussed at length above.

Let us first look at structures with the non-causative variant of an Agent/Possessor Alternation verb, like those in (21), repeated here as (38).

- (38) a. *O João cortou [o-João o cabelo] no cabeleireiro.*
 the João cut [~~the João~~ the hair] at.the
 hairdresser's.
 ‘João had his hair cut at the hairdresser's.’
 b. *O João partiu [o-João o braço] a jogar à bola.*
 the João broke [~~the João~~ the arm] to play.Inf to.the
 ball.
 ‘João broke his arm (unintentionally), while playing football.’

These are cases which meet all the conditions mentioned above for the core cases of external possession in Romance. In fact, the possessor must have properties of both the Agent and the Patient Proto-Role: it must be human and it must suffer a change²¹. It suffers a change because it is the integrated whole, a part of which is

²¹ In Brazilian Portuguese, the possessor may just have properties of the Patient Proto-Role, that is, [- human] possessors are allowed in these structures (see Cançado 2010, Munhoz & Naves 2012, Andrade & Galves 2014, Cançado & Gonçalves 2016, Gonçalves & Miguel 2017, a.o.).

the *possessum*, that is, this structure is restricted to part-whole possession relations. Finally, only change of state verbs are allowed in these structures.

But the derivation of these structures present major theoretical challenges. Clearly, as shown above, these Possessor raising structures are not unaccusative. Indeed, despite being non-causative, the verb is still transitive, as the co-occurrence of accusative clitics shows – recall the examples in (25), repeated here as (39).

- (39) a. *O cabelo, a Maria cortou-o no cabeleireiro.*
 the hair, the Maria cut.Clit-Acc.3.sg in.the hairdresser
 ‘Her hair, Maria had it cut at the hairdresser.’
 a’. *O braço, o João partiu-o a jogar à bola.*
 the arm, the João broke-Clit.Acc.3.sg to play.Inf to.the ball
 ‘His arm, João broke it playing football.’
 b. **A Maria cortou o cabelo com o cabeleireiro.*
 the Maria cut the hair with the hairdresser
 b’. **O Pedro partiu o braço com o jogo de futebol.*
 the Pedro broke the arm with the game of football

So, one must reconcile the fact that the verbs in (39) are two-place predicates with a hypothesis about the way the semantic relation holding between the possessor and the *possessum* translates into a syntactic configuration. To do so, it is necessary first to adopt a specific proposal about the syntactic representation of the part-whole relation between the possessor and the *possessum*.

As discussed above, part-whole relations are mereological relations, instances of what Moltmann calls an *R-Integrated relation*; hence, this specific relation is not a thematic dependence, contrary to what happens in other types of possession relations. Indeed, it has long been noticed that in out of the blue contexts it is impossible to build *have*-type sentences with constituents holding part-whole relations unless the *possessum* is modified, contrary to what happens with constituents holding other types of possession relations – see the contrast between (40a) and (41).

- (40) a. **O João tem a cabeça.*
 the João has the head

- b. *O João tem a cabeça quadrada.*
 the João has the head square
 ‘João’s head is square.’
- (41) a. *O João tem o carro / as irmãs.*
 the João has the car / the sisters
 ‘João has his car / his sisters.’

This contrast is an argument in favour of the claim that part-whole relations are not to be confused with thematic dependencies.²² So, we suggest that the Theme DP selected for by the non-causative variant of these verbs is projected syntactically as a small clause, with the possessor (or a DP linked to the possessor) merged in its subject position, a proposal first made for Portuguese in Miguel (1992), adopted for Brazilian Portuguese by Andrade & Galves (2014). Now, as (39a, a’) show, the non-causative variant of these verbs is transitive, that is, they are two-place predicates, with two θ -roles to discharge: (affected) Theme and Benefactive/Malefactive. We leave open, for further research, the question of deciding whether the possessor is raised through A-movement to the Spec position in which the Benefactive/Malefactive is discharged and further moved to subject position or whether the association between the possessor and the subject position of the small clause is a case of control.

Let us now consider possessor datives. Although in these structures the possessor is clearly interpreted as a semantic dependent of the Theme *possessum*, it behaves as a complement of the verb with respect to extraction, as several authors have shown (Brito 2009, Miguel, Gonçalves & Duarte 2011). This behaviour contrasts with the one shown by genitive PPs ((42) vs. (43)).

- (42) a. *O João partiu o braço ao Pedro.*
 the João broke the arm to.Dat.the Pedro
 ‘João broke Pedro’s arm.’
- b. *A quem é que o João partiu o braço?*
 to.Dat whom is that the João broke the arm?
 ‘Whose arm did João break?’
- c. *Foi ao Pedro que o João partiu o braço.*
 was to.Dat.the Pedro that the João broke the arm
 ‘It was Pedro’s arm that João broke.’

²² To our knowledge, Guéron (1993: 191) was the first to adopt this view and went still further, claiming that “the grammar does not contain the term Possession as a categorial, theta-role or any other Formal Feature”.

- (43) a. *O João partiu o braço do Pedro.*
the João broke the arm of.Gen.the Pedro
'João broke Pedro's arm.'
- b. **/? De quem é que o João partiu o braço?*
of whom is that the João broke the arm?
- c. ** Foi do Pedro que o João partiu o braço.*
was of.Gen.the Pedro that the João broke the arm

First, the contrast between (42b, c) and (43b, c) points to a structural difference between possessor datives and their internal possession counterparts, an issue we will come back to. Secondly, the example in (42a) is a core case of a possessor dative structure in Romance: the possession relation is an *R* relation and the possessor has mixed Agent and Patient Proto-Role properties (it denotes a sentient entity who suffered a quantized change).

Sentences like (44) meet the same conditions, except for the Agent Proto-Role property of the possessor.

- (44) *O João lavou os vidros ao carro/ lavou-lhe os vidros.*
the João washed the glasses to.Dat.the car/ washed.Clit.Dat.3.sg the glasses
'João washed his car's glasses / its glasses.'

The grammaticality of sentences like (44) shows that the conditions on the possessor are relaxed in Portuguese: the possessor need not be a conscious or sentient entity. It is enough that, being an integrated whole, it suffers a change caused by a positive or negative action on its *possessum*.²³

Other non-core cases of grammatical possessor datives in Portuguese are illustrated in (28), repeated here as (45).

- (45) a. *(?) Todos reconhecem qualidades ao Pedro.*
all acknowledge qualities to.the Pedro
'Everyone acknowledges Pedro's qualities'

²³ This is also the case in Spanish. É. Kiss (2014) considers that "sentences describing the violation of the integrity of an object" qualify as external possessor structures in Hungarian.

- b. *Todos lhe reconhecem qualidades.*
all DatCl.3.sg acknowledge qualities
'Everyone acknowledges his/her qualities.'

As the verb is a state verb, these sentences describe eventualities in which the Theme argument does not suffer a change. Interestingly, what seems to have suffered a change here is the perception the speaker had of Pedro's qualities.

So, cases like (44) and (45) are not easy to accommodate under the concept of affectedness discussed and adopted in section 3. We suggest that a principled account of these unexpected cases is indeed related with language change.

In an extensive paper about the loss of external possession structures in Romance and West Germanic, an ongoing process in French and Dutch, already concluded in English, van de Velde & Lamiroy (2017) challenge Haspelmath's view that external possession is a trait of the Standard Average European and convincingly argue that its loss is not a direct result of language contact or of substrate influences. And they propose that such a loss, with differential rates in each of the three languages, is a consequence of the rise of NP configurationality. They take the following properties of the grammar of French to be consequences of the rise of NP configurationality: the dissociation between the article and the demonstrative, preventing the article to licence NP ellipsis, the grammaticalization of the partitive article and the impossibility of co-occurrence of the article/the demonstrative and the possessive (see (46)). On the contrary, Spanish does not show this rise of NP configurationality (and neither does Portuguese, see (47)).

- [illegible]

²⁴ As the authors point out, the fact that the partitive article must be used in French with abstract nouns shows that it has lost its original partitive interpretation. One might say that it is there just to pinpoint the D position.

c. (**ce* / **le*) *mon livre*

(van de Velde & Lamiroy 2017: (123))

this / the my book

‘my book’

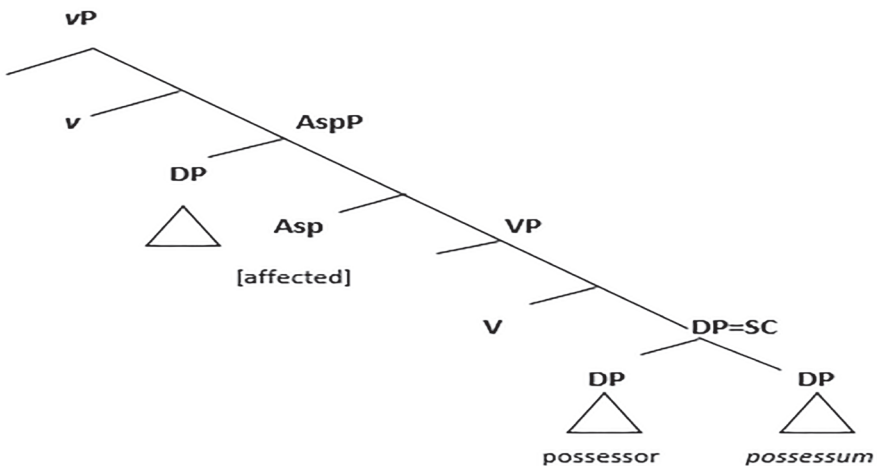
- (47) a. *el coche de Juan / el de Juan*
a.’ *o carro do João / o do João*
b. *Lo a hecho con amor.*
b.’ *Fê-lo com amor.*
c. *el libro mío*
c’. *o meu livro*

As van de Velde & Lamiroy (2017) point out, the rise of NP configurationality inversely correlates with the frequency and wide use of external possession structures.

Bearing this in mind, we would like to suggest that language change in Portuguese and Spanish pursued a different path: it encodes affectedness in a functional head of the *v*-V system. Following Fernández-Alcalde (2014: 81), we assume that this head, of aspectual nature, is a complement of *v*, selects VP as its complement, and “plays a double role: semantically, it is the locus of the affected interpretation found in the dative argument; syntactically, this head is responsible for dative case assignment to the DP via agreement”. This matches the idea that affectedness and aspect are related, as several authors have pointed out.

If this analysis is on the right track, possessor datives contain a substructure like the one shown in (48).

(48)



If the possessor is a full DP, it is attracted by Asp and is A-moved to *Spec*, Asp, where its Dative case is checked, surfacing as *a*-DP; if, on the contrary, the possessor is a clitic, it H-moves to Asp for Case checking reasons. In both situations, the affected interpretation of the possessor is obtained by means of the local relation of the possessor with the Asp node.

5 - Conclusions

The survey of external possession structures available in Portuguese corroborates what has been described for other Romance languages: external possession structures with change of state verbs and with dative clitics are less restricted than external possession structures with other verb types or with *a*-DP. However, Portuguese shows a much wider range of possessor datives: these are not restricted to human possessors and are possible even with state verbs. On the other hand, possessor raising structures also occur in this language, though restricted to part-whole relations, human possessors and a specific type of verb: the non-causative, transitive variant of the Agent/Possessor Alternation.

To understand why the external possession structures common to Romance involve part-whole relations and present the event as a change that affects the possessor, three types of contributions were deemed: (i) the properties of *affectedees* in terms of Proto-Roles, (ii) the characterization of the part-whole relation as the semantic *R-integrated relation*, and (iii) an *Affectedness* hierarchy defined in terms of a scalar structure measuring the degree of change suffered by the object of the verb.

The above mentioned theoretical tools were taken into account in the analysis sketched for those Portuguese external possession structures which depart from the ones found in more restrictive Romance languages. So, it was suggested that such an analysis requires making assumptions about the internal structure of the affected Theme when *possessionum* and possessor hold a part-whole relation and about the grammaticalization of the affected feature in some languages. The former is particularly relevant to understand the way possessor ascension works in (both European and Brazilian) Portuguese, and, on the basis of the characterization of the non-causative variant of body-care and *break*-type verbs, to decide whether this process is better understood as a case of raising or one of control. The latter concerns possessor datives and suggests that the inverse correlation between rise of NP configurationality and possessor datives may, in fact, be rephrased as the inverse

correlation between NP configurationality and grammaticalization of the *affected* feature in the ν -V system.

Empirical study of verbs and prepositions in European Portuguese with recourse to Web / Text Mining

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Abstract

This chapter describes our study of verbs and prepositions for European Portuguese as they are used in current articles in newspapers. The aim is to enrich the information that is available in dictionaries. This particular study focusses on verbs indicating movement. We have analyzed articles in six Portuguese newspapers and extracted more than 200 thousand of potentially relevant verb + preposition/prepositional locution cases. These were processed to identify similar cases and obtain the corresponding frequencies. Furthermore, we have also used a clustering algorithm with the objective of discovering clusters of similar verbs that are associated with similar prepositions/prepositional locutions. Although this latest set of results is still preliminary, some similarities among verbs were uncovered already. We hope to consolidate these results in the future.

Keywords

Portuguese verbs of movement, verbs and prepositions, automatic extraction from text, clustering of verbs

1 - Introduction

Human language is a dynamic phenomenon, with variations that spread not only geographically, but also temporally. Hence, the existing dictionaries and grammars need frequent revisions. Human studies oriented towards how language is used are costly, particularly in what concerns data collection. Consequently, it makes sense to employ computer-based techniques for this task and even some of the analysis tasks that can be easily automated.

In this work, we present a case study, which is oriented towards the combination of prepositions/locutions with the verbs of movement in European Portuguese. Our goal is to characterize the usage of prepositions with the verbs, therefore creating a repository (database), which can be used for the revision of existing dictionaries, or alternatively, for the creation of new up-to-date dictionaries that can be accessed by computerized processes.

Knowing whether certain prepositions/locutions can be associated with a given verb has several pragmatic goals. First, it can serve to enhance the body of linguistic knowledge. Besides, it can help in language learning for non-native Portuguese speakers. Finally, it can be exploited in automatic spell-checkers and machine translation systems.

The existing dictionaries provide a fair amount of information, concerning verb regency for preposition/locution usage (Luft 1995). Yet, this knowledge is static. Therefore, this work aims at providing a dynamic and more complete resource to enrich the existing dictionaries (Busse 1994; Luft 1995; Borba 1990; ACL 2001, i.a.).

We began our study by focusing on a particular category of verbs – verbs indicating movement, such as: *ir* ‘to go’, *correr* ‘to run’, *saltar* ‘to jump’, *fugir* ‘to run away’, *voar* ‘to fly’, etc. In the future, we intend to extend the work to all verbs of the Portuguese language. This allowed us to gather an important repository of cases, like the one shown below, in which verb *fugir* ‘run away’ and preposition *para* ‘to’ are marked:

- (1) *Depois de roubar um banco com outros camaradas, Rita [foge] [para] o outro lado e, com o beneplácito da Stasi, muda de identidade e instala-se na RDA.*

One of the objectives is to provide an electronic resource to the community enabling to list the most frequent prepositions that combine with a given verb and that distinguish it from other verbs. For example, for the verb *fugir* ‘run away’ we can

identify a relatively small subset of three classes of prepositions¹: “*de+*”, “*por+*”, “*a+*”.

We have designed and implemented an automatic system for extracting text relevant to our study, from six online Portuguese newspapers. The system collects and stores valid phrases in which combinations of Verb-Preposition occur. The collected sentences are stored in a relational database for later analysis.

The rest of this document is organized as follows. In Section 2 we provide details about some related work. The technical details on the method used are presented in Sections 3 and 4 together with the results. Section 5 presents the conclusions and discusses also possible future directions.

2 - Related work regarding verbs

2.1 - Dictionaries describing verbs

There are a number of conventional dictionaries of different kinds, which are manually created and periodically updated. Relevant examples for the Portuguese language are Busse (1994), Luft (1995), Borba (1990), and ACL (2001). From these, the dictionary of verbal regency (Luft 1995) is the most relevant to our work, as it shows verbs and the prepositions combining with it.

Figure 1 shows the prepositions that follow the verb *fugir* ‘run away’, which are *de*, *da*, *para*, *a*, *à*, etc. However, it is evident that these are only the most frequent prepositions following that verb, and others also quite frequent and equally relevant have been omitted. This last set of prepositions can be divided into two groups.

The first one characterizes this verb (or some similar ones) and includes some cases of *de+* (*dele*, *dela*) and *por+* (*pelo*, *pela*). The prepositions of the second group do not characterize this verb, as they may occur with many other verbs. A particular action or event can be executed *before*, *during* or *after* some other one (cases like *durante*, *depois de*, *após*). Also, they can occur in a particular location (*em*, *num*, *nas*, *sobre*) and together with or without some item or person (*com*, *sem*).

¹ The “+” after the preposition token indicates set of prepositions (combination of preposition with different determiners or pronouns). For example, “*de+*” represents “*de*”, “*do*”, “*da*”, “*dos*”, “*das*”, “*dele*”, “*deles*”, “*disso*”, “*deixa*”, ...

<p>FUGIR 1. TI: <i>fugir (de...) (para...); fugir por...</i> Int: <i>fugir</i>. Desviar-se ou retirar-se rapidamente (de algo ou alguém) para evitar perigo, tentação, etc.; pôr-se em fuga: <i>Fugir (da casa) (para a rua)</i>. <i>Fugir pelo corredor</i>. <i>Fugir das más companhias</i>. <i>Havia perigo, era preciso fugir</i>. “<i>Filho de rato, foge para o palheiro</i>” (Prov.). // <i>Fugir (a, de...)</i>. Afastar-se; ir-se perdendo de vista; distanciar-se: <i>O barco ia fugindo à vista, aos olhos</i>. <i>Fugiam dos olhos os vultos na distância</i>. <i>A terra ao longe</i></p>	<p><i>fugia (da vista)</i>. // <i>Fugir (de...)</i>. Escapar(-se); soltar-se: <i>O pássaro fugiu (da gaiola)</i>. <i>O preso fugiu (da prisão)</i>. // <i>Fugir (a, de...)</i> (OBS.); <i>fugir(-lhe)</i>. Abandonar; deixar; escapar; retirar-se: <i>Fugir da família, de casa</i>. “... <i>sentia o hálito vital fugir-lhe</i>” (Gonçalves Dias: <i>Frei-re</i>). // Evitar (afastando-se); livrar-se: <i>Fugir do inimigo</i> ou <i>ao inimigo</i> (<i>Fugir-lhe</i>). <i>Fugir do perigo; ao perigo</i> (<i>Fugir-lhe</i>) (OBS.).</p>
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Figure 1 - Verbal regencies of verb *fugir* ‘run away’, from the Luft (1995) dictionary

Our approach is able to identify in particular those prepositions that characterize each verb. One limitation of the dictionary of verbal regency Luft (1995) is its orientation towards Brazilian Portuguese only.

2.2 - Leipzig Corpora Collection (LCC)

The *Leipzig Corpora Collection* (LCC) is a huge collection of texts automatically gathered from many web sources, for more than 350 languages and dialects, along a period of fifteen years (Eckart & Quasthoff 2013). It includes tools for querying the corpus, especially for word co-occurrence statistics. The interface allows visualizing the words that occur frequently in the vicinity (e.g. following) of a given word. For instance, if we use its web portal² for Brazilian Portuguese and for the verb *fugir* ‘run away’, the system returns a sample of sentences in which the verb occurs, together with the respective source from which each sentence was obtained:

- (2) *Afirmou que a legislação que impede a candidatura de políticos condenados por órgãos judiciais ou que renunciam ao mandato para **fugir da** cassação valoriza a moralidade pública.* (www.estadao.com.br, 13.03.2011)
- (3) *Na tentativa de **fugir do** local, o homicida ainda tentou ferir outras pessoas, chegando a riscar um rapaz com a faca que ele usou contra o “Nandinho”.* (www.diaadianews.com.br, 05.03.2011)

² The LCC portal address: <http://corpora.uni-leipzig.de/> (Consulted on February 2018).

The user can also scan for the kind of words appearing before or after the given verb. In this example and if we opt for the word that follows, we get:

da (7,362), do (6,493), a (4,385), à (1,571), dos (1,432), pulando (1,415), das (1,210), correndo (733), levando (673), e (507), com (458), após (458), antes (431), nessa (39), entrando (311), à (309), para (303), ao (295), pelos (283), sem (250), disso (234), de (229), pela (219), novamente (171), pelo (168), desse (160), adentrando (158), quando (156), dela (152), mas (120), escalando (115), dele (103), em (101), usando (92), ...

That is, we obtain the terms that follow most frequently the verb *fugir*. We note that no syntactical categorization is provided, and that terms sorted by frequency are intermixed, irrespective whether they are prepositions, verbs or other syntactic category. In our study, we are especially interested in analyzing the occurrence of prepositions and this interface is not very helpful for this aim. We also note that the LCC resource is oriented towards the use of Brazilian Portuguese, which in terms of *verb + preposition* construction is different in several aspects from European Portuguese.

3 - Methods and techniques involved

Figure 2 presents a conceptual schema of our system. It includes a crawling system for news extraction from web pages, a relational database in which the extracted cases are stored and an interface for users.

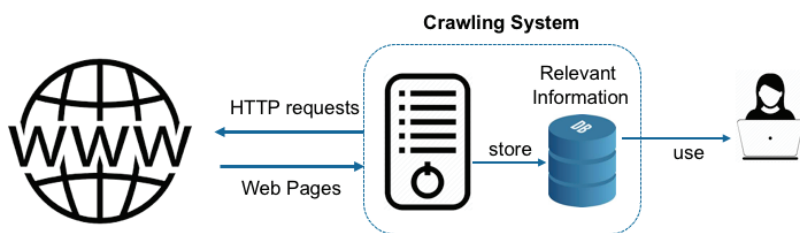


Figure 2 - General conceptual scheme of the implemented system

The central block of the schematic of Figure 2, called the “*Crawling System*”, is a process that sequentially scans a set of web sites for the purpose of finding and extracting the relevant information. In our case, this information consists of the well-formed phrases that contain a certain linguistic pattern, namely verbs and prepositions.

3.1 - Web crawling

There are several web crawling strategies and almost all involve deep search in *hyperlink trees*. For example, a search engine like Google uses multiple crawlers to index all found (visible) web pages, on a periodic basis. Starting from a general set of addresses, many provided by organizations, a crawler follows the links found on the pages to get to new pages and so on (Brin 1998).

```
Given a set of Websites  $W=\{w_1, \dots, w_n\}$ 
for  $w_i \in W$ :
    crawlPage( $w_i$ , {})

Procedure crawlPage(url, linksMemo):
    t <-- selectText(url)
    compute(t)
    for  $s_j \in \text{subLinks}(url)$ :
        if  $s_j \notin \text{linksMemo}$ :
            linksMemo <-- linksMemo  $\cup \{s_j\}$ 
            crawlPage( $s_j$ , linksMemo)
```

Algorithm 1 - Recursive crawling of websites

An HTML page from a website can contain thousands of hyperlinks, either pointing outside or inside the website. Here we use online pages of newspapers, in which new stories, reports and chronicles are typically added every day. Some newspapers keep a full repository of news accessible over a long period of time. These are usually organized according to a thematic hierarchy.

A crawler has to search through the hierarchy, taking care to avoid links pointing to higher levels in it, which would form a closed search loop, causing the crawling process to get stuck. The crawler must also avoid following links to pages that have already been visited in the past. It must memorize the pages that have already been visited. This corresponds to the set represented by the variable `linksMemo` in Algorithm 1, which captures the search strategy implemented in our system.

Our set of websites corresponds to the set of Portuguese online newspapers: *Expresso*, *Público*, *Observador*, *Jornal de Notícias*, *Diário de Notícias*, and

UrbiEtOrbi. For each newspaper, the system performs a recursive³ search, starting with the top page, avoiding links pointing outside the newspaper and links previously visited, during the same run. In our case the depth of the recursive call was limited to a maximum of seven levels.

00:00:04		17c	http://observador.pt
00:00:05	361	17c	http://observador.pt/autores
00:00:06	361 50	19c	http://observador.pt/perfil/acmarques/
00:00:08	361 50 101	36c	http://observador.pt/artigos
00:00:11	361 50 100	53c	http://observador.pt#comentarios
00:00:12	361 50 99	54c	http://observador.pt/2017/03/19/instinto-fatal-a-famosa-cena-foi-ou-nao-consentida/
00:00:12	361 50 99 11	56c	http://observador.pt/2015/08/17/sharon-stone-posa-nua-aos-57-anos/
00:00:13	361 50 99 11 9	57c	http://observador.pt/seccao/lifestyle/vidades/celebridades/
00:00:14	361 50 99 11 9 20	60c	http://observador.pt/2017/03/21/ben-afleck-voltou-a-beber-as-recaidas-sao-tramadas/
00:00:15	361 50 99 11 9 20 22	60c	http://observador.pt/seccao/saude/doencas/
00:00:15	361 50 99 11 9 20 20	60c	http://observador.pt/seccao/saude/alcool/

↓	↓
Branching state	Extracted cases

Figure 3 - Part of the log capturing the web crawling process for the *Observador* newspaper

Figure 3 illustrates a part of the execution of the crawling process for one of the newspapers considered. Each line corresponds to a recursive call. The first column contains the log of runtime since the start of the process. The second column (“branching state”) indicates the number of hyperlinks found for each level of the call. For example, in the second column of the third line we have the expression “|361|50|101|”, which means that the webpage being processed contains 361 links. Following the first link we find a page with 50 links and following the first one of these we find another page having itself 101 links, and so on. The third column shows the number of relevant cases found on the corresponding visited webpages.

This kind of output provides information about the pages that are processed and the corresponding time. The constraint of having a maximum limit for the depth of recursive calls (7) is merely pragmatic. It restricts the search space. Section 4 includes details about data volume processed and the corresponding runtimes.

In *Algorithm 1*, function “compute(t)” deals with the processing of the selected text (t) from the current webpage. We use a set of linguistic resources to look for the relevant cases in the sentences of t. However, before that, it is necessary to select the text from the webpage, corresponding to the function “selectText(url)”, which involves important challenges. The approach adopted is described in the next section.

³ A call to `crawlPage` within `crawlPage`.

3.2 - Extraction of relevant text

Most web pages, including online newspapers, have spurious text elements, which are unrelated to the main subject of the text and irrelevant. These elements include advertising (advertising slogans, etc.) and text related to the site structure, like hyperlinks and navigational text. One may refer to this kind of text as *accessory text*. This is illustrated in Figure 4.



Figure 4 - A webpage of a Portuguese online newspaper, containing examples of accessory text and news of interest

Given the high variability of the structure and style adopted in web sites, accessory text represents a challenge to any automatic text extraction system.

Our aim is to extract relevant text and discard the accessory one. The work of Pedrosa (2011) addresses this issue, focusing on the automatic elimination of readers' comments to news and advertising. The method is based on the occurrence of certain *keywords*, indicative of the presence of such comments. However, as it was reported by the author, this approach is not easily generalizable to other newspapers or websites, since each one may follow a particular structure and use specific keywords. Thus, this method would require a manual readjustment before being applied to a new site.

The approach that was adopted here analyses the HTML structure of web pages with recourse to existing software packages, such as *jsoup* (Hedley 2017), for

the *Java* programming language, or *rvest* (Wickham 2016) for the *R* language. The tree like structure can be analyzed and the most promising zones for relevant text extraction identified.

Unfortunately, there are websites that do not delimit the text well with appropriate tags. For example, in many cases paragraph tags (“<p>”) are absent from true paragraphs in the text. Therefore, we cannot rely exclusively on the HTML structure of a page, as a way to select the relevant text content. It is necessary to employ other techniques as well.

In this work we have applied a heuristic, which despite being rather simple, works quite well, satisfying the practical needs of the project. We have observed that a well-written content sentence tends to be well punctuated, ending with a period, an exclamation or question mark. In contrast, most accessory text is often not well punctuated, having no punctuation at all in almost all cases. We noticed that in the web this is a prevalent pattern. Therefore, for each newspaper webpage we only select well punctuated sentences and with a given minimum number of words (this parameter was set to 3).

In the future we could adopt a more elaborated approach that would require that the text contain informative words, as judged by TFIDF metric (Salton & Buckley 1988; Bruno & Cordeiro 2015), or topics identified using LDA (Blei 2012; Blei, Ng, & Jordan 2003) and other approaches of topic modeling.

3.3 - Localization of verbs and prepositions

The identification of the relevant sentences for extraction requires that we identify certain verbs and prepositions/locutions occurring in them. As our study focuses on movement verbs, we have prepared a list of such verbs beforehand (see Figure 5). Similarly, we have prepared a list of prepositions and locutions (see Figure 6).

abaixar	apressar-se	cambalear	desacelerar	encaminhar-se	formigar
abaixar-se	apressurar	caminhar	desagregar-se	encarregar	formiguejar
abalar	apropinquar	canoar	desamparar	encruzar	fugir
abandonar	aproximar-se	carambolar	desandar	encruzilhar	fundear
abeirar	arrastar-se	carregar	desaparecer	engolfar	galgar
abeirar-se	arrecuar	cavalgar	descair	enovelar	galopar
aboiar	arredar-se	caçar	descer	enrolar-se	galopear
acalçar	arremessar-se	cercar	descolar	enroscar-se	gandaia
acelerar	arremeter	chefiar	desembestar	enterrar	gingar
acercar-se	arrimar-se	chegar	desertar	entornar-se	girar
achegar	arrojar	chegar-se	desfilar	entranhar-se	girogiar
achegar-se	arrojar-se	chispar	desgalgar	entrar	gotejar
acompanhar	ascender	circuitar	desligar-se	envolver	gotejar
acuar	assomar	circular	deslizar	enxamear	gravitar
adejar	atabular	circundar	deslocar	erguer-se	guiar
adiantar-se	aterrar	circunvagat	deslocar-se	errar	guindar-se
afastar-se	atingir	circunvalar	despedir-se	escalar	imergir
afloar	atirar-se	claudicar	despegar-se	escapar-se	ingressar
afundar	atravessar	comboiar	despenhar	escapular-se	intersectar
afundar-se	ausentar-se	competir	despenhar-se	escoar-se	introduzir-se
afundir	avagarar	conduzir	destrepar	escoltar	inverter
afundir-se	avançar	contorcer	desunir-se	escorregar	inverter-se
alar	aviar-se	contorcer-se	desviar-se	esgueirar-se	investir
alcantilar	avizinhar	contornar	devanear	espalhar	ir
alcançar	avizinhar-se	correr	dimanar	espalhar-se	ir-se
aligeirar	bailar	corrupiar	dirigir	esparar-se	isolar-se
altear	baixar	coxear	dirigir-se	espinotear	çar-se
altear-se	balançar	cruzar	distanciar-se	esquiar	jornadear
alvorar	bamboar-se	cursar	divagar	estatar-se	lançar-se
alçar-se	bambolear-se	dançar	elegar	estender-se	larear
amarinhar?	bandurrar	deambular	elegar-se	estugar	largar
andar	bandurrear	debandar	emanar	esvoaçar	laurear
andarilhar	bolat	declinar	emergir	evadir-se	levantar-se
andear	bordejar	deixar	encabeçar	exceder	levar
antecipar-se	cabriolar	derramar-se	encaixar-se	flanar	liderar
apartar-se	cair	derrapar	encalçar	fluir	locomover -se
apressar	calcorrear	desabar	encaminhar	flutuar	manar

Figure 5 - Partial list from the 382 movement verbs

a	ao	da	debaixo de	doutras	exceto
a alguns passos de	ao lado de	dacolá	defronte de	doutrem	face a
a bel-prazer de	ao longo de	dalgo	dela	doutro	feito
a braços com	ao pé de	dalgum	delas	doutros	fora
a caminho de	ao redor de	dalguma	dele	dum	fora de
a conselho de	aonde	dalgumas	deles	duma	frente a
a despeito de	aos	dalguns	dentro de	dumas	graças a
a dois passos de	apesar de	dalgures	dentro em	duns	junto a
a fim de	após	dalgúem	depois de	durante	junto de
a julgar por	após de	dali	desde	dês	longe de
a mais de	aquém de	dalém	em	dessoutra	mais
a meio caminho de	através de	daquela	em baixo de	dessoutras	mediante
de	atrás de	daquelas	em caso de	dessoutro	menos
a meio de	até	daquele	em cima de	dessoutros	mercê de
a menos de	até a	daqueles	em favor de	desta	na
a par com	cerca de	daqueloutra	em frente a	destas	na conta de
a par de	co	daqueloutras	em frente de	deste	nalgum
a partir de	coa	daqueloutro	em lugar de	destes	nalguma
a respeito de	coas	daqueloutros	em prol de	destoutra	nalgumas
a seguir a	com	daqui	em razão de	destoutras	nalguns
a um passo de	com base em	daquilo	em redor de	destoutro	naquela
abaixo de	como	daquém	em torno de	destoutros	naquelas
acerca de	conforme	das	em troco de	detrás de	naquele
acima de	consoante	daí	em vez de	dianta de	naqueles
adiante de	contra	de	em via de	disso	naqueloutra
afora	cos	de acordo com	em vias de	disto	naqueloutras
além de	cum	de caras com	embaixo de	do	naqueloutro
ante	cuma	de cima de	enquanto a	donde	naqueloutros
antes de	cumas	de conformidade	entre	dos	naquilo
	cuns	com	excepto	doutra	nas

Figure 6 - A partial list of 269 prepositions and prepositional locutions considered

For each sentence, it is necessary to verify whether a particular movement verb occurs in that sentence together with a preposition or prepositional location on the right-hand side.

Another possibility would be to use here a part-of-speech tagger, for example the *LX-Parser* (Silva, Branco, Castro & Reis 2010), that provides an automatic analysis of the constituents of each sentence and could provide a tagging of verb-preposition combinations. However, as our focus was restricted to only certain types of verbs (i.e. movement verbs), which could easily be represented in the form of a list, we did not resort to such tools.

Furthermore, our aim was to analyze not only prepositions, but also a rich set of prepositional locations (consisting of more than one token), for which the PoS tagger might not provide an adequate solution. This reinforced our belief that using an explicit list represents a good choice here.

We note that the list of verbs used (Figure 5) includes verbs in the infinitive form, contrary to what occurs mostly in the text, in which verbs are usually conjugated, regarding person, number, tense and mood. To overcome the difficulty of matching two forms that are slightly different (ex. *fugir* versus *fugiu*), we have employed an automatic lemmatizer for Portuguese, namely the *Unitex* lemmatizer (Muniz 2004).

3.4 - Visualization and interactive correction of cases

The process of identifying the combinations of prepositions or verbs in text is not entirely reliable. In order to obtain a better-quality result, the combinations extracted need to be analyzed by specialists. The aim is twofold. One aim is to identify the badly marked cases (prepositions or verbs). The other one is to obtain a cleaned-up dataset that can be used in further analysis.

Our system includes thus an interface that allows selecting, viewing and marking different cases. The interface is shown in Figure 7.

Extrato de Verbos e Preposições

Processado a: 2017/04/05 21:11:50

Descrição Geral: As caixas junto aos verbos e preposições servem para assinalar o que está correto. Na gravação final só aparecerão marcados os verbos e preposições/locuções assinaladas nas respetiva caixa de verificação. As caixas de entrada de texto servem para alguma anotação específica, relativa a cada frase. Esta informação será armazenada na gravação final.

O botão de gravação encontra-se no final do ficheiro e a sua ação só gera uma nova versão deste ficheiro HTML, contendo as marcações inseridas pelo utilizador. Para que o utilizador fique com a informação guardada no seu computador, deverá proceder à gravação do ficheiro através do procedimento file/save do seu browser.

Verbo de movimento Preposição / Locução

[<<==] *** [==>>]

101: O gabinete dos eurodeputados comunistas confirmou ao público que foram reunidas as assinaturas necessárias para que as propostas subam a plenário.

102: Atravessámos o hall, subimos a escadaria, avançámos em direcção às janelas que dão para a varanda sobre a avenida.

Figure 7 - A part of a web page showing some retrieved cases to be marked

The top section of each page contains a descriptive header to help the user. Each page includes a maximum of 50 cases. There are also navigation links allowing going to the previous or subsequent page. This is done using arrows at the end of the header. At the end of each case/sentence there is a text box, enabling the specialist to confirm that the case is correct and hence should be kept. Each page has a button for saving the marked cases.

The erroneous cases identified could be used in future to enhance the functioning of our system. The knowledge of these cases can be synthesized by a human expert, by indicating rules and exceptions to be considered. Alternatively, the erroneous cases could be supplied as input to a machine learning system that can be trained to identify such cases in future.

4 - Implemented system and results

This work has already allowed us to collect a quite extensive number of examples and of case studies, showing the effective use of prepositions/prepositional locutions with verbs of movement for the European Portuguese, as illustrated in some examples below:

- (4)
1. *Os problemas de dependência ao jogo [surgem] [em] cinco anos, no máximo numa década.*
 2. *Naquele momento, Eder, o herói, [desceu] [ao] nível de toda uma nação.*
 3. *O gabinete dos eurodeputados comunistas confirmou ao Publico que foram reunidas as assinaturas necessárias para que as propostas [subam] [a] plenário.*
 4. *O despiste de um autocarro na madrugada de domingo na Estrada Nacional 79, na direcção Mâcon-Moulins, França, provocou quatro mortos, três feridos graves e 25 ligeiros, que [seguiam] no veículo [a caminho de] Genebra, Suíça.*

The verbs are marked in yellow and the corresponding prepositional locutions/prepositions in green.

4.1 - Implemented system

The relevant cases are stored in a *relational database*, in which we store the extracted sentences, the web pages to which they belong and the combination of “verb + preposition/prepositional locution” occurring in the sentence. The Entity-Relationship (ER) diagram (Elmasri & Shamkant 2010) of our database is shown in Figure 8.

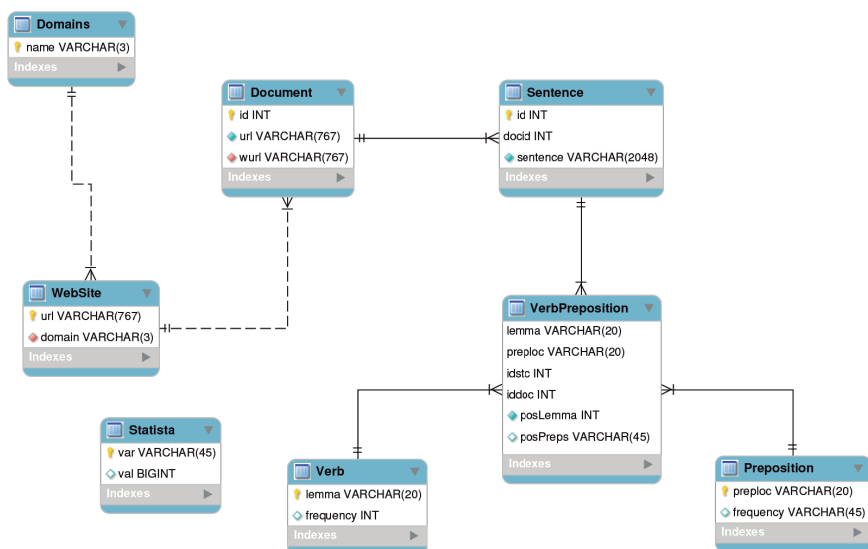


Figure 8 - The Entity-Relationship diagram (E-R) of the VPLPBD database.

The central table of the database is *VerbPreposition* that associates three fundamental entities: the verb, the preposition and the sentence, also represented by three tables (*Verb*, *Preposition* and *Sentence*) with the same names.

The *Sentence* table stores the relevant cases extracted from the news, sentences in which combinations of verbs occur with the prepositions and the prepositional locutions contained in the list.

The *Document* table represents a news story from an online newspaper whose website reference is stored in the *WebSite* table.

The *Domains* table stores the online newspaper domains, which so far are only from the “.pt” domain. Other domains may be entered in the future, such as “.org”.

The *Verb* and *Preposition* tables store the lists of verbs and prepositions we are working with (parts of them were shown in Figures 5 and 6).

Our study used data gathered for six Portuguese newspapers - *iOnline*, *Publico*, *Expresso*, *DN*, *Observador*, *UrbiEtOrbi* - in the period between the 28th and 30th of March 2017. Some summary statistics regarding this process are shown in Table 1.

Execution features	outcomes
Number of tokens involved	15 206
Number of sentences processed	1 599 423
Number of documents processed	52 032
Number of relevant cases extracted	226 337
Total execution time	21h49

Table 1 - Descriptive statistics related to processing six Portuguese newspapers

The number of relevant cases identified represents 14.15% of the total sentences processed. Table 2 shows the number of pages analyzed and extracted cases for each of the six newspapers considered.

Online Newspaper	Analyzed Pages	Proc. Time	Extracted Cases	%
www.ionline.pt	2 725	1:12:43	7 914	3,50%
www.publico.pt	19 952	8:16:30	96 862	42,80%
expresso.sapo.pt	4 872	2:32:54	16 684	7,37%
www.dn.pt	3 648	1:35:31	10 615	4,69%
observador.pt	15 206	5:34:54	74 465	32,90%
www.urbi.ubi.pt	5 629	2:37:02	19 797	8,75%
Totals	52 032	21:49:34	226 337	100%

Table 2 - Number of pages analyzed and extracted cases per each newspaper

We note here that the majority of the extracted cases (75%) came from newspapers *Público* and *Observador* and consequently a great proportion of extracted cases come from these two sources.

4.2 - Sequentially ordered results

The data collected from the web are stored in our relational database, allowing us to obtain various relevant statistics, as well as to select specific combinations of verb and prepositions, which are important for further study.

lemma	preproc	posLemma	substr(sentence,1,120)
chegar	à altura de	0	Chegara à altura de responder aos ataques da coligação e por fim à polémica
deixar	a braços com	9	Para o conseguir, separavam as duas funções, deixando os bombeiros sobretu
sair	a braços com	3	Com <u>portugal</u> recentemente saído de um resgate e ainda a braços com uma ape
seguir	a caminho de	49	O despiste de um autocarro na madrugada de hoje na estrada nacional 79, na
seguir	a caminho de	49	O despiste de um autocarro esta madrugada na estrada nacional 79, na direç
seguir	a caminho de	51	O despiste de um autocarro na madrugada de domingo na estrada nacional 79,
seguir	a caminho de	49	O despiste de um autocarro na madrugada de domingo na estrada nacional 79,
viajar	a caminho de	5	Há indicações de que ele viajou via holanda a caminho de <u>lyon</u> , disse <u>wim</u> d
ir	a conselho de	18	A versão final do decreto-lei que transforma a <u>adse</u> num instituto público
voltar	a conselho de	44	Numa altura em que muitos temiam que o museu de <u>éyora</u> passasse a ser gerid
vir	à custa de	17	A questão que se tem colocado é se a capacidade de se concentrar em várias
passar	à direita de	9	<u>Ai</u> , e na queda a pique, ou passa os comandos à direita de sempre ou se desj
abandonar	a fim de	3	O reino unido abandona, assim, definitivamente o mercado único, a fim de r
conduzir	a fim de	38	Em cima do acontecimento, o vespertino <u>«a capital»</u> contou: <u>«o batata</u> , que
investir	a fim de	7	O exército dos estados unidos anda a investir em força na <u>impressão 3d</u> , a
passar	a fim de	81	A <u>unita</u> , maior partido da oposição angolana, pediu, esta segunda-feira, um
seguir	a fim de	43	Face às palavras de <u>hirose</u> <u>«</u> que não era presidente da <u>tepeco</u> aquando do ac
chegar	à frente de	33	<u>Da</u> américa profunda às grandes cidades, as caravanas -- onde se destacam o:

Figure 9 - Some data stored in the VPLPBD VerbPreposition table

The table shown in Figure 9 presents a small portion of the data stored in the *VerbPreposition* database table. For each line, the first two columns show the extracted case. The third column shows the position (in number of words) in which the verb occurs in the sentence. The last (4th) column shows the initial part of the sentence. For example, in the line referring to the verb *abandonar*, we see that it appears conjugated (*abandona*) in position 3 of the sentence (the count begins at zero).

When analyzing the occurrence of prepositions and verbs in the extracted cases, we note that we are dealing with long tail distributions (Zipf's law, or power law), similar to what happens with the occurrence of words in corpora. Figure 10 shows the distribution for the subset of the 30 most frequent verbs and prepositions/prepositional locutions ordered by frequency.

Verbos				Preposições			
rank	lemma	frequency	Percent. (%)	rank	preloc	frequency	Percent. (%)
1	ir	50689	22.69111	1	a	63500	28.42601
2	passar	20677	9.25613	2	de	27705	12.40224
3	chegar	16164	7.23587	3	para	14577	6.52545
4	vir	13811	6.18254	4	em	11843	5.30156
5	deixar	10917	4.88703	5	no	11706	5.24023
6	levar	10065	4.50563	6	da	9343	4.18243
7	voltar	9094	4.07096	7	ao	9343	4.18243
8	sair	7840	3.50960	8	com	8704	3.89638
9	entrar	7200	3.22311	9	na	7835	3.50737
10	surgir	6434	2.88020	10	por	7640	3.42007
11	seguir	6308	2.82300	11	do	7552	3.38068
12	andar	6210	2.77993	12	mais	6163	2.75889
13	tornar	5574	2.49522	13	pela	3171	1.41951
14	avançar	4277	1.91461	14	como	2913	1.30402
15	partir	3044	1.36266	15	aos	2421	1.08377
16	subir	2701	1.20911	16	dos	2375	1.06318
17	cair	2582	1.15584	17	pelo	2005	0.89755
18	regressar	2438	1.09138	18	às	1953	0.87427
19	mudar	2266	1.01438	19	até	1878	0.84069
20	correr	2038	0.91232	20	nos	1848	0.82726
21	envolver	1982	0.88725	21	das	1711	0.76594
22	atingir	1962	0.87830	22	nas	1515	0.67820
23	acompanhar	1475	0.66029	23	num	1355	0.60657
24	liderar	1285	0.57523	24	entre	1301	0.58240
25	fugir	1171	0.52420	25	numa	1207	0.54032
26	viajar	1140	0.51033	26	sobre	1141	0.51077
27	virar	1091	0.48839	27	sem	950	0.42527
28	dirigir	1055	0.47227	28	desde	742	0.33216
29	descer	1026	0.45929	29	depois de	699	0.31291
30	conduzir	945	0.42303	30	durante	640	0.28650

Figure 10 - The distribution of some of the verbs and prepositions in our dataset

We observe that the first six verbs occur in about 53% of the cases. In case of prepositions, the mass concentration at the top is still higher, with only the first four occurring in about 52% of the cases.

Not all verbs listed in Figure 5 occurred in our dataset, some are rare and do not occur, even after processing near 1.5 million sentences. From our list of 398 verbs, 198 (49.75%) occurred at least once in an extracted case. The other ones

were not encountered at all. The situation for prepositions/ prepositional locutions is somewhat similar. From our list of 269 prepositions, 171 (63.57%) occurred at least once in the extractions. Here, the percentage is a bit higher.

4.3 - Results for individual verbs

The results presented in the previous section were reorganized. The aim was to join all cases relative to each verb. So, for instance, for verb *fugir* we obtain the following prepositions and their frequencies:

Verb	Preposition	Frequency	Rel. Frequency
<i>fugir</i>	a+	231	33.82%
	com+	42	3.59%
	de+	586	50.04%
	no+	41	3.50%
	por+	205	17.51%
	Others	66	5.64%
	Total	1171	100.00%

Table 3 - Frequency of preposition sets for the verb *fugir* ‘run away’. Each set contains a number of related prepositions, for instance, “a+” represents “a”, “ao”, “à”, “às”, etc.

For a great proportion of the 382 movement verbs used by our extractor, various prepositions were found co-occurring with those verbs. From our list of 269 prepositions, 171 were found co-occurring with the verb *fugir*, although their frequencies of occurrence were quite different. Table 3 shows several sets of such prepositions co-occurring with the verb *fugir*. Each set class represents a subset of prepositions of a similar type. This provides valuable information to linguists for further analysis and comparisons with existing information. For instance, it may be possible to characterize a verb based on its distribution over prepositional sets.

4.4 - Verb clustering

The collected data was used to conduct an experiment to discover clusters of verbs based on their association with prepositions. This was done with recourse to a method of automatic clustering. The training data was arranged in a form of a table, in which each line contains the lemmatized verb, which is followed by frequencies of prepositions that co-occur with that verb. This is exemplified in Table 4.

Lema	às	até	atrás de	cerca de	com	sem	senão	sob	sobre	trás	visto
ir	466	593	5	123	2805	142	4	24	402	0	7
passar	29	43	0	30	388	98	3	6	73	0	1
chegar	665	122	1	21	366	48	1	3	15	0	0
vir	55	93	7	7	523	26	0	3	74	0	1
deixar	35	30	7	15	196	128	0	3	77	1	0
levar	71	143	0	23	136	23	0	0	15	0	0
voltar	131	3	0	4	134	7	0	1	8	0	1
sair	57	13	0	12	233	45	0	5	30	0	0
entrar	12	5	0	2	140	27	0	3	0	0	0
surgir	11	8	2	21	328	30	0	11	80	0	0

Table 4 - Example of training data used for clustering
 (only a small portion of verbs and prepositions are presented)

Each line is considered as a training instance in which individual prepositions represent the attributes. The complete dataset contains 198 instances (verbs) and 171 attributes.

EM⁴ clustering algorithm (Dempster, Nan & Donald 1977) was used to determine the best number of clusters. This system recommended the 3 clusters to be used. A subsequent application of k-Means (with K=3) generated clusters with centroid words *ir*, *levar*, and *passar*. The dataset was preprocessed, and all values became normalized. The clustering metric employed was the *cosine similarity*. The verbs more related to the centroid words were:

ir ==> *circular, cair, desfilar, dançar, marchar, afundar, voar, ...*

levar ==> *emergir, propalar, progredir, surgir, flutuar, ...*

passar ==> *passear, espalhar, errar, ...*

⁴ The Expectation Maximization clustering algorithm.

Some affinities are evident (e.g. [*ir, cair*], as both verbs select complements that are prepositional phrases headed by *a*) and others not so much. We believe that a dataset that includes a carefully selected set of features should lead to better results. We hope to achieve a better understanding regarding different classes of verbs.

5 - Conclusions and future work

This work was oriented towards the study of verbs and prepositions in European Portuguese as they are used in current articles in newspapers. We have analyzed articles in six Portuguese newspapers and extracted about 226 thousand of potential relevant *verb + preposition* cases.

For each of the 382 verbs related to movement, we have provided a list of all possible prepositions that were encountered together with their frequencies. This provides valuable information for further analysis.

The extracted cases were processed by a clustering algorithm in order to discover clusters of similar verbs that are associated with similar prepositions. Although this was quite a preliminary study, some similarities between verbs were uncovered by this process, like for example [*ir, cair*], [*passar, passear*]. A larger dataset will help us to consolidate these results, as well as discover new ones. We can then compare these results to what is currently known and described in grammars of Portuguese language.

Future work

A small percentage of extracted cases were false positives. They represent cases that were identified erroneously by the system as *verb + preposition* group. A sample of the extracted cases were manually analyzed and tagged by human experts. The outcome is useful in two ways. First, the cleaned dataset can be used in further processing and/or analysis. Second, the two categories of examples (true positive and false positive cases) could be used to train a classifier for a more advanced extraction system. This would lead to a more advanced version of the current system. The learning process could continue, as long as new-tagged examples are provided, thereby improving continuously its accuracy.

So far, the system targeted only a few Portuguese mainstream newspapers, but there are a wide range of other possibilities, from regional newspapers to online

magazines and blogs. Expanding the text input sources, combined with accurate extraction methods, will certainly yield better results, both in quantitative or qualitative terms.

A more user-friendly front-end for interacting with the continuously stored information is also being designed and implemented. It will allow users to search for usage of certain patterns and count specific *verb* + *preposition* combinations, in a more user-friendly fashion than what current dictionaries provide nowadays.

Stative and eventive alternations with some spatial verbs

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Abstract

This chapter addresses the alternation between eventive and stative readings of predications projected by some verbs of motion in European Portuguese. We propose that these predications correspond to non-phase individual level predicates in their stative reading and this is justified with a set of well-established linguistic tests presented in the literature. We also analyse some linguistic factors underlying the stative/eventive alternation exhibited by these verbs, namely the tense used in the predication and some lexical properties of the Figure argument. We further assume that the relationship between the Figure argument and the path projected by this kind of verbs plays an essential role in their final interpretation. We argue that both stative and eventive readings arise as a result of aspectual composition and that these spatial verbs are lexically underspecified regarding the state/event distinction.

Keywords

Verbs of motion, aspect, stative/eventive alternation, verb tense, Figure

1 - Introduction

Verbs of motion have been a topic of research in different linguistic perspectives, since they raise an array of conceptual and theoretical problems. From

an aspectual point of view, one of their most intriguing properties is their ability to easily integrate predications belonging to different aspectual classes. For instance, Dowty (1979) points out that at least some of these verbs can be classified as state, accomplishment or activity verbs. Take, for instance, the verb ‘run’. In Dowty’s terms, this verb can be a “pseudo-motional locative” stative verb, an “intransitive” activity verb or a “pseudo-transitive motion verb with extent NP” that corresponds to an accomplishment (Dowty 1979:66-69). In fact, when we take into account the different criteria that allow us to identify, for instance, stative predications, we perceive that, in appropriate conditions, a significant number of verbs of motion, apart from their eventive reading, pattern with true lexical states.

In the last decades, attention has been paid to the accomplishment/activity alternation with these and other types of verbs (and there is extensive literature on this subject). The alternation between eventive and stative readings has also been observed and discussed by several authors (cf. e.g. Jackendoff 1990; Matsumoto 1996; Iwata 1996; Talmy 1996; 2000; Gawron 2007; 2009; Morimoto 2013), although only a few specifically address the aspectual issues.

This paper is concerned with the stative/eventive alternation of predications with verbs of motion in European Portuguese (EP). In particular, we are interested in determining the aspectual profile of predications with stative readings and scrutinizing the linguistic conditions that promote each reading. To do so, in the second section, we test examples in EP to evaluate and confirm the stative behaviour of some motion-like predications and, in the third section, we investigate some conditions underlying the stative and eventive readings, focusing on conditions related to the tense used in the sentence and to some lexical properties of the Figure argument.

2 - The aspectual profile of predications with verbs of motion

2.1 - Event and state readings

In European Portuguese, the behaviour of verbs of motion fits perfectly the several tests proposed by Cunha (2004/2007) for the identification of state predicates. In the current section, we will address this problem, showing how the same verb of motion can, in appropriate circumstances, express either events or states.

First, like other states, stative constructions involving verbs of motion embedded in temporal *when*-clauses give rise to semantic anomaly or, when they are interpretable, they establish an overlapping relation with the situation in the main clause. Compare (1), with a lexical state, with (2), with a verb of motion.

- (1) * *Quando o Filipe foi alto, os pais inscreveram-no numa equipa de basquetebol.*
 When the Filipe be-PST.3SG tall, the parents register-PST.3PL-him in-a team of basketball
 ‘When Filipe was tall, their parents registered him in a basketball team.’
- (2) * *Quando a ponte atravessou o rio, o Presidente da Câmara construiu uma nova cidade.*
 When the bridge cross-PST.3SG the river, the president of-the court build-PST.3SG a new town
 ‘When the bridge crossed the river, the Mayor installed a new town.’

These examples contrast with the eventive reading of verbs of motion, illustrated in (3), in which a sequential temporal relation between the two events is obtained (i.e., the crossing of the river by the boat precedes the visit by the tourists).

- (3) *Quando o barco atravessou o rio, os turistas visitaram a cidade.*
 When the boat cross-PST.3SG the river, the tourists visit-PST.3SG the town
 ‘When the boat crossed the river, the tourists visited the town.’

Another semantic property shared by lexical states and stative constructions with verbs of motion is related to their inability to co-occur with aspectual operators such as *parar de* (‘to stop’) or *acabar de* (‘to finish’), as shown in (4) and (5).

- (4) * *O Filipe parou / acabou de ser alto.*
 The Filipe stop-PST.3SG / finish-PST.3SG of be-INF tall
 ‘Filipe stopped / finished being tall.’
- (5) * *A escadaria acabou de subir até ao cimo do monte.*
 The staircase finish-PST.3SG of climb-INF up to-the top of-the hill
 ‘The staircase has just climbed to the top of the hill.’

As expected, in their eventive interpretations, verbs of motion are perfectly compatible with the aspectualizers *parar de* (‘to stop’) and *acabar de* (‘to finish’), as (6) demonstrates.

- (6) *O alpinista acabou de subir a montanha.*
 The climber finish-PST.3SG of climb-INF the mountain
 ‘The climber has just climbed the mountain.’

Another characteristic of lexical states that is also displayed by stative structures with verbs of motion has to do with the interpretation of the *Presente do Indicativo* (Simple Present): only with states can this tense receive a pure overlapping temporal reading, as shown in examples (7) and (8).

- (7) *A Maria gosta de linguística (agora / *habitualmente).*
 The Maria like-PRS.3SG of linguistics (now / * habitually)
 ‘Maria likes linguistics (now / * habitually).’
- (8) *A autoestrada A3 vai do Porto até Espanha (agora / *habitualmente).*
 The motorway A3 go-PRS.3SG from-the Porto up to
 Spain (now / * habitually)
 ‘The motorway A3 goes from Porto to Spain (now / * habitually).’

Such interpretations contrast with those of eventive sentences with verbs of motion, which, in the context of the *Presente do Indicativo* (Simple Present), display habitual or quantificational readings, as shown in (9).

- (9) *A Maria vai da escola até ao supermercado (*agora / habitualmente).*
 The Maria go-PRS.3SG from-the school up to-the
 supermarket (* now / habitually)
 ‘Maria goes from school to the supermarket (* now / habitually).’

Similar remarks can be extended to the *Imperfeito do Indicativo* (Imperfect Past): only stative predications lead to a pure temporal interpretation of this tense, corresponding to an overlapping-in-the-past relation. Once again, this property is shared by lexical states and stative structures involving verbs of motion, as exemplified in the following sentences.

- (10) *Antes de se reformar, o João era taxista.*
 Before of himself retire-INF, the João be-PST.IPFV.3SG taxi driver
 ‘Before retiring, João was a taxi driver.’
- (11) *Antes da sua queda, a ponte romana atravessava o rio.*
 Before of-the its fall, the bridge roman cross - PST.IPFV.3SG the river
 ‘Before collapsing, the Roman bridge crossed the river.’

In contrast, when events co-occur with the *Imperfeito* (Imperfect Past), the resulting sentences involve some kind of aspectual change. In particular, as shown in (12) and (13), with eventive constructions comprising verbs of motion, we get either habitual/quantificational readings (12) or “progressive-like” interpretations (13) (cf. Cunha 2004/2007).

- (12) *Antes de avariar, o barco atravessava o rio {todos os dias / habitualmente}.*
 Before of break-INF, the boat cross-PST.IPFV.3SG the river {all the days / habitually}
 ‘Before breaking down, the boat crossed the river {every day / habitually}.’
- (13) *A Maria atravessava a ponte, quando recebeu um telefonema.*
 The Maria cross-PST.IPFV.3SG the bridge when receive-PST.3SG a phone call
 ‘Maria was crossing the bridge when she received a phone call.’

All in all, the tests used in this section show that, when predications with verbs of motion display stative readings, they behave in the same way as lexical states do. We now turn to the identification of the kind of state displayed by these predications.

2.2 - Verbs of motion: individual-level, non-phase stative constructions

Verbs of motion not only participate in unequivocal stative constructions, but they also exhibit several characteristics that lead us to believe that their semantic

behaviour is very close to the one displayed by individual-level, non-phase lexical states:¹ phase states differ from non-phase ones in that the former can be coerced into processes, taking part in the Aspectual Network (cf. Moens 1987), while the latter are excluded from any aspectual changes; as for individual-level states, they apply directly to a given entity (whereas stage-level states apply to spatiotemporal intervals of a given entity).

Firstly, both lexical non-phase states and stative structures involving verbs of motion are typically incompatible with aspectual operators such as the Progressive and *começar a* ('to begin'). See (14) and (16), with lexical states, and (15) and (17), with verbs of motion exhibiting stative readings.

- (14) * *O Filipe começou a ser alto.*
 The Filipe begin-PST.3SG to be-INF tall
 'Filipe began to be tall.'
- (15) * *A ponte começou a atravessar o rio.*
 The bridge begin-PST.3SG to cross-INF the river
 'The bridge began to cross the river.'
- (16) * *O João está a ter olhos azuis.*
 The João be-PRS.3SG to have-INF eyes blue
 'João is having blue eyes.'
- (17) * *A autoestrada está a ir do Porto até Braga.*
 The motorway be-PRS.3SG to go-INF from-the Porto
 up to Braga
 'The motorway is going from Porto to Braga.'

In contrast, when verbs of motion receive an eventive reading, they are perfectly compatible with the Progressive and *começar a* ('to begin'), as sentences (18) and (19) exemplify.

- (18) *O barco começou a atravessar o rio.*
 The boat begin-PST.3SG to cross-INF the river
 'The boat began to cross the river.'

¹ For an extensive discussion about the phase/non-phase distinction, see Cunha (2004; 2007; 2011). Regarding the difference between individual-level states and stage-level states, see, among many others, Carlson (1981), Chierchia (1995), Kratzer (1995), Cunha (2004/2007; 2011), and Arche (2006).

- (19) *Os peregrinos estão a ir do Porto até Santiago de Compostela.*
 The pilgrims be-PRS.3PL to go-INF from-the Porto up to
 Santiago de Compostela
 ‘The pilgrims are going from Porto to Santiago de Compostela.’

Furthermore, like lexical non-phase states (cf. (20)), stative structures associated with verbs of motion cannot occur with the *Pretérito Perfeito* (Simple Past), a EP terminative past tense, in the main sentence of a temporal *when*-clause (cf. (21)):

- (20) **Quando chegou ao Porto, a Maria foi portuguesa.*
 When arrive-PST.3SG to-the Porto, the Maria
 be-PST.3SG Portuguese
 ‘When Maria arrived in Porto, she was Portuguese.’
- (21) **Quando amanheceu, a linha de caminho de ferro partiu da estação.*
 When morning-come-PST.3SG, the line of railway
 leave-PST.3SG of-the station
 ‘When the morning came, the railway line left the station.’

However, when an eventive reading is available, verbs of motion freely occur in the *Pretérito Perfeito* (Simple Past) in the context of main sentences associated with *when*-clauses, as (22) confirms.

- (22) *Quando amanheceu, o comboio partiu para o Porto.*
 When morning-come-PST.3SG, the train leave-PST.3SG
 to the Porto
 ‘When the morning came, the train left to Porto.’

On the other hand, lexical non-phase states in the *Pretérito Perfeito* cannot participate in linearly ordered sentences with a temporal successive reading (cf. (23)). Once again, stative structures with verbs of motion behave in a similar way (cf. (24)).

- (23) * *O Filipe foi alto, jogou basquetebol e ganhou uma medalha.*
 The Filipe be-PST.3SG tall, play-PST.3SG basketball and win-PST.3SG a medal
 ‘Filipe was tall, played basketball and won a medal.’
- (24) * *A ponte atravessou o rio, recebeu muitos turistas e tornou-se famosa.*
 The bridge cross-PST.3SG the river, receive-PST.3SG many tourists and become-PST.3SG famous
 ‘The bridge crossed the river, received many tourists and became famous.’

However, if an eventive reading of a verb of motion is selected, the temporal successive reading of linearly ordered sentences in the *Pretérito Perfeito* becomes natural, as (25) demonstrates.

- (25) *O João atravessou o rio, visitou o castelo e fotografou a cidade.*
 The João cross-PST.3SG the river, visit-PST.3SG the castle and photograph-PST.3SG the city
 ‘João crossed the river, visited the castle and took pictures of the city.’

Like lexical individual-level states (cf. (26)), stative structures involving verbs of motion are not compatible with temporal adverbials denoting short duration, such as *ontem* (‘yesterday’) or *no sábado* (‘on Saturday’) (cf. (27)).

- (26) * *O Filipe foi alto {ontem / no sábado}.*
 The Filipe be-PST.3SG tall {yesterday / on-theSaturday}
 ‘Filipe was tall {yesterday / on Saturday}.’
- (27) * *A estrada subiu a montanha {ontem / no sábado}.*
 The road climb-PST.3SG the mountain {yesterday / on-theSaturday}
 ‘The road climbed the mountain {yesterday / on Saturday}.’

Needless to say, eventive interpretations of verbs of motion are perfectly compatible with these type of adverbials, as shown in (28).

- (28) *O alpinista subiu a montanha {ontem / no sábado}.*
 The climber climb-PST.3SG the mountain {yesterday / in-the Saturday}
 ‘The climber climbed the mountain {yesterday / on Saturday}.’

Finally, another characteristic that is common to lexical individual-level states and stative constructions with verbs of motion concerns the impossibility of co-occurrence with adverbials quantifying over situations, like *todos os dias* (‘every day’), as examples (29)–(30) illustrate.

- (29) **O João sabe francês todos os dias.*
 The João know-PRS.3SG French all the days
 ‘João knows French every day.’
- (30) **A autoestrada vai do Porto até Lisboa todos os dias.*
 The motorway go-PRS.3SGfrom-the Porto up to Lisbon all the days
 ‘The motorway goes from Porto to Lisbon every day.’

This restriction does not apply to eventive readings of verbs of motion, as (31) confirms.

- (31) *O comboio vai do Porto até Lisboa todos os dias.*
 The train go-PRS.3SGfrom-the Porto up to Lisbon all the days
 ‘The train goes from Porto to Lisbon every day.’

Summarising, we verified that there is a set among the so-called verbs of motion that systematically alternates between stative and eventive interpretations. Moreover, according to the application of the relevant tests, the stative readings associated with verbs of motion describe quite stable or unchanging situations, since they pattern with individual-level, non-phase lexical states.

The question that must be answered now concerns the conditions under which these stative and eventive readings are qualified, that is, what linguistic factors contribute to obtain a stative or eventive reading with a verb of motion. We address this issue in the next section.

3 - Conditions underlying the state/event alternation of predications with verbs of motion

In this section, we take into consideration the conditions underlying the stative/eventive readings of predications with verbs of motion scrutinized in the previous section. We explore some triggers of the aspectual alternation between (non-phase individual level) states and events in order to determine if these verbs of motion have a basic reading – stative or eventive – or if they are aspectually underspecified.

We focus on two components of predications: (i) the tense of the verb and (ii) lexical properties of the relevant locative argument, i.e. the Figure. Notice that we are not assuming that these are the only relevant criteria underlying the state/event alternation in predications with verbs of motion. In fact, not all verbs of motion allow this alternation, therefore one has to consider the influence of lexical semantic information of the verb on the determination of the aspectual profile of the predication. For instance, in (32), with the verb *rastear* ('to crawl'), the predication only has an eventive reading.

- (32) a. **A estrada rasteja até ao monte.*
 The road crawl-PRS.3SG up to-the hill
 'The road crawls up to the hill.'
- b. *O rapaz rastejou até ao monte.*
 The boy crawl-PST.3SG up to-the hill
 'The boy crawled up to the hill.'

Rojo & Valenzuela (2003) (see also Matsumoto 1996), for Spanish, suggest that verbs of manner of motion do not behave in the same way regarding the possibility of stative readings. In fact, in EP, the manner of motion verb *rastear*, in (32a), does not allow a stative reading. However, this reading is possible with the manner of motion verb *correr* ('to run') in (33).

- (33) *A estrada corre para o fundo do vale.*
 The road run-PRS.3SG to the bottom of-the valley
 'The road runs to the bottom of the valley.'

This difference between verbs that can have a stative reading (as *correr*) and those that do not receive this reading (as *rastear*) is still an open question whose answer could contribute to the main issue of the present section: the identification of

the conditions underlying the stative/eventive alternation of predications with verbs of motion.

Related to the stative/eventive alternation, there is another possibly relevant question which we will not address in the present work. This has to do with prepositional phrases that can (or cannot) occur with these verbs in both readings. Iwata (1996), among others, suggests that the rising of the stative reading (“extent reading”, in Iwata’s terms) is independent from the particular choice of prepositions that can occur in the verbal predicate, namely if the preposition is related to the origin, to the destination or to some medial part of the path associated to the verb. On the contrary, the stative reading seems to depend on the kind of verb². Although this seems to apply to most cases of predications with stative readings, there are some examples in EP that apparently show a connection between stative/eventive readings and the (im)possibility of combining verbs with some prepositional phrases. Take, for instance, the verb *chegar* (‘to arrive’): this verb can combine with preposition *a* (‘to’) in predications with both stative (34a) and eventive (34b) readings. However, preposition *de* (‘from’) seems to licence only eventive readings (see (35)).

- (34) a. *A autoestrada A3 chega a Valença.*
 The motorway A3 arrive-PRS.3SG at Valença
 ‘The motorway A3 arrives at Valença.’
 b. *O rapaz chegou a Valença.*
 The boy arrive-PST.3SG at Valença
 ‘The boy arrived at Valença.’
- (35) a. **A autoestrada A3 chega do Porto.*
 The motorway A3 arrive-PRS.3SG from-the Porto
 ‘The motorway A3 arrives from Porto.’
 b. *O rapaz chegou do Porto.*
 The boy arrive-PST.3SG from-the Porto
 ‘The boy arrived from Porto.’

² “This means that the extent interpretation is independent of the choice of prepositions. It thus seems correct to hold the verb responsible for the motion/extent contrast.” (Iwata, 1996:258)

Although these questions concerning the type of verb and the type of preposition seem to be related to the stative/eventive alternation, they will not be addressed in this study, as they seem to have a narrower influence in the rise of the alternation. So, we focus on the two above mentioned criteria (the tense used in the sentences and the lexical properties of the expression that denotes the Figure) in the remainder of this section.

3.1 - The influence of tense on the stative/eventive readings of predications with verbs of motion

The influence of some tenses on the aspectual reading of predications has been noticed by several authors. The *Presente do Indicativo* (Simple Present) and the *Pretérito Imperfeito* (Imperfect Past) typically turn situations into states (cf. Kamp & Rohrer 1983; Kamp & Reyle 1993; Oliveira & Lopes 1995; Cunha 2004), whereas the *Pretérito Perfeito* (Simple Past) maintains the basic aspectual profile of the predications. Furthermore, this tense is associated with the information that the situation has ceased before its temporal perspective point (cf. Kamp & Reyle 1993).

We can assume, as a starting point, that the stative/eventive alternation analysed in the previous section is primarily caused by the use of different tenses: the *Presente do Indicativo* and the *Pretérito Imperfeito* give rise to stative readings, whereas the *Pretérito Perfeito* gives rise to eventive readings. Therefore, in (36), the basic predication is a state and, as a result, it is incompatible with *Pretérito Perfeito* (cf. (36b)). As for examples (37), the basic predication is an event, and that is why (37a), with *Presente do Indicativo*, has a habitual or frequentative reading. In fact, the *Presente do Indicativo* promotes some changes on the basic aspectual profile of eventive predications, which turns them into “stable” or “permanent” situations.

- (36) a. *A autoestrada A3 vai até Valença.*
 The motorway A3 go-PRS.3SG up to Valença
 ‘The motorway A3 goes up to Valença.’
 b. **A autoestrada A3 foi até Valença.*
 The motorway A3 go-PST.3SG up to Valença
 ‘The motorway A3 went up to Valença.’
- (37) a. #*O rapaz vai até Valença (OK todas as semanas).*
 The boy go-PRS.3SG up to Valença (all the week)
 ‘The boy goes up to Valença (every week).’

- b. *O rapaz foi até Valença.*
 The boy go-PST.3SG up to Valença
 ‘The boy went up to Valença.’

Although this hypothesis apparently explains the stative/eventive alternation and the differences between examples (36) and (37), it does not cover all examples at stake. In fact, the use of tenses like *Presente do Indicativo* or *Pretérito Imperfeito* cannot be considered neither a necessary nor a sufficient condition for the rise of stative readings of verbs of motion for different reasons.

Firstly, in certain circumstances, namely when predications include long span temporal adverbials, stative readings arise with other tenses, namely with the *Pretérito Perfeito*, a tense that does not change the aspectual profile of predications. See examples (38) and (39), with the temporal adverbials *durante séculos* (‘for centuries’) and *durante muitos anos* (‘for many years’).

- (38) *Durante séculos, as vias romanas cruzaram a Península Ibérica.* - stative reading
 For centuries, the roads Roman cross-PST.3PL the Peninsula Iberian
 ‘For centuries, the Roman roads crossed the Iberian Peninsula.’
- (39) *Durante muitos anos, a autoestrada A3 foi do Porto até Braga, até que o governo decidiu prolongá-la para a ligar à fronteira espanhola.*
 For many years, the motorway A3 go-PST.3SG from-the Porto up to Braga, until that the government decide-PST.3SG extend-INF-it to it connect-INF to-the border Spanish
 ‘For many years, the motorway A3 went from Porto up to Braga, until the government decided to extend it to connect it to the Spanish border.’

So, we conclude that the *Pretérito Perfeito* is compatible with basic stative readings of verbs of motion.

Secondly, although it seems to be true that the *Presente do Indicativo* and the *Pretérito Imperfeito* favour stative readings, it is also true that there is still a clear difference between “inherently” stative interpretations and “inherently” eventive interpretations of predications with verbs of motion with these tenses. Therefore,

with *Presente do Indicativo*, “inherently” stative predications behave as true lexical states and give rise to “pure temporal overlapping” present readings (cf. (40)), and “inherently” eventive predications give rise to habitual readings (see also the stativity tests used in section 2 above), as in (41).

- (40) *A autoestrada A1 vai do Porto até Lisboa.* (“pure temporal overlapping present” reading)
 The motorway A1 go-PRS.3SG from-the Porto up to Lisbon
 ‘The motorway A1 goes from Porto up to Lisbon.’
- (41) *O comboio Alfa vai do Porto até Lisboa.* (habitual reading)
 The train Alfa go-PRS.3SG from-the Porto up to Lisbon
 ‘The Alfa train goes from Porto up to Lisbon.’

Finally, when combined with *Pretérito Imperfeito*, “inherently” stative predications give rise to temporal location readings (cf. (42)), whereas “inherently” eventive predications give rise to habitual (cf. (43)) or “progressive-like” readings, as in (44).

- (42) *As vias romanas atravessavam a Península Ibérica.*
 (temporal location reading)
 The roads Roman cross-PST.3PL the Peninsula Iberian.
 ‘The Roman roads crossed the Iberian Peninsula.’
- (43) *Os dinossáurios atravessavam a Península Ibérica.*
 (habitual reading)
 The dinosaurs cross-PST.3PL the Peninsula Iberian
 ‘The dinosaurs crossed the Iberian Peninsula.’
- (44) *Quando ia para a escola, o João foi atropelado por um camião.* (“progressive-like” reading)
 When go-PST.IPFV.3SG to the school, the João be-PST.3SG hit-PTCP by a truck
 ‘When João was going to school, he was hit by a truck.’

These examples show that the mere occurrence of some tenses cannot be considered a sufficient condition to trigger eventive or stative readings of predications

with verbs of motion, since *Presente do Indicativo* or *Pretérito Imperfeito* are not always associated to basic stative readings and *Pretérito Perfeito* is not always associated to eventive readings of verbs of motion. Actually, some tenses may have some influence in determining the aspectual profile of predications, but they are not the main triggers of the stative/eventive alternation. So, in the next section, we turn to the lexical properties of the relevant locative argument, i.e. the Figure, and we analyse its influence on determining the aspectual profile of predications.

3.2 - The influence of lexical properties of the Figure argument on the stative/eventive alternation

In order to explain the stative/eventive alternation with verbs of motion, one has to consider the contribution of the Figure. We start putting forward the following hypothesis: the eventive reading arises if the predication describes a situation in which the Figure can have altered its location in the course of the eventuality. This requires that the Figure is “movable”, that is, the Figure denotes a “movable” entity. Therefore, when the situation described by the verbal predicate can change the location of the Figure, the eventive reading arises; otherwise, the stative reading arises. See example (45).

- (45) *O trilho sobe até ao cimo do monte.*
 [- movable] → stative reading
 The trail go-PRS.3SG up to-the top of-the hill
 ‘The trail goes up to the top of the hill.’

In this case, the situation denoted by the predication that includes *subir* (‘to go up’) does not change the location of the entity denoted by *o trilho* (‘the trail’), a “non-movable” entity, therefore the stative reading arises. However, in example (46), the situation denoted by the predication with *subir* changes the spatial location of the entity denoted by *o alpinista* (‘the mountain climber’), and the eventive reading arises.

- (46) *O alpinista subiu até ao cimo do monte.*

[+ movable] → eventive reading

The mountain climber go-PST.3SG up up to-the top of-the hill

‘The mountain climber went up to the top of the hill.’

Therefore, the rise of an eventive reading seems to be related to the existence of a “movable” entity. But this is not the whole picture. In fact, eventive readings arise also when what is at stake is the creation of the Figure entity or, instead, some change on its volume or in the way it occupies space, even if this entity is a “non-movable” one. For example, in (47), the situation denotes the creation of the entity denoted by *o túnel*³ (‘the tunnel’). This description is an eventive one and this is confirmed by the temporal adverbial *em 6 meses* (‘in 6 months’). In (48), the situation denotes an (eventive) change in the space that the entity denoted by *a cidade* (‘the city’) occupies. In both cases, an incremental change in the entity denoted by the sentence’s subject is responsible for the eventive reading.

- (47) *O túnel atravessou o monte em 6 meses.*
 The tunnel cross-PST.3SG the hill in 6 months
 ‘The tunnel crossed the hill in 6 months.’

- (48) *A cidade estendeu-se até ao rio em 2 anos.*
 The city extend-PST.3SG up to-the river in 2 years
 ‘The city extended up to the river in two years.’

Therefore, the fact that the Figure is “non-movable” does not guarantee a stative reading, since eventive readings can be ascribed to predications with verbs of motion that denote situations involving “non-movable” entities.

Furthermore, the “movable” nature of the Figure’s entity does not guarantee an eventive reading. In fact, an alternation between eventive and stative readings of predications with the same verb of motion and the same “movable” Figure is possible. See (49) and (50).

³ Iwata (1996: 257) calls this type of reading “inchoative reading”.

- (49) *O comboio é tão rápido que vai de uma ponta à outra do país no mesmo dia.*
 The train be-PRS.3SG so fast that go-PRS.3SG from one side to-the other of-the country on-the same day
 ‘The train is so fast that it goes from one side of the country to the other on the same day.’
- (50) *O comboio é tão comprido que vai de uma ponta à outra do cais.*
 The train be-PRS.3SG so long that go-PRS.3SG from one side to-the other of-the platform
 ‘The train is so long that it goes from one side of the platform to the other.’

In examples (49) and (50), the entity denoted by *o comboio* (‘the train’) is referred to with different properties in the main clause, which is crucial to the attribution of a stative or an eventive reading to the consecutive clause. In fact, although both main clauses denote states, in (49) the property is “to be fast”, which points to a “dynamic” description of the entity denoted by *o comboio* (‘the train’), whereas in (50) the property is “to be long”, which points to a non-dynamic description, focusing on the spatial extent of the train instead.⁴

In short, the data we have analysed so far suggest that the presence of “non-movable” Figures does not ensure stative readings, nor “movable” Figures ensure eventive readings.

Several authors have pointed out that in stative readings the Figure has to physically (spatially) occupy the path⁵ that is (lexically) associated with the verb of

⁴ Iwata (1996:271-272) points out the following example from Bennett (1975) that is similar to (50):

- (i) a. How long is your new tent?
 b. It goes from the back of our garage to the apple tree in the middle of the lawn.

⁵ We are not going to analyse the “path issue” and we assume that paths associated with stative readings can fall into different (bounded or unbounded) types (cf. Iwata 1996). See examples (i) and (ii). Notice that some possibilities of selection of the path can be related, to some extent, to lexical properties of the verb. For instance, *partir* (‘to leave’) and *chegar* (‘to arrive’) seem to select minimum extent paths, whereas *ir* (‘to go’) selects non minimum extent paths, and this difference can be related to the basic aspectual type of events.

- (i) a. *A A3 vai do Porto até Valença.* (bounded path)
 ‘The A3 goes from Porto up to Valença.’
 b. *A A3 vai para norte.* (unbounded path)
 ‘The A3 goes towards north.’
- (ii) a. *A A3 sai do Porto.* (initial part of the path)
 ‘The A3 leaves from Porto.’
 b. *A A3 chega a Valença.* (final part of the path)
 ‘The A3 reaches Valença.’
 c. *A A3 passa por Braga.* (medial part of the path)
 ‘The A3 passes through Braga.’

motion. Iwata (1996) says that the subject of a motion reading has to be “a moving point-like object”, whereas in the extent reading the subject has to be “a static, elongated object” (Iwata 1996: 257). Furthermore, “what is really crucial is that in extent sentences the subject and the path are coextensive” (Iwata 1996: 271). So, in (51), the entity denoted by *a estrada* (‘the road’) occupies the same extension as the path associated to the verbal predicate (between a location *x* and Madrid), which gives rise to the stative reading.

- (51) *A estrada vai até Madrid.*
 The road go-PRS.3SG up to Madrid
 ‘The road goes up to Madrid.’

We saw in the previous section that individual level non-phase states in the *Pretérito Perfeito* cannot occur together with temporal locating adverbials denoting short duration and that this generalization applies to predications with verbs of motion with stative readings, as in (52).

- (52) * *Ontem, a estrada foi até Madrid.*
 Yesterday, the road go-PST.3SG up to Madrid
 ‘Yesterday, the road went up to Madrid.’

But when the Figure does not occupy the same extension as the path associated with the verbal predicate, the eventive reading arises. Therefore, one can combine *Pretérito Perfeito* with temporal locating adverbials denoting short duration. See (53) and (54), in which the Figure corresponds to *o comboio* (‘the train’).

- (53) *O comboio vai até Madrid.*
 The train go-PRS.3SG up to Madrid
 ‘The train goes up to Madrid.’
- (54) *Ontem, o comboio foi até Madrid.*
 Yesterday, the train go-PST.3SG up to Madrid
 ‘Yesterday, the train went up to Madrid.’

In the cases in which the predication (and, probably, the world knowledge) does not determine whether or not the Figure occupies the whole path, with the verb in the Present, there is ambiguity between both (stative or eventive) readings, as in (55).

- (55) *O comboio vai até ao fim do cais.*
 The train go-PRS.3SG up to-the end of-the platform
 ‘The train goes up to the end of the platform.’

(55) can be contextually disambiguated, as in (56), in which the temporal clause *quando entra na estação* (‘when the train enters the station’) provides the context for an eventive reading.

- (56) *Quando entra na estação, o comboio vai até ao fim do cais.*
 When enter-PRS.3SG in-the station, the train go-PRS.3SG
 up to-the end of-the platform
 ‘When the train enters the station, it goes up to the end of the platform.’

However, recall that if the Figure cannot occupy the whole path, there is only an eventive reading. For instance, in (57), the entity denoted by *o passageiro* (‘the passenger’) does not occupy the same extent as the path (between a location *x* and the end of the platform), so (57) has only an eventive reading.

- (57) *O passageiro vai até ao fim do cais.*
 The passenger go-PRS.3SG up to-the end of-the platform
 ‘The passenger goes up to the end of the platform.’

So, it seems that a fundamental condition to the rise of stative readings is the possibility that the extent of the Figure can physically occupy the path that is associated with the verb of motion. There is another aspect to point out related to the state/event readings. In fact, as pointed out by other authors (cf. e.g. Iwata 1996; Gawron 2007; 2010), this alternation seems to be related to the existence of a temporal axis associated with the situation. Notice that both stative and eventive readings can be described in the following way. For the stative reading, e.g. *a estrada vai até Madrid* (‘the road goes up to Madrid’), the situation denotes the spatial extent of an entity *x* (the road) and this extent ends in a location *y* (Madrid). As for the eventive reading, e.g. *o comboio vai até Madrid* (‘the train goes up to Madrid’), the situation denotes the spatial-temporal extent of the movement of an entity *x* that ends in a location *y* (Madrid).

Cases like *o comboio vai até ao fim do cais* (‘the train goes up to the end of the platform’), in (55), are ambiguous between both readings. In the stative reading, the

situation denotes the spatial extent of entity *x* (the train) that ends in *y* (the end of the platform), whereas in the eventive reading the situation denotes the spatial-temporal extent of the movement of entity *x* (the train) that ends in a location *y* (the end of the platform). Therefore, the introduction of temporal extent seems to be crucial to the eventive/stative alternation we are discussing.

3.3 - The interaction of conditions underlying the stative/eventive alternation

The stative or eventive readings of predications with verbs of motion seem to rely on several conditions interacting dynamically and depending (in a different degree) on a number of factors. We previously presented some of these factors. In this section, we analyse their interactions. We will begin with example (58).

- (58) *Um turista rodeia o castelo.*
A tourist circle-PRS.3SG the castle
'A tourist circles the castle.'

Example (58) exhibits only the eventive reading. In this case, the Figure ('a tourist') is movable and its spatial extent is smaller than the path lexically associated with the verb of motion. So, the occurrence of the *Presente do Indicativo* favours the rise of a habitual reading of the sentence. Furthermore, since the predication has an eventive reading, it can occur with *Pretérito Perfeito* and a temporal adverbial denoting a short duration time interval, as *ontem* ('yesterday') in (59).

- (59) *Ontem, um turista rodeou o castelo.*
Yesterday, a tourist circle-PST.3SG the castle
'Yesterday, a tourist circled the castle.'

In a case in which a movable Figure has a spatial extent that can occupy (without alterations and in a non-dynamic way) the path, with the *Presente do Indicativo*, the predication typically exhibits a stative reading. See (60).

- (60) *A água rodeia o castelo.*
The water surround-PRS.3SG the castle
'The water surrounds the castle.'

Nevertheless, an eventive reading of the predication (that corresponds to a habitual reading of the sentence) can arise depending on the context, namely if there is an explicit mention that, in certain time intervals, there is no total coincidence between the extent of the Figure and the extent of the path, i.e., if the temporal axis is taken into account, as in (61).

- (61) *A água rodeia o castelo sempre que a maré sobe.*
 The water surround-PRS.3SG the castle whenever that the tide go-PRS.3SG up
 ‘The water surrounds the castle whenever the tide goes up.’

With a Figure like ‘water’, when the predication occurs with *Pretérito Perfeito*, it receives an eventive reading, as in (62), but in an appropriate context (namely with an extended time interval adverbial) it can receive a stative reading, as in (63).

- (62) *A água rodeou o castelo (ontem).*
 The water surround-PST.3SG the castle (yesterday)
 ‘The water surrounded the castle (yesterday).’
 (63) *A água rodeou o castelo durante séculos (até que drenaram o fosso).*
 The water surround-PST.3SG the castle for centuries (until that drain-PST.3PL the moat)
 ‘The water surrounded the castle for centuries (until they drained the moat).’

Finally, if the Figure is not movable (e.g. the wall), only a stative reading is available (cf. (64)). Therefore, the occurrence of such a Figure in a predication with the *Pretérito Perfeito* and a short time interval adverbial (e.g. ‘yesterday’) is ungrammatical, as the predication corresponds to an individual level non-phase state (cf. (65)) and it can only combine with extended time interval adverbials (cf. ‘during the middle age’ in (66)).

- (64) *A muralha rodeia o castelo.*
 The wall surround-PRS.3SG the castle
 ‘The wall surrounds the castle.’

- (65) * *A muralha rodeou o castelo ontem.*
 The wall surround-PST.3SG the castle yesterday
 * ‘The wall surrounded the castle yesterday.’
- (66) *A muralha rodeou o castelo durante a Idade Média.*
 The wall surround-PST.3SG the castle during the age middle
 ‘The wall surrounded the castle during the middle age.’

Notice that an eventive reading can always arise if the situation does not describe a change in the Figure’s location, but instead if it describes the creation or some incremental alteration in the entity that corresponds to the Figure, as in (67) and (68), similar to (47) and (48) above. In both cases, the predications describe the building of the wall.

- (67) *A muralha cercou o castelo em 6 meses.*
 The wall surround-PST.3SG the castle in 6 months
 ‘The wall surrounded the castle in 6 months.’
- (68) *A muralha estendeu-se até ao rio em 2 anos.*
 The wall extend-PST.3SG up to-the river in 2 years
 ‘The wall extended up to the river in two years.’

These observations are summarized in table 1.

The fact that the stative and eventive readings result from a combination of factors indicates that, probably, the verbs that we analysed are underspecified concerning this aspectual distinction. In other words, it seems that the cases under discussion do not correspond to two different lexical entries, but only to one. Furthermore, these verbs are aspectually underspecified regarding the state/event distinction and this lexical underspecification is compositionally solved at the sentence level, with information related to the Figure or to tense.⁶

⁶ Iwata (1996) assumes that none of the relevant meanings (*event/extent*) derives from each other. Morimoto (2013) argues for the same idea, saying that “los verbos objeto del presente estudio son lexicalmente neutros en cuanto al criterio de estatividad (o de dinamicidad)” (Morimoto 2013: 375).

<i>Presente</i>	<i>Pretérito Perfeito</i>	Movable Figure	Non-movable Figure	Extent of Figure < extent of path	Extent of Figure = extent of path	Reading of predication
X		X		X		eventive
	X	X		X		eventive
X		X			X	stative/ eventive
	X	X			X	eventive/ stative
X			X		X	stative
	X		X		X	stative / * / incremental

Table 1 - some conditions underlying the stative/eventive alternation

So, apparently, there is a group of “spatial” verbs that can provide information about (i) displacement, (ii) location⁷, or (iii) they can be underspecified. See the examples (69)-(74). Verbs as *circular* (that corresponds to one of the meanings of ‘to run’) seem to be displacement verbs, therefore they can only display eventive readings, as in (70), and are ungrammatical in contexts that force stative readings, such as the ones that include the *Presente do Indicativo* and a non-movable Figure, as in (69). As for *situar-se* (‘to be located’), this is a location verb, therefore it can have only stative readings (cf. (71)) and it is ungrammatical in an “eventive” context with the *Pretérito Perfeito* and a movable Figure, such as (72). Finally, verbs like *seguir* (‘to continue’) are underspecified regarding this displacement/location distinction, so they can exhibit both readings: in (73), the location (stative) reading arises due to the occurrence of a non-movable Figure, whereas (74) has a displacement (eventive) reading due to a movable Figure.

(69) * *A estrada circula pela planície.*
 The road run-PRS.3SG through-the plain
 ‘The road runs through the plain.’

(70) *O carro circula pela planície.*
 The car run-PRS.3SG through-the plain
 ‘The car runs through the plain.’

⁷ Morimoto (2013) argues that these verbs mark a spatial localization (“ubicativa”) relation when they have a stative reading.

- (71) *A garagem situa-se na parte inferior do edifício.*
 The garage be-PRS.3SG located at-the part lower of-the building
 ‘The garage is located at the bottom of the building.’
- (72) **O carro situa-se na parte inferior do edifício.*
 The car be-PRS.3SG located at-the part lower of-the building
 ‘The car is located at the bottom of the building.’
- (73) *A estrada segue para oeste.*
 The road continue-PRS.3SG towards west
 ‘The road continues towards west.’
- (74) *O carro segue para oeste.*
 The car continue-PRS.3SG towards west
 ‘The car continues towards west.’

This tripartite possibility of aspectual classification is not one of a kind. In fact, several authors (Mourelatos 1978; Tenny 1987; Dowty 1991; Ramchand 1997; Leal & Oliveira 2015, among others) have pointed out that there are some verbs that project predications that are processes (activities, in Vendler’s 1957/1967 classification) whereas other verbs project culminated processes (or accomplishments) irrespective of the aspectual properties of other elements occurring in the basic predication (“inner aspect”, in Verkuyl 1993). On the other hand, some verbs are aspectually ambiguous, allowing the influence of other elements on defining the aspectual profile of the basic predication. See examples (75)–(77). In (75), *deambular* (‘to wander’) projects a predication that is a process, irrespective of the presence of the phrase *até ao rio* (‘up to the river’) denoting the end of the path (a non-cumulative prepositional phrase in Zwart 2005).

- (75) *O rapaz deambulou pela cidade (até ao rio)*
 { * *em 2 h. / durante 2h.* }
 The boy wander-PST.3SG through-the city (up to-the river)
 { * *in 2 h. / for 2h.* }
 ‘The boy wandered through the city (up to the river) { * *in 2 h. / for 2h.* }.’

In (76), *almoçar* (‘to lunch’) projects a predication that is a culminated process irrespective of the presence of the phrase *uma tarte de legumes* (‘a vegetable pie’)

denoting a quantized nominal predicate (Krifka 1998) or a specified quantity of entities (Verkuyl 1993).

- (76) *O rapaz almoçou (uma tarte de legumes) {em 5 m. / # durante 5 m.}*
 The boy lunch-PST.3SG (a pie of vegetable) {in 5 m. / # for 5 m.}
 ‘The boy lunched (a vegetable pie) {in 5 m. / # for 5 m.}’

Finally, predications with *correr* (‘to run’) can be processes (77a) or culminated processes (77b) depending on the properties of the phrase that occurs in the predication: *na direção do rio* (‘towards the river’) is a cumulative prepositional predicate (Zwart 2005), whereas *a maratona* (‘the marathon’) is a quantized nominal predicate (Krifka 1998).

- (77) a. *O rapaz correu na direção do rio {* em 2h. / durante 2h.}*
 The boy run-PST.3SG in-the direction of-the river {* in 2 h. / for 2h.}
 ‘The boy ran towards the river. {* in 2 h. / for 2h.}’
 b. *O rapaz correu a maratona {em 2 h. / # durante 2h.}*
 The boy run-PST.3SG the marathon {in 2 h. / # for 2h.}
 ‘The boy ran the marathon. {in 2 h. / # for 2h.}’

All in all, the aspectual alternation between states and events observed in verbs of motion seems to come from some sort of lexical underspecification. This underspecification is not unique and can be also found in other types of verbs involving other aspectual alternations.

The conclusions of section 3 can be summarized as follows:

- I. The tenses that we analysed only favour the rise of the stative or eventive readings of predications with verbs of motion, since these predications can, under appropriate conditions, be associated with their basic eventive readings with *Presente do Indicativo* and stative readings with *Pretérito Perfeito*.
- II. The possibility of the spatial extent of the Figure occupying the whole extent

- of the path associated with the verb of motion is important to the rise of a stative reading, although it is not a sufficient condition.
- III. The non-movable nature of the Figure is also important to the rise of a stative reading, but again it is not a sufficient condition.
- IV. A stative reading arises when:
- a. the Figure is non-movable and its spatial extent occupies (non-incrementally) the whole path in spite of the tense used; in these cases, temporal adverbials denoting a short duration time interval cannot occur;
 - b. the Figure is either movable or non-movable, its spatial extent occupies non incrementally the path and the tense is (i) *Presente do Indicativo*, or (ii) *Pretérito Perfeito* with the adequate context, namely with temporal adverbials denoting extended time intervals.
- V. It follows from IV that both stative and eventive readings of verbs of motion are compositionally obtained.

4 - Concluding remarks

Our analysis of the examples of verbs of motion with stative and eventive readings enables us to draw some conclusions.

The stative readings of verbs of motion correspond to predications classified as individual level non-phase states.

At the lexical level, the verbs we have analysed are not specified concerning the state/event distinction. Therefore, these verbs are ambiguous between a temporally static or a temporally dynamic location of the Figure. On the contrary, the basic predication is specified regarding the state/event distinction, which explains the predications' different behaviour with different tenses and temporal locating adverbials. In particular, stative predications, that correspond to individual level non-phase states, typically combine with *Presente* and *Pretérito Imperfeito* and they only combine with *Pretérito Perfeito* in the context of an extended time interval.

Since verbs of motion are lexically associated with paths, it is fundamental to the rise of the stative reading that the Figure has spatial extent. The stative reading implies that the spatial extent of an entity *x* occupies a path *y*, whereas the eventive reading implies that the spatial and temporal extent of the displacement of an entity *x* occupies a path *y*. The eventive reading can also be associated with some incremental change in the Figure.

So, we are dealing with a group of spatial verbs that may or may not denote

displacement. When they denote displacement or some sort of incremental change in the Figure, an eventive reading arises; otherwise, the predication receives a stative reading.

There are other aspects related to the event/state alternation that were only pointed out, although they must be taken into consideration in future research, namely what types of verbs of motion exhibit this alternation, and what the restrictions are concerning the occurrence of these verbs together with other elements of the predication, in particular prepositional phrases.

Verbs of inherently directed motion in two different modality languages, European Portuguese and LGP: some typological reflections

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Abstract

In the chapter we analyse two verbs of inherently directed motion such as *ir* ‘go’ and *vir* ‘come’ in two different modality languages – EP (European Portuguese) and LGP (Portuguese Sign Language), in order to discuss their main properties. We show that Romance languages, and Portuguese in particular, are not only verb-framed in the way they express motion and manner of motion and we show the importance of Prepositional Phrases in the construction of argument structure of verbs. As for Sign languages, and specifically LGP, we show, starting from a brief corpus, that this language, being closer to an “equipollently-framed language”, has some properties that indicate that verbs are not the only way to express movement. We conclude that more important than a typological classification it is crucial to analyse morphological, lexical and syntactic resources that languages have in order to express manner and path of motion.

Keywords

Verb-framed languages, satellite-framed languages, equipollently-framed languages, European Portuguese, Sign languages, LGP

1 - Introduction

In natural languages, not only Oral but also Sign languages, many spatial relations are expressed by motion verbs, such as *ir* ‘go’, *chegar* ‘arrive’, *sair* ‘go out’, *correr* ‘run’, *dançar* ‘dance’ and *saltar* ‘jump’. The first three verbs express a path and are typically called direction motion verbs; the last three describe a way of movement and are typically called manner motion verbs (Levin 1993). As for the first ones, Demonte (2002), developing Levin & Rappaport-Hovav (1995), distinguishes two types: verbs of inherent direction (*ir* ‘go’ and *chegar* ‘arrive’) and verbs of inherent direction and localization (*sair* ‘go out’ and *entrar* ‘enter’).

Motion verbs have interested linguists for a long time, in different theoretical frameworks, and the bibliography is impressive. One of the most important contributions was the one by Talmy (1985, 2000) for different reasons. Beyond thematic roles Source and Goal, proposed by Fillmore (1968), Talmy shows that for the understanding of motion events, it is crucial to also use other notions such as Figure, Motion, Path, Ground, Manner and Cause. Another idea is that languages vary typologically according to the way languages express path and manner motion. Some languages are “satellite-framed” and some languages are “verb-framed”. Germanic languages, but also Russian, would be “satellite-framed”, because manner motion is characteristically given by the main verb, while path is given by the satellites; see (1):

- (1) *John limped into the house*
 (Talmy 1985, *apud* Beavers, Levin & Tham 2009: 3)

Also, in (2) we present some examples in which the idea of leaving is given with the contribution of the satellite particles (*out* in English, *hinaus* in German, *uit* in Dutch, *ut* in Swedish):

- (2) *to go out* (English), *hinausgehen* (German), *uitgann* (Dutch), *gå ut* (Swedish)

Differently, in Romance languages (French, Spanish), but also in Turkish, Japanese, Hebrew, the path is given by the verb and the manner by an adjunct or a subordinate clause, as in (3), and therefore these languages are considered “verb-framed”:

- (3) *Je suis entré dans la maison (en boitant)*
 (Talmy 1985, *apud* Beavers, Levin & Tham 2009: 14)
 I was entered in the.FEM.SG house (in limping)
 ‘I limped into the house’

In (4) the different Spanish paths are given by the verb, nothing more:

- (4) *entrar* ‘to enter’, *salir* ‘to get out’, *subir* ‘to move up’, *bajar* ‘to down’

In these same languages, the idea of manner of movement is given by other means, as in (5):

- (5) *Entró corriendo / volando / nadando a la cueva.*
 entered.3SG.PAST running/flying/swimming to the cave
 ‘S/he entered running / flying / swimming to the cave.’
 (Spanish, Talmy 1985: 111)

However, in Italian there are some verbs, normally called *verbi sintagmatici* (‘phrasal verbs’), in which verbs and particles/adverbs express motion, but also path and localization. The Italian examples are from Iacobini & Masini (2007) and are also given by Mateu & Rigau (2010: 242):

- (6) *buttare giù* ‘throw down’, *uscire fuori* ‘exit out’, *correre via* ‘run away’, *tirare su* ‘bring up’, *lavare via* ‘wash away’

These data justify the claim by Iacobini & Masini (2007:163) according to which “it is evident that Italian does not conform to Talmy’s generalization, since it behaves more like English than Spanish”.

Talmy’s typology was augmented by Slobin (2004) and Zlatev & Yangklang (2004) with a third class of languages, the “equipollently-framed languages”, because they exhibit serial verb constructions in which one verb may encode manner and one or more verbs may encode path. This would be the case of Thai, studied by Zlatev & Yangklang (2004: 165), ex. (7a), and of Emai, a Nigeria language of Edo group, studied by Schaefer (1986: 181), ex. (7b), (all examples taken from Beavers, Levin & Tham 2009: 22):¹

¹ Talmy analyses Mandarin Chinese as a satellite-framed language, but Slobin (1996, 2004) argues that Chinese is an equipollent-framed language (E-framed language), due to the existence of serial verb construction (SVC).

- (7) a. chán dæən (paj)
 I walk go
 ‘I am walking (away, towards something).’
 b. ɔli ɔmɔhe la o vbi oa
 the man run enter at house
 ‘The man ran into the house.’

Returning to Romance languages, Mateu & Rigau (2010) show that Italian is not so different from other Romance languages like Spanish, Catalan, French, at least in old phases; in fact, they present combinations that show the crucial role of prepositions and particles in the expression of motion and manner. All the examples in (8), (9) and (10) are from Mateu & Rigau (2010):

- (8) Old Spanish:
 a. *echar fuera* ‘throw out’
 b. *echar arriba* ‘throw up’
 c. *echar delante* ‘throw forward’
 d. *venir delante* ‘come forward’
 e. *volver atrás* ‘turn back’
 f. *subir arriba* ‘rise/raise up’
 (9) Old Catalan:
 a. *anar defora* ‘go out’
 b. *gitar fora* ‘throw out’
 c. *metre sus* ‘put up’
 d. *pujar sus* ‘rise up’
 e. *tirar defora* ‘throw out’
 f. *tornar amunt* ‘turn up’
 g. *treure sus* ‘draw up’
 h. *venir dessus* ‘come over’
 (10) Old French:
 a. *aller ariere* ‘to go back’
 b. *aller avant* ‘to go forward’
 c. *courir su* ‘to pursue, to attack’
 d. *mettre sus* ‘to put on’
 e. *issir fors* ‘to go out’

The authors conclude, therefore, that “verb-particle constructions are not a quirk of Italian but a Pan-Romance phenomenon.” (Mateu & Rigau 2010: 245)

All these phenomena show that the typological classification of Talmy (1985) must be reconsidered, as well as his notion of satellite.

In fact, his notion of satellite is too broad, as the following paragraph shows:

“satellites are certain immediate constituents of a verb root other than inflections, auxiliaries, or nominal arguments. They relate to the verb root as periphery (or modifiers) to a head. A verb root together with its satellites forms a constituent in its own right, the ‘verb complex’. In some cases, elements that are encountered acting as satellites to a verb root otherwise belong to particular recognizable grammatical categories; therefore, it seems better to consider the satellite role not as a grammatical category in its own right but as a new kind of grammatical relation.” (Talmy 1985: 102)

It is this definition that allows Talmy to consider as satellites English particles, German and Russian prefixes, Chinese co-verbs, among other elements. And to exclude prepositions. Therefore, in an English example such as (11), analysed by Beavers, Levin & Tham (2009: 7),

(11) *I ran out of the house.*

(Talmy 1985: 103)

out would be a satellite and *of* a preposition, suggesting that satellites are sister constituents of the verbs. But it seems obvious that *out of the house* is, as a whole, a constituent selected by the verb (*run* or *go*), as the cleft tests allow showing; see (12) and (13):

(12) a. ? *It was out of the house that I ran, not into the house.*

b. * *It was out that I ran of the house, not in.*

(13) a. *It was out of the house that I went, not into the house.*

b. * *It was out that I went, not in.*

(cf. Beaver, Levin & Tham 2009: 8)

Also Fábregas (2007) claimed that particles are nothing more than intransitive prepositions.²

All these proposals and the data already presented show that a language may show verb-framed and satellite-framed behaviors and that Talmy's notion of satellite is under discussion; it is why Beaver, Levin & Tham (2009) prefer to use the term 'satellite' in a broad sense in order to classify any constituent that is a sister or an adjunct to the verb root, including PPs. And they claim that the different options presented by languages depend not on a rigid typology but on: (i) morphological, lexical and syntactic resources that these languages have in order to express manner and path of motion; (ii) the role of the verb, which may express manner or path of motion; (iii) eventually, extra-grammatical factors.

It is in this perspective that we are going to analyse in the next section some examples of European Portuguese in which the relation between the V and the PPs is central and in which these ones constitute internal arguments of the verbs.

2 - The verb *ir* 'go' in European Portuguese

As we have said before, in this chapter we will focus our attention in inherent direction verbs such as *ir* 'go' and *vir* 'come', with subjects with the feature human, leaving behind many motion verbs, in particular those which mean manner of motion. The main goal will be to discuss argument structure and the structure of the VP whose head is *ir* 'go' or *vir* 'come'.

As the sentences in (14) to (16) will show, the verb *ir* 'go' may encode different parts of the motion event related to the different prepositions that may be selected: in (14) and (15) the sentence focalizes the Goal to which the Figures move; in (16) the sentence describes the Path that the Figure reaches from the Source to the Goal.

- (14) *A menina vai a casa da avó.*
 the girl goes to house of.the grandmother
 'The girl goes to her grandmother's house'
- (15) *No fim das aulas, vou para casa.*
 at.the end of.the classes, go to home
 'After classes I will go home'

² Some authors claim that, as in Vs with particles and adverbs, prepositions incorporate into Vs (for this perspective, see Mateu & Rigau 2010).

- (16) *O meu pai vai do Porto para Lisboa.*
 the my father goes from.the Porto to Lisbon
 ‘my father goes from Porto to Lisbon’

It was noticed by Cuartero Otal (2006) for Spanish that the verb *ir* ‘go’ may combine with Goal or may combine with Path, but cannot combine with Source alone, as in (17a and b):

- (17) a. * *Caminamos del Pueblo*
 walked1stPL from.the Pueblo
 ‘We walked from el Pueblo’
 (Cuartero Otal 2006: 21)
- b. * *Fuimos de Roma*
 went1stPL from Rome
 ‘We went from Rome’
 (Cuartero Otal 2006: 21)
- c. * *O meu pai vai do Porto.*
 the my father goes from.the Porto
 ‘My father goes from Porto’

However, in Portuguese, (17c) is acceptable in a contrastive context in which we compare different places with the role of Source, with a deleted Goal:

- (18) A – *De onde vai a tua família para o almoço de Natal?*
 ‘From where will your family go to Christmas lunch?’
 B- *O meu pai vai do Porto, mas a minha tia vai de Trás-os-Montes.*
 ‘My father goes from Porto, but my aunt goes from Trás-os-Montes’

As it was noticed by Pontes (1992: 24), for Portuguese, “*a* indicates the direction towards a place [the Goal] and implies that the subject arrives to his destination, but this is not his permanent or regular place; differently, *para* indicates the approach to the final Goal, the Destination.” (Pontes 1992, p. 24) (our translation).³

From this short presentation we can understand the importance of PPs and their relation to motion verbs. There have been many formal treatments of the

³ The verbs of direction are not equivalent from the aspectual point of view: for instance, *ir* ‘to go’ is atelic and *chegar* ‘to arrive’ is telic. For a semantic approach of movement verbs, see Oliveira & Leal (2015).

VP structure. Since Larson (1988), it is claimed that the verbal syntax obeys to decomposition and hierarchy, in order to describe the argument structure and the event structure of each verb.

In many analyses of motion verbs, the lower category is a PP.⁴ Referring to displacement (DVs) and motion verbs, Bosque (2015: 77) claims that:

“displacement verbs (DVs) include a preposition as the backbone of their lexical structure. The grammatical representation of these verbs contains a number of syntactic layers above and below this preposition, which may lack phonological features in certain circumstances. The lexical properties of this preposition, its internal argument, and the conflation processes in which it participates determine the lexical structure of the DV, as well as its overt syntax to a large extent.”

In these circumstances, some differences between Spanish and English would not result from a typological difference, but from the null or explicit nature of the preposition, mainly those which are associated to Goal, Direction and Path.

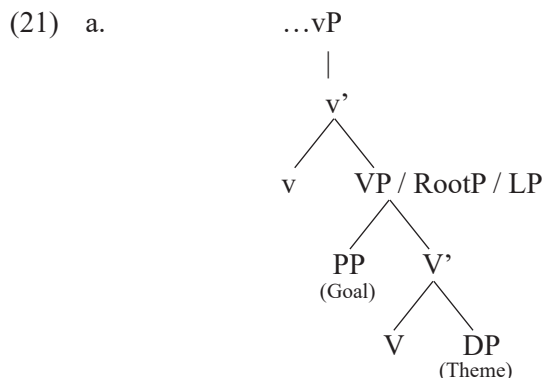
Bosque also notes that the redundancy, sometimes expressed in the V and in the Preposition, as in *subir arriba*, litt. ‘to climb up’ is largely variable from language to language and it is an important grammatical property.

We must note, however, that many motion verbs, in particular those of inherent direction like *ir* ‘go’ and *vir* ‘come’, are unaccusative, and therefore the “undergoer” is an internal argument, the most embedded argument.

Therefore, we will adopt the structure (21) as the basic structure of the VP with *ir* ‘go’ as its head; of course, DP movement and V movement to T apply, projecting the right word order, as in (14), here renumbered as (19), and (20):

- (19) *A menina vai a casa da avó.*
 the girl goes to house of.the grandmother
 ‘The girl goes to her grandmother’s house’
- (20) *No fim das aulas, vou para casa.*
 at.the end of classes, go to home
 ‘After classes I will go home’

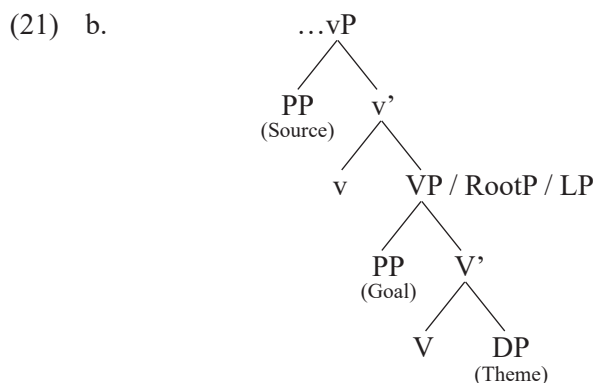
⁴ We will not analyse here the internal structure of PPs.



In (16), here renumbered as (22), the V *ir* ‘go’ has three, not two arguments:

(22) *O meu pai vai do Porto para Lisboa.*

One hypothesis is to adopt again a “VP shell” (Larson 1988):



Summarizing: *ir* ‘to go’ and *vir* ‘to come’ are two of the most important inherent direction verbs; in Romance languages and in European Portuguese, in particular, PPs are crucial for the expression of Source and Goal of movement and syntactically this is expressed by a highly hierarchically structured VP, in which PPs may occupy specifier positions of verbal projections.

3 - Motion verbs in Sign languages and in LGP

Sign languages and LGP, Portuguese Sign language, in particular, do not express prepositions and therefore, according to Talmy's typology, they are normally considered "verb-framed languages". In order to understand how these languages organize the sentences with motion verbs without prepositions, we will first present verbs' classification (3.1), we will discuss how motion verbs are generally studied in Sign languages (3.2) and then we analyse a brief corpus containing IR 'to go' and VIR 'to come' (3.3).⁵

3.1 - Verb classes in Sign languages

Padden (1988) and Padden (1990), for the American Sign Language (ASL), claim that verbs belong to three different classes:

- i) *plain verbs*, without agreement marks, without locative affixes and without person or number inflexion (it is the case of verbs like DREAM, THINK, LOVE and FORGET);
- ii) *agreement verbs* or *inflecting verbs*, with person, number and aspect marks, but without locative affixes (it is the case of GIVE, SAY, OFFER);
- iii) *spatial verbs*, a class of verbs without person, number or aspect inflexion, but that accept locative affixes, that represent a spatial *Locus* in the syntactic space (it is the case of PUT, GO, COME) (Padden 1990: 119).

Let us see, in the next section, how spatial verbs are generally considered according to the classical typologies of motion verbs.

3.2 - Inherent directional verbs in Sign languages and in LGP

According to Talmy's typology, Sign languages are generally considered "verb-framed" (cf. Slobin & Hoiting 1994), because they have no prepositions or particles and therefore it is important to analyse how these manual-motor and visual-

⁵ From now on, the words in LGP will be capitalized, as is customary in transcription of sign languages. Capital letters mark gloss in European Portuguese of LGP gestures.

-spatial languages express movement, in particular how they express the notion of inherent direction movement and the displacement of a Figure in a Path with the so-called spatial verbs.

In a Sign language, a verb of inherent direction is executed with a tridimensional movement of the dominant Hand and of the arm in the syntactic space, according to certain rules of use of space of each language. While Oral language like Portuguese and other Romance languages use prepositions as heads of PPs that are Oblique complements of verbs in order to describe the initial (Source) and final (Goal) places from where the Figure moves or is dislocated, Sign languages use other resources, in particular the Path, as it is the case of $\text{MOVE}^{L1 \rightarrow L2}$ in ASL, in which the Figure moves in a continuous Path from *Locus* 1 (L1) to *Locus* 2 (L2) (cf. Liddell 2003).

Therefore, if someone wants to describe the movement of an human Figure, the Hand(s) get(s) a particular form and move(s) in the syntactic space from an initial point (Source) to another point (Goal), previously determined in space or conventionalized (for instance, the signer's body, the non-dominant hand, the place of YOU or of HE).

Supalla (1990) distinguishes manner movement verbs (*andar* 'to walk', *correr* 'to run', *saltar* 'to jump') from direction movement verbs (*ir* 'to go', *vir* 'to come'); in ASL he only considers the latter as "verb-framed", because the former use the body in a complex way. In fact, the latter merge movement and Path and this is why Supalla calls them "one-handed verbs", distinguishing them from "full-body verbs". Supalla (1990) admits, therefore, that the use of classifiers by hand configurations (in an iconic relation with the Figure or the manner of dislocation) or body movements may be considered satellite resources, identical to those used by "satellite-framed" Oral Languages. With a verb like "run", ASL uses not the two fingers as in "walk" but two closed hands, which make circular movements of the arms, in parallel to the slight movement of the upper part of the body.

Developing the proposal for ASL by Supalla (1990), Slobin & Hoiting (1994) analyse direction movement verbs and manner movement verbs in SLN, the Sign Language of the Netherlands, and notice that this language has *serial verb constructions* in order to transmit the manner of movement. So, in a sentence like (23) in SLN, there is a sequence of three verbs which transmit not only the manner of movement but also the direction of Path.

(23) MAN HOUSE RUN APPROACH ENTER

(Slobin & Hoiting 1994: 492)

Differently from Supalla (1990), the authors consider that this type of construction may be analysed as an illustration of “verb-framed” languages, because it is in the scope of verbs that the manner of movement and the Path are expressed, under strong syntactic constraints: in particular, the manner verb precedes the inherent direction verb (Slobin & Hoiting 1994: 490). However, it is important to note the proposal by Slobin (2004) and Zlatev & Yangklang (2004), who claim that there is a third class of languages, the “equipollently-framed languages”, which would be an adequate classification for SLN.

3.3 - IR ‘to go’ and VIR ‘to come’ in LGP

Let us see now what happens in LGP. The different semantic values expressed by prepositions in Oral Languages, as we have seen in the previous section for Portuguese, are transmitted by the direction of Path, that is to say, by the direction of the real movement executed in the syntactic space and by the final and initial points of this Path.

We present from (24) to (26) some sentences in LGP:

- (24) MENINA FEMININO_AVÔ DELA CASA IR^{L1(signer’s space)→L2(neutral space in front of the signer)}
 girl grandmother her house go
 ‘The girl goes to her grandmother’s house’

- ____Is
 (25) AULA FIM EU CASA IR^{L1(touch in body)→L2(neutral space in front of the signer)}
 class end i house go
 ‘At the end of classes I will go home’

- ____lp
 (26) PAI MEU CARRO PORTO IR^{L1→L2} LISBOA^{(near the addressee (L2))}
 father my car Porto go Lisbon
 ‘My father goes from Porto to Lisbon’

In all sentences the Path starts from an initial point (L1) and ends in a final point (L2), independently of the fact that focus is in the Goal (cf. 24 and 25) or in the Source and in the Goal (26), due to the spatial nature of these languages.

In this sense, LGP verbs, although expressing a crucial part of the information

about their event and argument structures, are supported by the real path motion and by the use of final and initial points, which is equivalent to the information values of prepositions *de* ‘from’, *para* and *a* ‘to’.

As for the way this language expresses manner of movement, as in *limp into* x, LGP presents, like SLN, serial constructions, as in (27) and (28).

- (27) J-O-Ã-O CASA ANDAR.A.COXEAR_{CL: two legs limping} ENTRAR
 John house walk limp (two legs limping) enter
 ‘John limped into the house’
- (28) HOMEM CASA CORRER_{CL: handshapes in ‘G’, circle movement and slight movement of body} ENTRAR
 man house run enter
 ‘The man entered in the house running’

Other examples confirm this strategy, although with some word order variation that we are not analysing here:

- (29) a. HOMEM CASA CORRER
 man house run
 b. HOMEM CORRER CASA IR
 man run house go
 c. HOMEM CASA CORRER IR
 man house run go
 ‘the man ran to the house (entered into the house running)’
- (30) a. MÃE CASA ANDAR.LENTO_{CL: slow and large movement}
 mother house walk slowly (slow and large movement)
 b. MÃE CASA ANDAR.LENTO_{CL: slow and large movement} IR
 mother house walk slowly (slow and large movement) go
 c. MÃE ANDAR. LENTO_{CL: slow and large movement} CASA IR
 mother go slowly (slow and large movement) house go
 ‘Mother entered slowly home’
- (31) a. MENINO ESCOLA ANDAR.SALTOS_{CL: repetitive angle movement; CNM}
 child school walk jumps (repetitive angle movement)
 b. MENINO ESCOLA ANDAR.SALTOS_{CL: repetitive angle movement; CNM} IR
 child school walk jumps (repetitive angle movement) go
 c. MENINO ANDAR.SALTOS_{CL: repetitive angle movement; CNM} ESCOLA IR
 child walk jumps (repetitive angle movement) school go
 ‘The child went jumping to the school’

Bearing in mind what we said, we think that Talmy typology applied to Sign languages must be reviewed because it is insufficient to explain LGP. In fact, LGP is not just a verb-framed language and is closer to an “equipollently-framed language” (cf. Slobin 2004 and Zlatev & Yangklang 2004), in which manner and path are given by distinct verbs.

4 - Some conclusions

One of the most important contributions for the understanding of linguistic expression of space and motion verbs was Talmy’s (1985, 2000), because he showed the importance of notions like Figure, Motion, Path, Ground, Manner, and Cause. Another contribution was his typology of languages; some languages seem “satellite-framed”, other languages seem “verb-framed”. However, this classification has problems, especially due to Talmy’s definition of satellite; Romance languages, that in some aspects seem verb-framed, in other aspects seem satellite-framed, with a crucial importance of prepositions.

Sign languages, which have no prepositions, have been considered “verb framed”. However, a more detailed analysis of a brief corpus of LGP shows that, while it is true that this sign language is not a satellite-framed language, it has properties that show that verbs are not the only way to express movement. Also, in order express path and manner of motion, LGP is close to the third type proposed by Slobin (2004) and Zlatev & Yangklang (2004) – the “equipollently-framed languages” – because it exhibits serial constructions, in which manner and path of movement are given by distinct verbs.

The general conclusion from the research of Oral languages and Sign languages is, therefore, that, more than a typological classification, we must understand morphological, lexical and syntactic resources that languages use in order to codify path and manner movement and the role of the verb in the expression of these notions, in line with Beavers, Levin & Tham (2009).

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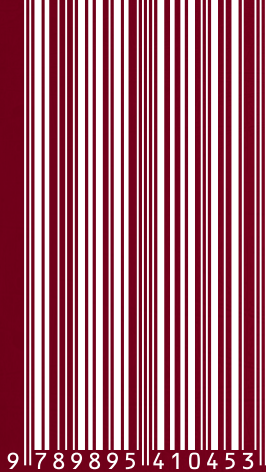
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verbs movement and prepositions

