

FERNANDA SERPA FRITSCH

DATIVE ALTERNATION:  
A SYNTACTIC AND SEMANTIC PHENOMENON

Dissertação apresentada como requisito parcial à obtenção do grau de Mestre em Teoria e Análise Linguística pelo Programa de Pós-Graduação da Faculdade de Letras da Pontifícia Universidade Católica do Rio Grande do Sul.

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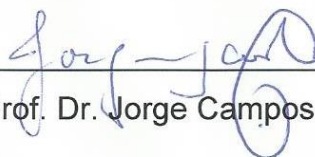
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## RESUMO

Entre os estudos a respeito da transitividade verbal, está o estudo de verbos bitransitivos. Estes são os verbos que possuem dois argumentos internos, fato que gera questionamentos e desafios a respeito de sua estrutura sintática. Um de tais desafios está relacionado à variação em estrutura conhecida como Alternância Dativa. Esta alternância parece estar restrita a apenas algumas línguas; ela ocorre na língua inglesa, mas, aparentemente, não é encontrada em línguas românicas, como o português. Existe, no entanto, uma mudança de significado que é resultado desta alternância nas línguas em que é encontrada; em inglês, por exemplo, a estrutura conhecida como dativa (V NP PP) está associada a um significado de movimento, enquanto a outra estrutura, conhecida como variante de duplo objeto, ou DOC (V NP NP), está associada a um significado de posse. Este fato dá margem a perguntas a respeito de como as línguas que não apresentam a Alternância Dativa expressam estes significados. Ao estudar a estrutura de verbos bitransitivos em português, em busca de uma resposta, é possível observar que existe uma alternância em estrutura, que não segue os mesmos padrões da Alternância Dativa em inglês, já que os argumentos internos em português podem alternar em ordem, mas o argumento recipiente não perde sua preposição; em um dialeto, no entanto, existe a possibilidade de uma ordem tal como V NP NP, porém, sem um significado de posse, aparentemente causando apenas mudança de foco entre o tema e o recipiente. As estruturas dos verbos bitransitivos, tanto em português quanto em inglês, precisam de uma explicação sintática, e duas teorias que podem ser usadas para formular essa explicação são a teoria da Regência e Ligação de Chomsky (GB), e a Head-driven Phrase Structure Grammar (HPSG), de Pollard e Sag. A primeira é a teoria mais adotada e seguida dentro do modelo gerativista, enquanto a última tem desenvolvimento recente, baseando-se em um conceito ampliado do léxico, como mais do que apenas uma lista de entradas. Contudo, ambas as teorias parecem não dar conta de explicar os verbos bitransitivos e as diferenças semânticas geradas pela alternância de suas estruturas sintáticas. GB, defendendo uma estrutura de ramificações binárias, tem dificuldade em explicar como um verbo pode selecionar dois argumentos internos, sugerindo que os argumentos acusativo e dativo dos bitransitivos estabelecem diferentes relações com o verbo. HPSG, por outro lado, não se prende ao número de argumentos, e defende que ambos dativo e acusativo são “sisters” na estrutura argumental.

**Palavras-chave:** verbos bitransitivos. alternância dativa. GB. HPSG.

## ABSTRACT

Among studies of verb transitivity, the study of ditransitive verbs can be found. These verbs are those which have two internal arguments, a fact which has raised a number of questions and challenges concerning their syntactic structure. One of these challenges is related to a variation in structure known as Dative Alternation. Such an alternation seems to be restricted only to some languages; it occurs in English, but apparently cannot be found in Romance languages of which Portuguese is an example. There is, however, a change in meaning caused by the alternation in the languages where it can be found; in English, for instance, the structure known as dative (V NP PP) is associated with a motion meaning, while its alternate, known as double-object variant, or DOC (V NP NP), is associated with a meaning of possession. This fact raises a question as to how languages which do not present Dative Alternation convey such meanings. In studying the structure of ditransitive verbs in Portuguese in search of an answer, it is possible to observe that there is an alternation in structure, even if it does not seem to follow the same pattern as Dative Alternation does in English, since the internal arguments in Portuguese may switch in order, but the recipient argument does not lose its preposition; in one dialect, though, there is the possibility of an order such as V NP NP occurring, but its meaning is not related to possession; it seems to cause only a change in focus between the theme and the recipient. The structures for ditransitive verbs both in Portuguese and in English call for a syntactic explanation, and two theories which might be used in order to provide this explanation are Chomsky's Government and Binding Theory (GB) and Pollard and Sag's Head-driven Phrase Structure Grammar (HPSG). The first is the most widely adopted and followed theory among those in the generative model, while the latter has been developed more recently, based on a bigger concept of lexicon, differing from simply a list of entries. Both theories, however, seem to fail in explaining ditransitive verbs and the semantic differences arising from the alternation of their syntactical structures. GB, following a binary branching approach, presents difficulties to justify how a verb can select two internal arguments. Suggesting that the accusative and dative arguments establish two different sorts of relation with the verb. HPSG, on the other hand, is not fastened to the number of arguments a verb may select, defending that both datives and accusatives are sisters in the argument structure.

**Keywords:** ditransitive verbs. dative alternation. GB. HPSG.

## LIST OF ABBREVIATIONS

The following table describes the significance of various abbreviations and acronyms used throughout the thesis. The page on which each one is defined or first used is also given.

<b>Abbreviation</b>	<b>Meaning</b>	<b>Page</b>
A (lexical item)	Adjective	17
A (thematic role)	Agent Argument	32
AP	Adjective Phrase	18
AVM	Atribute Value Matrix	9
BIP	Binding Inheritance Principle	24
CFG	Context-free Grammar	15
CG	Categorial Grammar	14
Comp	Complement	20
CP	Complement Phrase	21
DOC	Double-object Variant for Ditransitive Verbs	8
D – structure	Underlying Structure	16
FFP	Foot Feature Principle	24
GB	Government and Binding Theory	7
GPSG	Generalized Phrase Structure Grammar	15
HFC	Head Feature Convention	24
HFP	Head Feature Principle	24
HPSG	Head-driven Phrase Structure Grammar	7
ID rules	Rules of Immediate Dominance	15
IP	Inflection Phrase	22
LF	Logical Form	16
LFG	Lexical Functional Grammar	9
LP rules	Rules of Linear Dominance	15
N	Nouns	17
NP	Noun Phrase	8
P	Preposition	17
P&P	Principles and Parameters Theory	24
PF	Phonological Form	16
PHON	Phonetic Form	25
PP	Prepositional Phrase	8
Psoas	Parametrized-state-of-affairs	26
R	Recipient-like Argument	32
RG	Relational Grammar	15
S	Sentence	20
S-structure	Superficial Structure	16
SYNSEM	Syntax and Semantics	25
T	Theme Argument	32
UG	Universal Grammar	16
V	Verb	8/17
VP	Verb Phrase	17

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## 1 INTRODUCTION

Verbal transitivity both in Portuguese and English has always been a very intriguing topic of study. Although many linguists have dedicated their time on this matter, there is still a lot of interesting aspects of verb complementation to be discussed.

Ditransitive verbs have been at the center of research on argument-structure and syntactic theory. The idea that a verb takes two internal arguments has given rise to a series of challenges to linguistics. Firstly, ditransitives pose a challenge because they intrinsically participate in argument structure alternations, such as Dative and Locative alternations. Secondly, because cross-linguistically ditransitives exhibit interesting variation in terms of morphosyntactic expression of the arguments, such as Case and word order. At last, but not least, ditransitives have also been a challenge for the syntactic theory itself, considering that a verb takes two internal arguments, these two selected semantic arguments could be represented as two sisters, challenging the data concerning asymmetrical hierarchical relations, which defend the binary branching as the only option, contradicting a ternary branching hypothesis, as discussed in Cuervo (2010).

Several theories, among them Chomsky's Government and Binding Theory, have dedicated their time on the issue of ditransitive constructions. However, there are still a lot of questions to be answered when it comes to the syntactic representation of ditransitives, as well as problems arising from the alternations such verbs may suffer. How are ditransitive verbs represented in tree-argument structures? Do the alternations ditransitive verbs suffer result in difference of meaning? If there is difference in meaning, are the different meanings expressed through different argument-structure realizations?

Considering these, and other questions, the present paper intends to discuss ditransitive constructions in both Portuguese and English languages. In order to do that, we will compare two theories, namely Chomsky's Government and Binding Theory (GB) and Pollard and Sag's Head-driven Phrase Structure Grammar (HPSG), in trying to discover which one better explains the Dative Alternation phenomenon.

We here choose to work with GB because since its inception in the 50's it remains as the most influential syntactic theory. Our choice on HPSG, however, was made considering first that, as HPSG presents a highly lexicalist approach, it seems to better explain the phenomenon of Dative Alternation to what concerns its semantic differences. Moreover,

HPSG is a recent theory on language processing, and for this reason, there are just a few studies about Portuguese structures based on such a grammar.

Conversely, our choice on the Dative Alternation phenomenon is due to the fact that such alternation seems to be restricted to some languages, not being allowed for instance in Romance languages, such as Portuguese and French. However, languages such as English that do present this phenomenon exhibit difference in meaning.

The main goal of this study is to offer a syntactic-semantic description of the ditransitive verbs both in Portuguese and English, through the analysis and discussion of the differences in meaning distinct syntactic patterns may motivate. We are trying to find out whether the dative alternation in English generates semantic differences and if this phenomenon also occurs in Portuguese.

It is known that the Dative Alternation phenomenon in English is related to the alternation between the structures V NP PP and V NP NP. This alternation in addition to converting a PP in an NP, with the loss of the preposition, also inverts the order of the internal arguments (theme and recipient), causing a change on the meaning of the sentences. The dative variant (V NP PP) is associated with a motion meaning, while the double-object variant (V NP NP), hereinafter DOC, is associated with possession meaning.

The paper will be divided into three main chapters. In chapter two, the two theories used in this thesis will be briefly presented and contrasted. Firstly, an overview on the most recent and debated syntactic theories will be offered, for this part we lean mainly on Sag & Wasow's (1999) paper. Next, Chomsky's GB theory will be introduced in a more detailed way, based especially on Black (1999) and Haegeman (1999), followed by a minute description of HPSG based on the explanations by Pollard & Sag (1994). At the end of the second chapter, the two theories in focus will be finally contrasted, comparing also to the other theories they evolved from.

Chapter three will be devoted to comparing and discussing English ditransitive verbs against their Portuguese counterparts. Firstly the objects under investigation will be delimited. We will determine what a ditransitive verb/construction is - for this we lean especially on Malchukov, Haspelmath and Comrie (2007) - and also what defines a Dative Alternation, based on Oehrle (1976), Larson (1988), Malchukov, Haspelmath and Comrie (2007), Salles (2010) among others. After that, the Dative Alternation in English will be presented, focusing the discussion on the semantic differences arising from the use of two possible object constructions with English ditransitive verbs: double object construction (DOC), and to-dative construction, for this analysis we lean on authors such as Oehrle (1976), Francez (2006),



Soares & Menuzzi (2010), Beavers (2011), among others. Next, Portuguese ditransitive verbs will be introduced, based on the works by Scher (1996) and Armelin (2010), and a comparison to English patterns will be made in order to analyze whether this category of verbs behaves similarly in both languages or not. In the last section of this chapter, a hypothesis on how Portuguese ditransitive verbs behave will be raised, based mainly on the assumptions by Scher (1996), Cuervo (2003), Morais (2006), Armelin (2010) and especially Pylkkänen's (2002) theory of high and low applicatives.

Chapter four will be dedicated to analyzing, by means of examples, how GB and HPSG theories would represent such semantic differences arising from the alternating patterns of ditransitive verbs both in Portuguese and English. The first section is dedicated to discussing how GB analyzes such phenomenon, and my analysis there leans especially on Larson (1988). In the second section, HPSG theory will try to explain the same phenomenon, and this study is based especially on Bender, Sag & Wasow (2003) and Koenig & Davis (2003). Finally, in the last section, the two approaches are contrasted.

What concerns chapter two, we argue that both GB and HPSG share the same goal, which is to characterize human linguistic competence, by means of judgment of speakers to define whether a sentence is acceptable or not. Moreover, GB and HPSG demonstrate to have evolved from other syntactic theories, sharing many constructs and hypothesis with them. For instance, HPSG's AVMs and the claim for a highly enriched lexicon are hypothesis borrowed from Lexical Functional Grammar (LFG).

In chapter three, what defines a ditransitive verb is established – a verb which requires two internal arguments which, in English for example, may occur either as an NP and a PP or as two NPs. Dative alternation is also defined as being a sort of syntactic alternation in which arguments of the same verb may present different syntactic realizations (an argument recipient, for instance, may occur either as a PP or as an NP), this phenomenon only occurs with a very peculiar class of verbs: non-Latinate ditransitive verbs in which one of the arguments must have the thematic role of possessor. Still in chapter 2, English Dative Alternation is presented and discussed as to how such alternation results in semantic differences. It is stated that when the syntactic variation is possible, the Double object variant (V NP NP) is associated to causation of possession ('X causes Y to have Z'), whereas the prepositional variant (V NP PP) is associated to causation of movement ('X causes Z to go to Y'). In the last section, Portuguese ditransitive verbs are presented and analyzed, there is not consensus about ditransitive constructions in this language, but it can be established that Dative alternation in the same way as it occurs in English is not possible in Portuguese,

considering that the Double object variant is not viable, because Portuguese does not accept the deletion of the preposition of the recipient argument. One hypothesis raised on the semantics of ditransitive verbs in Portuguese is, as suggested by Armelin (2010), that the choice of the recipient argument prepositions would convey a different meaning: when only “*para*” can be selected by the verb, it is associated to movement, while the choice for both “*a*” and “*para*” would suggest a causation of possession, similar to what happens in English in the Dative Alternation.

As for chapter four, GB and HPSG theories are analyzed as to how they represent and explain the syntactic and semantic phenomenon of Dative Alternation in both English and Portuguese. We reach the conclusion that neither theory currently explains satisfactorily enough the phenomenon to its entirety both syntactically but especially semantically. Considering this then, I suggest possible avenues of investigation for future papers in the area: concerning GB, I propose the possibility for the Portuguese prepositions “*a*” and “*para*” to be considered contentful (as defended by Larson (1988) regarding the preposition *to* in English) and therefore explain the different meanings ditransitive verbs may convey. As for HPSG, a hypothesis for the explanation of the phenomenon in Portuguese might be raised in terms of the different lexical entries of “*a*” and “*para*” in the lexicon, suggesting that they represent different meanings and therefore change the connotation of the verbs they are associated with.

## 2 INTRODUCING THE THEORIES

This chapter is aimed to discuss and compare the theories that constitute the framework with which we work in this thesis. In the first section, an overview of the syntactic theories is offered. Then, Chomsky's Government and Binding Theory is introduced and its principles, such as X-bar Theory, Theta Theory, Subcategorization, are discussed. In the third section, Head-driven Phrase Structure Grammar is presented and finally it contrasted against GB in the last section of this chapter.

### 2.1 SYNTACTIC THEORIES

What is human language? What is the connection between the sound of a word, its grammatical structure and its message? What is it about a language that makes it possible for people to communicate? These and other questions have been raised along the years and it has been the purpose of many theories to answer them.

According to Sag & Wasow (1999), until about 1800, almost all the studies on language were primarily prescriptive; linguists tried to codify the 'correct' way of talking. A turning point in the history of linguistics took place at the end of the eighteenth century, when it was discovered that there was a historical connection among most of the languages in Europe and other languages of India as well. This fact led linguistics studies to the reconstruction of the family tree of the Indo-European languages, by means of comparing the modern languages with each other and with older texts (historical linguistics). Although most of the effort of this time concerned the correspondences between individual words and sound within words, syntactic comparison was also initiated during this period.

In the early twentieth century, many linguists turned their attention to synchronic analyses of languages, mostly influenced by Ferdinand de Saussure, the Swiss philologist who is considered the creator of modern linguistics and who believed language was part of a social psychology. Saussure described language (*langue*) as a shared psychological system of signs. He understood a sign as a mental associative bond between two mental objects called the signifier (*signifiant*) and the thing signified (*signifié*). The *signifiant* is what might nowadays be called phonological representation, that is, it is the psychological image of the sound of a word; the *signifié*, on the other hand, is what might be called semantic representation, that is,

the psychological concept of a word. According to Saussure's view, the possibility of linguistic communication comes from the sharing of a sign system among the members of a community.

Meanwhile, in the United States, American linguists such as Edward Sapir and Benjamin Lee Whorf talked about how language could provide insights into how people think. Moreover, Saussure's linguistic conceptualism fell into disrepute during the era of American structuralism, dated from the publication of Bloomfield's *Language* in 1933 to 1957 when Chomsky published *Syntactic Structures*. During this time, structuralists were concentrated in the gathering and classification of data from the languages of the world and their main theoretical constructs, such as the morpheme and the phoneme, were seen as classes of physical events rather than psychological objects.

However, within a few years after Chomsky's introduction of transformational generative syntax, mentalism had reasserted itself as the conventional view in the linguistic community, and the human mind - or some part of it - was their main object of study. This reemergence of linguistic conceptualism, or mentalism, really coincided with the emergence of syntax as an object of study.

Syntactic objects, phrases and sentences, are infinite in number and therefore there is no way of obtaining an exhaustive characterization of them, for that reason syntax has been characterized in terms of "finite systems of recursively applicable rules relying largely upon judgments of grammaticality" (POLLARD AND SAG, 1987, p. 03), and its theories have tried to establish general rules that account for the infiniteness of the objects and that apply to all natural languages.

This section here is intended to present an overview of the syntactic theories that are closely related to the main theories we will be working on in this thesis. To clarify how GB and HPSG are connected, we provide here a brief history of generative grammar.

Generative syntax began in the '50s when Noam Chomsky published *Syntactic Theories* (1957), in which he formalized a theory of grammar based on the notion of transformation. Chomsky developed the idea that each sentence has two levels of representation – a deep structure and a surface structure. The deep structure represented the semantic relations of a sentence and it was mapped on the surface structure by means of transformations (Transformational Grammar).

The *Early Transformational Grammar* (1955-1964) established "explicit formal statements of rules intended to license all and only the well formed sentences of the language under discussion" (SAG & WASOW, 1999, p. 414). Such grammar required that sentences

were associated with a sequence of trees related by transformations, for example, passive sentences and active sentences were derived from the same underlying structures and, by means of passivization transformation, the order of the NPs was permuted and the words *be* and *by* were inserted in the appropriate places.

Years later, Katz and Postal (1964) and Chomsky (1965) introduced some major changes into the transformational grammar resulting in the *Standard Theory* (1965-1970). Among the innovations of this theory were the recursive phrase structure rules - which allowed the elimination of transformations that combined multiple trees into one – as well as the introduction of syntactic features to account for subcategorization (valence). Another important conceptual change was the addition of a semantic component, in which the transformations were thought to be the primary link between sound and meaning. Although no current theories maintain the centrality of transformations, most contemporary grammatical theories have preserved these three main innovations of the Standard Theory.

As for *Generative Semantics* (1967-1974), it carried the central idea of the Standard Theory to its logical conclusion, in the sense that deep structures should themselves be viewed as representations of meaning, and also denying that syntactic and semantic rules should be considered distinct components of grammar. In such theory, something was considered a possible input to the transformational rules only if it represented a proposition that made sense. Hence all languages could derive from the same underlying source, differing only in how the underlying representations get transformed into sounds (SAG & WASOW, 1999, p. 416).

Unlike the generative semanticists, Chomsky and Jackendoff quickly abandoned the idea that pairs of sentences with identical deep structures were synonymous. They argued that transformations that reordered quantified NPs, for example, could change the scope of the quantifiers. For them, structures, other than deep structures, must play a role in semantic interpretation. Instead of complex underlying trees and elaborate transformational derivations of Generative Semantics, the *Extended Standard Theory* (1967-1980) posited an impoverished theory of transformations and it enriched other components, such as schematization over phrase structures rules and an augmented conception of the lexicon, including lexical rules.

*Government and Binding Theory* (1980-present) develops the modular style of EST, dividing the theory of grammar into a set of subtheories with their own universal principles. Although transformational derivations are still used to analyze sentences, GB reduces the transformational component to a single rule, Move  $\alpha$ . GB's primary focus has been to

develop a theory of universal grammar, claiming that many of the principles that make up the theory of grammar are parameterized, varying within a very narrow range (Principles and Parameters). According to this theory, all languages are essentially alike and learning a language consists of fixing a small set of parameters (plus vocabulary).

Parallel to the Transformational Grammar stands the Constrained-based Lexicalist Grammar, in which there are no transformational rules and most grammatical and semantic information are located within lexical entries. This grammar has two basic properties: according to the constrained-based architecture, instead of transformational derivation, grammars are based on the notion of constraint satisfaction; and the strict lexicalism defends that words are the atoms of the syntax, and their internal structure is invisible to syntactic constraints.

The first constrained-based grammar developed was the *Categorial Grammar* (1974-present), dating back to the 1930s with mathematical logicians, but only in the early 1970's, with Montague, it came to attention of linguistics. CG's central idea is that "an enriched conception of grammatical categories can eliminate the need for many of the constructs (transformations) found in other theories of grammar" (SAG & WASOW, 1999, p. 420). Furthermore, there is no formal distinction between lexical and nonlexical categories, and the categories are defined in terms of their members' potential for combining with other constituents.

Differently, in *Construction Grammar* (1988 – present), linguistic objects such as sentences, phrases and words are taken as constituent structure trees whose nodes are occupied by feature structures which contain syntactic, semantic and phonological information. According to Sag and Wasow (1999, p. 433), "a construction grammar is a set of constructions that can be unified to create the set of sentences of a language".

As for *Dependency Grammar* (1959- present), it defends that the verb is the center of all clause structure, while all other syntactic units are directly or indirectly dependent on the verb. They are distinct from phrase structure grammars because they lack phrasal nodes. Furthermore, phrase structures are attracted by the formal clarity of the phrase structure trees. Many linguists, especially in Europe, have attempted to develop the traditional approach but with the emphasis on the relationships among words rather than on grouping of words. This way, it is said that words are different and one serves to modify the meaning of the other, for example, *cool students* denotes certain students while *students writing essays* denotes a type of writing. These relationships among words are called 'dependencies', considering that the modifying word depends on the modified one.

*Generalized Phrase Structure Grammar* (1979 – 1987), or GPSG, has as its central idea that standard context-free phrase structure grammars can be enhanced to be made suitable for the description of natural language syntax rather than by enriching their generative capacity. Among its important ideas are the separation of CFG rules into ID RULES (rules of immediate dominance), which specify which phrases can appear as daughters in a local syntactic tree; and LP RULES (rules of linear precedence), which specify general constraints that determine the order of daughters in any local tree. These ideas are preserved in HPSG, which will be discussed shortly.

As previously mentioned, in the early theories of generative grammar, transformations were defined in terms of structural properties of tree diagrams, that is, traditional notions like “subject” and “direct object”, for instance, were regarded as shorthand for relations between linguistic elements definable in terms of geometry trees (SAG & WASOW, 1999, p.437). In the view of *Relational Grammar* (1974 – present), however, grammatical relations are redundant; its grammatical rules, even while adopting primitives that are closely related to the traditional relational notions between subject and direct object, formulations based on tree configurations are replaced by relational terms; in other words, the passive rule, for example, is explained in terms of the promotion of the direct object to subject, instead of the structural rearrangement of NPs. This way, rules are allowed to be given very general formulations that apply across languages. Characterizing passivization in terms of promotion of objects does not depend on whether subjecthood and objecthood are indicated by word order or any other means. HPSG’s notions of “specifier” and “complements”, for example, are generalizations of the notions of “subject” and “object” in RG. Languages use very different devices to mark these relations, such as word order, agreement, case marking, and etc, so a theory whose primitives are closely related to these devices would not be able to express crosslinguistic similarities.

*Lexical Functional Grammar* (1979 – present), or LFG, shares with Relational Grammar the idea that concepts such as “subject” are of central importance and cannot be defined in terms of tree structures. However, phrase structures are also treated as an essential part of grammatical description so that LFG has focused on the development of a universal theory of how constituent structures are associated with grammatical relations.

Finally, *Head-driven Phrase Structure Grammar* (1984 – present), or HPSG, has been developed as an effort to synthesize ideas from a variety of perspectives from the early and mid-80s. According to HPSG, dependency relations are lexically encoded as “defended” in

Dependency Grammar, Categorical Grammar and Lexical Functional Grammar. Some of the main ideas claimed in HPSG are:

(1) a sign-based architecture; (2) the organization of linguistic information via types, type hierarchies, and constraint inheritance; (3) the projection of phrases via general principles from rich lexical information; (4) the organization of such lexical information via a system of lexical types; and (5) the factorization of phrasal properties into construction-specific and more general constraints. (SAG & WASOW, 1999, p. 435)

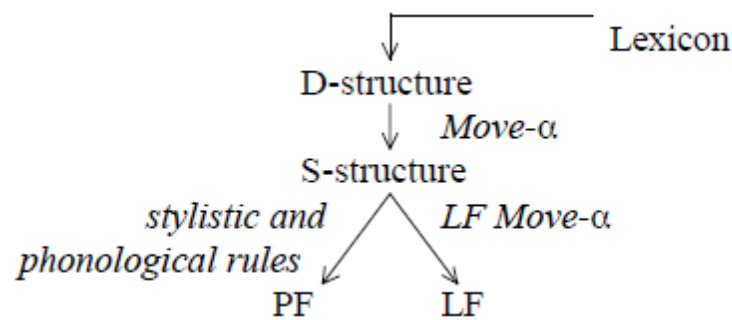
As we could notice, both GB and HPSG are influenced by various syntactic theories, their central ideas are, in fact, reformulations of other theories' perspectives. The next sections are aimed to better explain GB's and HPSG's principles.

## 2.2 CHOMSKY'S GOVERNMENT AND BINDING THEORY

Government and Binding theory (GB) is a theory of syntax developed by Chomsky in the 1980's, based on the Principles and Parameters model of language. This theory assumes that a large portion of the grammar of any particular language is common to all languages, and is therefore part of Universal Grammar (UG). GB defends the view that UG can be broken down into two main components: levels of representation and a system of constraints.

GB assumes a derivational model consisting of four levels of representation: D-structure, S-structure, Phonological Form and Logical Form (figure 1). The lexicon lists the idiosyncratic properties of lexical items which will constitute the atomic units of the syntax. These properties contain what arguments the items subcategorize for. The lexical items will be combined together at the D-structure (underlying structure). This D-structure is then mapped into S-structure, "which is the syntactic representation that most closely reflects the surface order of the sentence (BLACK, 1999). The S-structure, in turn, will be divided into Phonological Form (PF) and Logical Form (LF). PF is the interface with Phonology, it is in this level that shapes, sounds and groupings of items are represented. LF is the interface with Semantics, where predication relationships are explicitly represented in the phrase structure.





(BLACK, 1999, p. 02)

According to Chomsky (1988), UG distinguishes four main categories of lexical items: verbs (V), nouns (N), adjectives (A) and prepositions (P). Each one of these items receives a projection of which they are the heads, forming the phrases - understood as meaningful grouping of words. Thus, a noun phrase (NP), for example, is a grouping of words whose head is a noun. However, heads are picky about choosing the elements that can combine with them to form a phrase.

(1) VP examples:

- a. *John died.* / \**John died the corpse.* / \**John died Mary.*
- b. *Lucy relied on Ben.* / \**Lucy relied to Ben.* / \**Lucy relied.*
- c. *Anna revealed the answer to John.* / \**Anna revealed.* / \**Anna revealed to John.*

Every lexical category selects/takes phrases as complements. However which complements are taken by a particular verb is an arbitrary property of that verb. In (1-a), for example, *died* did not take any complements; while in (1-b), *relied* selected a PP as complement with the preposition *on* as the head; (1-c), in turn, *revealed* selected two complements, one NP and one PP. These complement selection requirements can be represented in subcategorization frames, as shown in (2), where the brackets delimit the phrase and the bar indicates the position of the lexical head. Required complements are simply listed, whereas optional complements are in parenthesis. In cases in which a complement subcategorizes for a particular head, this head is listed as a feature on the complement (BLACK, 1999).

- (2) a. *die*, V, [ \_ ]
- b. *rely*, V, [ \_ PP[on] ]

c. reveal, V, [ \_ NP PP[to] ]

Adjectives, nouns and prepositions also subcategorize for their complements.

(3) AP examples

a. She was *red*. / \*She was *red that Sylvia would win*

red, A, [ \_ ]

b. I'm *afraid (of snakes)* / \* I'm *afraid to this issue*.

Afraid, A, [ \_ (PP[of] ) ]

(4) NP examples

a. I met a *group (of students)* yesterday. / \*I met a *group to Fred* yesterday.

group, N, [ \_ (PP[of] ) ]

b. I read a *book (about photography)*. / \*I read a *book to Fred*.<sup>1</sup>

book, N, [ \_ (PP) ]

(5) PP examples

a. This is *about the talk*.

about, P, [ \_ NP ]

b. We should talk *before Bill arrives*.

before, P, [ \_ S ]

There is no way of generalizing which complements are taken by each type of phrase, for example, although the adjective *red* does not accept a sentence as complement (in fact, *red* does not accept any complement), other adjectives may subcategorize for a whole sentence as in “She was devastated *that Peter lost the competition*”. Moreover, the same preposition, for instance, may subcategorize for more than a type of complement; consider *before*, it can select a whole sentence as in (5-b) or just an NP, as in “We should leave *before midnight*”.

What can be generalized though is that lexical categories (V, N, A, P):

- a) subcategorize for their complements;
- b) precede their complements in the phrase and
- c) co-occur with other constituents.

Black (1999, p. 04) calls attention to the fact that

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<sup>1</sup> Note that *to Fred* is subcategorized by the verb and not by the noun.

Heads and complements are not the only parts of phrases. For example, NPs can be preceded by words (or sometimes phrases) like: the, no, some, every, John's, my mother's. APs can be preceded by degree words such as: very, extremely, rather, quite. These items differ from complements because they precede the lexical category and they are not subcategorized for. They are called **specifiers**.

GB attempts to apprehend the similarities between different categories of lexical phrases by assigning them the same structure, rather than having a different structure rule for VPs, NPs, etc. In order to do that, two basic rules cover all the lexical categories:

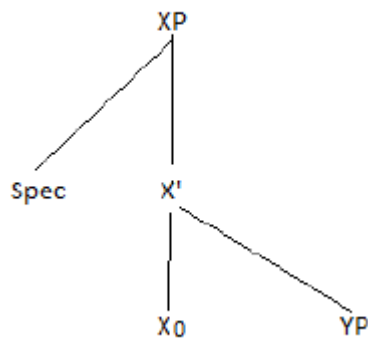
I) *Phrase Structure Rules:*

(for any lexical category  $X$ ,  $X_0 = \text{Head}$ )

$XP \rightarrow \text{Specifier } X'$

$X' \rightarrow X_0 \text{ Complements (= YP)}$

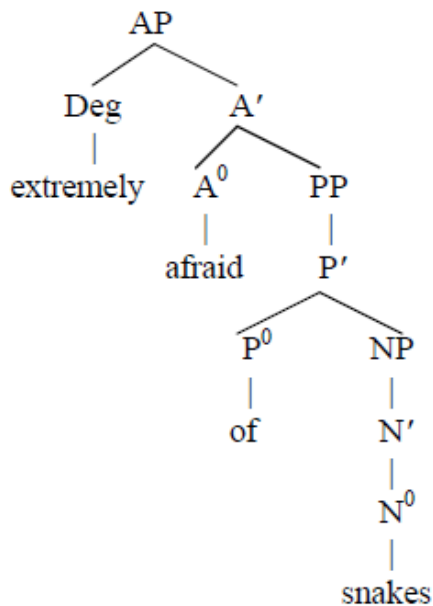
II) *Basic X-Bar Structure*



In the trees generated by these rules, the top node is the mother and its branchings are the daughters. Daughter nodes which are at the same level are known as sisters. This way, in (II) XP is the mother of Spec and X'; X', in turn, is also the mother of X<sub>0</sub> and YP, and these two are sisters. XP is known as the maximal projection, and X' as the intermediate projection.

The AP “extremely afraid of snakes” would be represented in X-bar as in (6) below, extracted from Black (1999, p. 06):

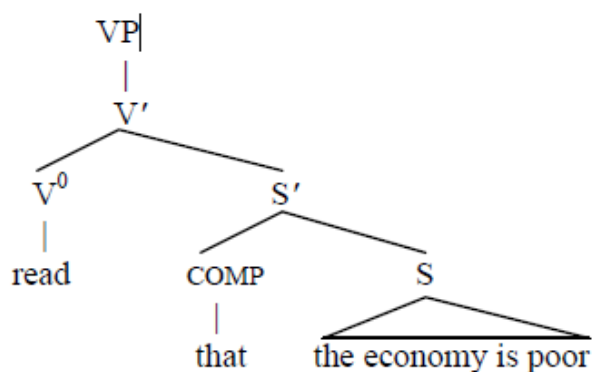
(6)



Up to here, we have seen complements of the type NP, PP, etc; however, what kind of phrase the verb *read* subcategorizes in (7)? And how does this phrase fit into X-bar theory? Transformational grammar assumes that clauses are built up from sentences using the rule  $S' \rightarrow \text{COMP } S$ , as shown in (8):

(7) *Sam read that the economy is poor.*

(8)



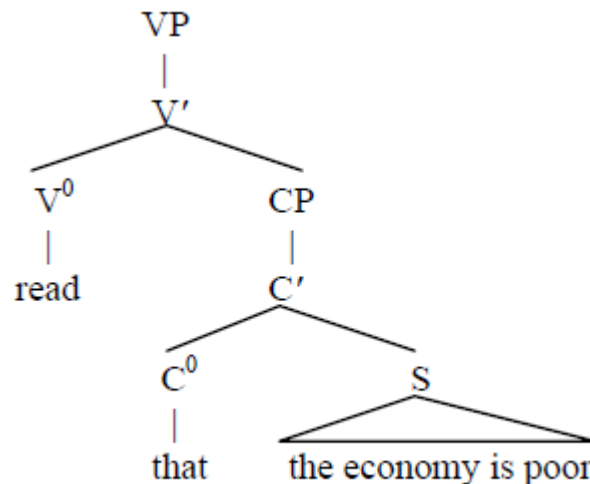
(BLACK, 1999, p, 08)

However, differently from the Transformational Grammar, X-bar theory does not allow the sentence to be the head of any phrase, since it is not a lexical item or a word, it is most likely then to be a complement. Observe the examples in (9):

- (9) a. Everyone insisted that the shop would open on Saturdays.  
 b. \*Everyone insisted for the shop to open on Saturdays.  
 c. \*Everyone insisted whether the shop would open on Saturdays.

In (9), the verb *insist* not only takes a clausal complement but it chooses which complementizer the clause must have. Therefore, one can say that the main verb's subcategorization is (9-a), since (9-b) and (9-c) generate ungrammatical examples. Considering then that only heads can subcategorize, and that any sisters of the head must be subcategorized for, and also that if something is subcategorized for it is either a complement or the head of a complement, one can argue that the specific complementizer is subcategorized for by the verb and it is then the head of a complement clause (It cannot be the specifier because specifiers are never subcategorized for)<sup>2</sup>.

- (10) Revised structure for (8), extracted from Black (1999, p. 09):



Looking once more at (10), we have  $C_0$  as a head, so its complement should be a phrase. Nevertheless, the complement of  $C_0$  seems to be a sentence (S). Consider the examples in (11):

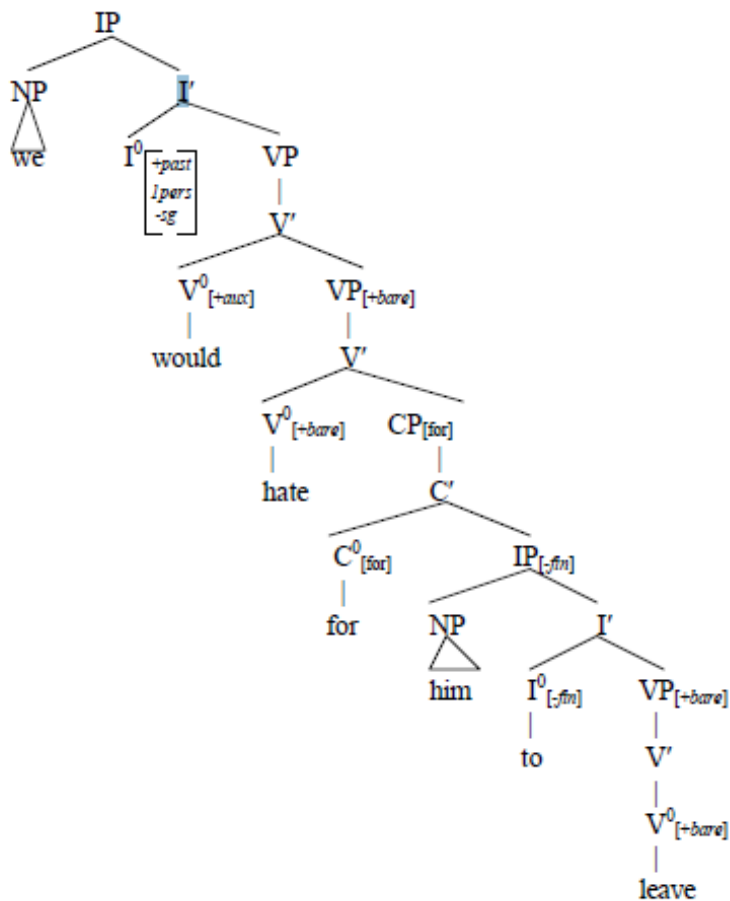
- (11) a. They arranged for their children to be safe  
 b. \*They arranged for their children were safe.  
 c. \*They arranged for their children would be safe.

<sup>2</sup>  $C_0$  is not a lexical item but a functional head.

Analyzing the examples in (11) and those in (9), it can be inferred that when the complementizer is *that*, for example, as in (9), the sentence that follows it is a finite sentence and therefore *to* cannot be present. We can say then that the complementizer *that* subcategorizes for a finite complement. In (11), on the other hand, the complementizer is *for* and *to* must be present, with finite or tensed verbs being prohibited in the subsequent sentence; thus, *for* subcategorizes for a nonfinite complement, being *to* the head of it.

According to GB, tense and agreement features occupy the same head position in finite sentences that *to* fills in nonfinite ones. This category is called Inflection (Infl or I), and the sentence is considered then an Inflection Phrase (IP)

(12) We would hate for him to leave. (BLACK, 1999, p. 12)



As mentioned earlier, GB assumes that the syntax is a projection of the lexicon. Thus it is said that the sentence structure is a reflection of lexical properties that each lexical item carries (Projection Principle). The Projection Principle stipulates that each lexical item must be preserved at the level of representation, that is, the properties of a lexical entry must be projected in the syntactic level: "Lexical information is syntactically represented" (HAEGEMAN, 1999, p. 55).

Huang ([1997]) states that each lexical item is associated with an entry in the lexicon (in the mind of the speaker) that contains three types of information: morpho-phonological (PF), semantic and morpho-syntactic. The morpho-syntactic information, in turn, is subdivided into three others (syntactic category, subcategorization, and grid- $\theta$ ). The syntactic categories concern the existing types of phrases already discussed above: nominal (NP), verb (VP), prepositional (PP), etc. The subcategorization is understood as the type of argument that a phrase may select, as discussed previously. The grid- $\theta$ , in turn, represents the semantic roles of the elements in a sentence (Theta Theory). The verb *kill*, for example, presents the following grid-  $\theta$ :

(13) a.

<b>Agent</b> NP <sub>1</sub>	<b>Patient</b> NP <sub>2</sub>
I	J

b. kill, V, [ \_\_ NP ]

c. kill <AGT, PAT>

Although there are controversies about how many thematic roles are there, some types are accepted as general (HAEGEMAN, 1999, p. 49-50):

- *Agent / Actor*: the one who intentionally initiates the action expressed by the predicate.
- *Patient*: a person or thing that undergoes the action expressed by the predicate.
- *Theme*: the person or thing moved by the action expressed by the predicate.
- *Experiencer*: the entity that experiences some (psychological) state expressed by the predicate.
- *Benefactive / Beneficiary*: the entity that benefits from the action expressed by predicate.
- *Goal*: The entity towards which the activity expressed by the predicate is directed.
- *Source*: The entity from which something is moved as a result of activity expressed by the predicate.
- *Location*: the place where the action or state expressed by the predicate is located.

The main principle of Theta Theory states that (a) for each argument is assigned one and only one thematic role and (b) for each thematic role is assigned one and only one argument, that is, each word which appears in the position of the subject or complements should carry a thematic role, and each particular thematic role in a phrase must be set as either subject or complement.

This section sought to present an overview on the main principles stipulated by GB theory. In the following section, a detailed description of HPSG theory will be offered.

### 2.3 POLLARD AND SAG'S HEAD-DRIVEN PHRASE STRUCTURE GRAMMAR

Head-driven Phrase Structure Grammar (henceforth HPSG) is a non-derivational, constraint-based grammar which shares the same main goal as Chomsky's Principles & Parameters (P&P) theory, that is, to characterize human linguistic competence by constructing "a scientific theory of the system of knowledge that is embodied in the human mind/brain which makes language possible" (POLLARD, 1997, p.01). This formal linguistic generative based theory was developed by Carl Pollard and Ivan Sag (1987, 1994), and it is based on "descrições lexicalistas, formalmente precisas e computacionalmente tratáveis dos fenômenos linguísticos"<sup>3</sup> (PRIA, 2008, p. 199). Within HPSG, the lexicon is more than just a list of entries, rather it is organized in terms of multiple inheritance hierarchies and lexical rules which make words possible to be derived from the logic of the lexicon.

HPSG evolved directly from the Generalized Phrase Structure Grammar (GPSG); however, it is not a simple variation of its predecessor, since it is strongly influenced by Categorical Grammar, Lexical Functional Grammar (LFG) and Government and Binding Theory, especially in the way HPSG addresses some analytical issues (KATHOL, KOENIG, WEBELHUTH, 1998). In other words, the main constructs and hypothesis of HPSG are borrowed or adapted from elsewhere, for example, the way HPSG treats syntactic features and categories is based on the work from GPSG, two of the principles of the UG, the *Head Feature Principle* (HFP) and the *Binding Inheritance Principle* (BIP), are reformulations of GPSG's Head Feature Convention (HFC) and Foot Feature Principle (FFP) respectively. Moreover, the *Subcategorization Principle* is in essence a generalization of the "argument

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<sup>3</sup> "lexical descriptions, formally accurate and computationally tractable of the linguistic phenomena"



cancellation” employed in Categorical Grammar. Another important point of contact between CG and HPSG is the definition of grammatical relations, such as subject and object. In HPSG, the subject, direct object and second object of a given verb are defined to be those signs that satisfy the last, second-last and third-last elements of the verb’s SUBCAT list. This way, HPSG embodies a hierarchical theory of grammatical relations analogous to the one articulated within CG.

Moreover, HPSG and LFG also have many things in common. For example they both make use of a highly enriched lexicon and the Attribute Value Matrix (AVM).

The basic unit of linguistic representation in HPSG is the sign which contains information about the phonology, syntax and semantics of a word or phrase. Features structures, then, come of a variety of types, firstly there are types that indicate the *word vs. phrase* status of every constituent in a tree, what is roughly equivalent to the notion of bar level. All signs have, at least, two features/attributes: [PHON] that gives the sound, the phonetic form; and the [SYNSEM] that provides the syntactic and semantic information. Both [PHON] and [SYNSEM] are split into subfeatures. SYN stands for structures relevant to syntax, they tell us about the formal grammatical properties of the node, such as its category, any inflectional properties, what other elements the node can combine with, etc. SEM stands for semantic properties, and gives us information about how the word and the sentence are to be interpreted.

Each type of information within a sign is called an attribute (or feature), which is the basic tool of linguistic description in HPSG. Features enable linguistics to talk about information such as a) the category of a word, b) what other words it must appear with (its theta grid), and c) what level in the tree the node it is. As in LFG, features are paired with a value in an AVM, and also like LFG, features can take feature structures as values. This way, signs in HPSG are represented by Attribute-Value Matrices (AVMs). According to Fleisher (2007, p.01),

Constraints in HPSG typically take the form of ensuring that a value is shared by two or more attributes within a sign, or that values for particular attributes are shared by multiple signs. This last type of constraint is central to the notion of headedness within HPSG, as a phrasal sign (i.e., XP) must share certain information—about its syntactic category, its agreement properties, etc.—with its head (X) (usually called the head-daughter).

The value of SYNSEM is a structure object - the *synsem* object - with attributes of its own called LOCAL and NONLOCAL. NONLOC information figures in the analysis of

unbounded dependency phenomena, such as *wh*-movement. LOC information in turn is divided into CATEGORY, CONTENT and CONTEXT attributes.

CATEGORY value includes the category of the word in question and also the grammatical arguments it requires. The CONTENT value constitutes the word's contribution to aspects of semantic interpretation of any phrase that contains it. And, finally, the CONTEXT value contains context-dependant linguistic information.

The CATEGORY value contains two attributes HEAD and SUBCAT. The HEAD value of a sign is, roughly speaking, its part of speech and its inflectional properties. Some parts of speech have attributes of their own, for example, *noun* has the feature CASE, and *verb* has the attribute VFORM as well as the feature AUX. The SUBCAT value of a sign is the sign's valence, in other words, it is the feature that specifies what other signs the sign in question must combine with to become *saturated*. In some AVMS, VALENCE will appear replacing SUBCAT.

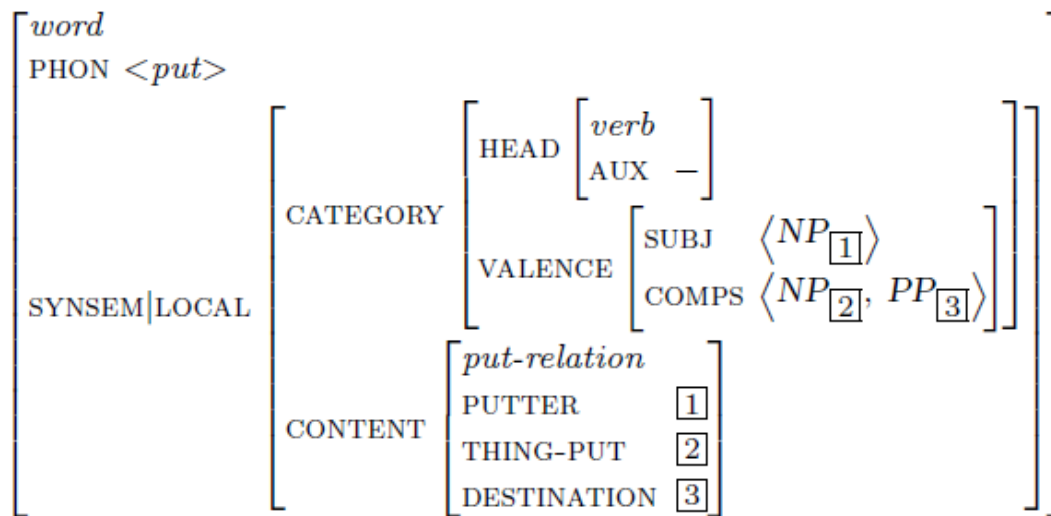
CONTENT value of nominals employs a feature structure called *nominal-object*, which contains an attribute called INDEX. Indices are classified into three subsorts *referential*, *there* and *it*, according to their 'mode of referring'. *There* and *it* are used only for expletive pronouns. Referential indices are used for semantically contentful nouns and nonpredicative PPs. Nominal-objects are further divided into two subsorts *nonpronoun* and *pronoun*, with the latter being subdivided into *personal-pronoun* and *anaphor*, and finally *anaphor* being subdivided into *reflexive* and *reciprocal*. Indices in turn have three agreement features PERSON, NUMBER and GENDER. Moreover, when the content of a nonexpletive nominal can introduce a semantic restriction on its index there will be the value of RESTRICTION attribute of the nominal-object, which is a set of parameterized states-of-affairs that tells us the properties that must hold true for the sentence to be true.

Finally, the CONTEXT value contains a single attribute called BACKGROUND, whose value is a set of psoas, representing presuppositions or conventional implicatures; for example, for the pronoun *she* we would presuppose that its referent must be female.

Levine and Meurers (s/d, p. 02) argue that the set of descriptive constraints in HPSG grammar consists of:

- a) a lexicon licensing basic words;
- b) lexical rules licensing derived words;
- c) immediate dominance schemata licensing constituent structure;
- d) linear precedence statements constraining constituent order;
- e) a set of grammatical principles expressing generalizations about linguistic objects.

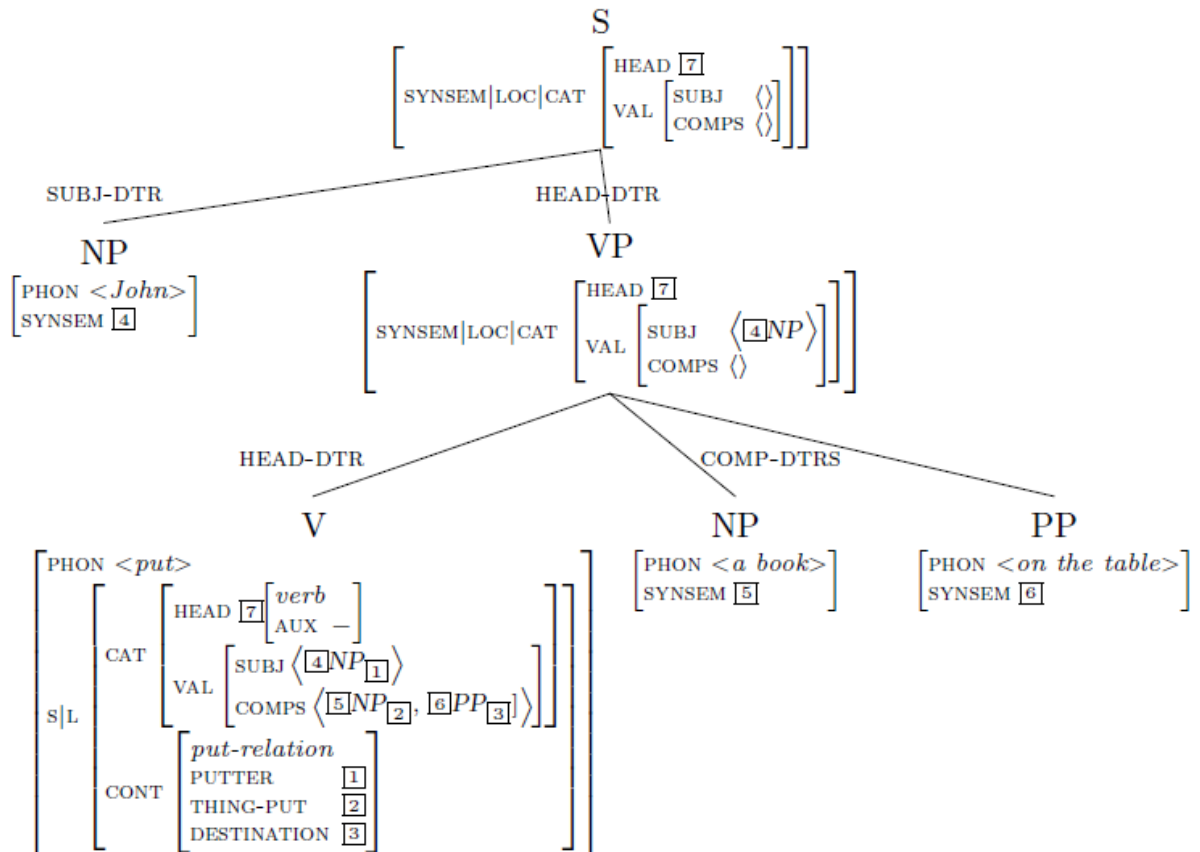
For example, the verb *put* would have a simplified AVM as follows (extracted from Levine and Meurers, s/d, p. 02):



This AVM describes an object of type *word*, as shown in the top-left corner of the matrix. The [PHON] attribute here is just a list of strings working as a placeholder for phonological representation as the one developed by Bird and Klein (1994). Both the morpho-syntactic information and the semantic content are specified under the category feature identified by the local part of the [SYNSEM] value. The subset Category includes the properties that are shared between mother and head daughter under the Head feature and the lexical items as lists of synsem objects under the Valence feature. The Content subset specifies the semantic roles assigned by the head and the boxed numbers indicate the token identity of these values.

Different from words, “phrases have the attribute DAUGHTERS, in addition to PHON and SYNSEM, whose value is a feature structure of sort *constituent-structure*, representing the immediate constituent structure of the phrase” (POLLARD & SAG, 1994, p.31). One of the constituent-structures subsorts is the *headed-structure*, which is employed in all headed constructions. Attributes of headed-structures include HEAD-DAUGHTERS and COMPLEMENT-DAUGHTERS. Every headed-structure has a unique headed-daughter, however there may be many or no complement daughters.

As for the sentence “*John put a book on the table*”, one can have a simplified phrasal AVM as the following, extracted from Levine and Meurers (s/d, p. 03):



One important thing to note here is that each complement-daughters of the VP has its SYNSEM value token-identical to one of the elements on the VALENCE (SUBCAT) list of the head-daughter, while the VALENCE value of the VP itself consists of the head-daughter's VAL list minus those requirements that were satisfied by one of the comp-daughters. This exemplifies the *Subcategorization Principle* stated below (POLLARD & SAG, 1994, p.34):

### ***The Subcategorization Principle***

In a headed phrase, the list value of DAUGHTERS | HEAD-DAUGHTER | SYNSEM | LOCAL | CATEGORY | SUBCAT is the concatenation of the list value SYNSEM | LOCAL | CATEGORY | SUBCAT with the list consisting of the SYNSEM values (in order) of the elements of the list value of DAUGHTERS | COMPLEMENT-DAUGHTERS.

The effect of such principle is to “check off” the requirements of the subcategorization of the lexical head as they become satisfied by the complement daughters of its phrasal projections.

Another important thing to note is with respect to the VP node, its HEAD is token identical to that of *put*. This exemplifies the *Head Feature Principle*, stated below (POLLARD & SAG, 1994, p.34):

***Head Feature Principle (HFP)***

The HEAD value of any headed phrase is structure-shared with the HEAD value of the head daughter.

That is, in a headed phrase, the values SYNSEM | LOCAL | CATEGORY | HEAD and DAUGHTERS | HEAD-DAUGHTER | SYNSEM | LOCAL | CATEGORY | HEAD are token-identical. In other words, HFP states that the HEAD value of any headed phrase is identical to the HEAD value of the head daughter. This way, HFP guarantees that headed phrases are really ‘projections’ of their headed daughters.

Needless to say, other principles postulated by HPSG are very important to better understand this grammar, however, for the present purpose of this paper, these principles will suffice.

Obviously, there is a lot of information stored in lexical entries in HPSG grammars and in many cases this information is redundant or predictable. For instance, for any countable noun (such as *letter*, *ball* or *girl*), there are two forms: a singular and a plural form. Ideally, there is no need for two complete lexical entries, considering that the information in one is predictable from the other.

Accordingly, unlike P&P, that specifies all the possible combinations of complements of a verb in phrase structure rules -

Rule 1. S - NP VP

Rule 2. VP - V (NP) (NP)

Rule 3. VP - V (NP) PP

Rule 4. VP - V Part (Part = ‘Particle’)

Rule 5. VP - V NP Part

Rule 6. VP - V Part NP

Rule 7. VP - V VP

...etc, HPSG defends that such rules are redundant, since they are already given in the lexical entry of the verb.

## 2.4 GB VERSUS HPSG

As we could see in the previous sections, GB and HPSG have both similarities and differences.

Among the similarities, we can point out that GB and HPSG share the same goal, which is to characterize human linguistic competence. In other words, both intend to construct a scientific theory of the system of knowledge that is embodied in the mind/brain that makes language possible as well as to determine what all languages have in common (Universal Grammar). They also share the same empirical base, that is, GB and HPSG consider the acceptability judgments of speakers to define whether a sentence is grammatical (acceptable) or not.

Moreover, HPSG's multiple representations are more or less analogous to "levels" of representation in GB. However, these are simultaneous structures mutually constrained by the grammar; they all are parts of a single larger structure and none of them is sequentially derived from another.

As well as in GB, in HPSG grammaticality is determined by the interaction between the lexicon and general well-formedness principles rather than by large numbers of construction-specific rules (as in Chomsky's "standard theory", or in GPSG).

Among the main differences we can highlight that HPSG is not syntactocentric as GB, that is, there is no assumption that syntax is somehow primary, or that morphology is done in the syntax. Moreover, phonology and semantics are not "interpretations" of syntactic structures as defended by transformational models; instead, it is assumed that we need to understand different systems of linguistic knowledge, including syntax, semantics, morphology, phonology, and pragmatics. In HPSG theories, most grammatical principles do not involve just one of these, but instead constitute the relationship between two or more (POLLARD, 1997)

Moreover, HPSG employs different mathematical structures from GB. The mathematical structures of transformational theories are sequences of phrase-markers (trees), in HPSG, the mathematical structures are feature structures.

HPSG, differently from GB, employs no transformations or other destructive operations to sequentially derive one structure (or representation) from another. Instead, the different representations or levels are just subparts (features) of a single larger structure, and they are related by declarative constraints of the grammar. This way, the PHON path in HPSG is a rough correspondent of the GB level PF; and the path SYNSEM/LOC/CAT in a verb corresponds roughly to the DS of the sentence headed by that verb; the path SYNSEM/LOC/CONT corresponds roughly to the GB level LF.

Besides, in HPSG, grammatical relations are defined nonconfigurationally, in terms of their relative order on the lists that are the values of the VALENCE features. Thus, the subject

is the unique item on the SUBJ list; the primary object is the first item on the COMPS list and so on, rather than being sister-of-VP - and - daughter-of-S, or daughter-of-VP-and-closest-sister-of-V, as in transformational theories (POLLARD, 1997).

Likewise, subjects and specifiers can be selected (subcategorized for) by lexical heads in HPSG, just as complements are. This way, subjectless sentences are just as possible as intransitive verbs, since a verb can select for “no subject”. Moreover, semantic roles are assigned to subjects in the same way as to complements, that is, directly, and thus both subject or object can fail to be assigned a semantic role.

Furthermore, in HPSG there is no movement at all. For example, passive verbs are considered to be in the lexicon; this way, they project a phrase just as active verbs do. Also, structure-sharing between the NP subject or object and the member of the SUBJ valence feature list of the VP complement takes the place of NP-movement. Moreover, finite verbs are specified in the lexicon to select subjects bearing specific agreement features. Thus there is no movement between V and Inflection. Else, inverted structures are flat structures, and not derived from uninverted structures. Thus there is no movement from Infl. to Comp. More generally, there are no null functional heads (T, AgrO, AgrS, etc.). Instead the corresponding work in HPSG is done by features. Likewise, there are no null complementizers. (POLLARD, 1997)

This chapter was intended as a theoretical framework that will serve as basis for the subsequent analysis. In the next chapter, we will delimit the scope of this paper, discussing ditransitive constructions and Dative Alternation.





the.NOM Petros-NOM<sub>(subject)</sub> **sent** the.GEN Maria-GEN<sub>(indirect object)</sub> the.ACC money.ACC<sub>(direct object)</sub>

A R T

‘Petros sent Maria the money.’

(MALCHUKOV, HASPELMATH AND COMRIE, 2007, p. 02)

(3) *Portuguese*

a. Paulo<sub>(subject)</sub> **deu** um livro<sub>(direct object)</sub> ao filho<sub>(indirect object)</sub>.

A T R

‘Paulo gave a book to the son.’

b. Maria<sub>(subject)</sub> **comprou** uma casa<sub>(direct object)</sub> para a mãe dela<sub>(indirect object)</sub>.

A T R

‘Mary bought a house to her mother.’

Michaelis & Haspelmath (2003), as well as Malchukov, Haspelmath and Comrie (2007), call attention to the fact that there are other three-argument constructions in which the two non-agent arguments are not T and R, as shown in (4), and therefore these are not considered ditransitive constructions.

(4) I put the pen in the pencil case.

In (4) instead of a recipient/goal argument, we have a location role. So, although there is a T argument, there is no R, thus it is not a ditransitive construction.

According to Malchukov, Haspelmath and Comrie (2007), typical ditransitive constructions contain a verb of physical transfer, such as ‘give’, ‘lend’, ‘sell’, etc, in which an agent causes a theme to pass into the possession of an animate receiver (recipient), as in the example (5). However, this is not always true. In some languages, verbs denoting mental transfer, like ‘tell’, ‘offer’ and ‘show’, behave in a similar way being considered ditransitive as well (6). Moreover, inanimate receivers may also occur (7).

(5) My father has sold his car to his best friend.

(The car, which was possessed by *my father*, after the event of selling, becomes *his best friend’s* property.)

(6) The teacher told the students a fairy tale.

(7) Jessica sent her daughter to London last year.

At this point, it is necessary to make an important distinction between ditransitive and benefactive constructions. Sometimes it is hard to be sure whether we are dealing with a transfer situation, that is, a ditransitive situation, or with a benefactive<sup>4</sup> one, as shown in (8).

- (8) a. She brought me a coffee.  
 b. She brought a coffee to/for me.

Malchukov, Haspelmath and Comrie (2007) argue that beneficiaries may also occur with intransitive verbs, as shown in (9). Therefore, considering that not all benefactives are ditransitives and that not all ditransitives are benefactives either, such terms cannot be confused, since they are not interchangeable.

- (9) She *sang* for me.

- (10) John fixed the oven for me.

In other words, we will only have a ditransitive construction, as mentioned above, when we have two non-agent arguments that are theme and recipient/goal arguments. In sentences like (8-b) “me” can be interpreted both as the goal and as the beneficiary of the action, so there is a ditransitive construction. However, in sentences like (10) there is no goal role possible, being “me” the beneficiary, and therefore there is not a ditransitive construction.

Having clarified what configures a ditransitive construction, the next section is intended to show a very peculiar syntactic alternation which is only possible with such pattern of verbs.

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<sup>4</sup> It is said that an object is benefactive when it is the beneficiary of something; in English it generally comes with the preposition “for”, while in Portuguese it is the preposition “*para*” that plays this role, as shown in the examples “He opened the door for me” and “Ele abriu a porta para mim” respectively, being “me” and “mim” benefactive objects.

Benefactive, however, is only one of the cases that may be assigned to objects of a verb. Objects may also be accusative or dative, for instance. Accusative is generally the case assigned to the direct object of a transitive verb, as in “I love chocolate”, where “chocolate” is the accusative object. Dative, on the other hand, is generally the case assigned to the indirect object of a transitive verb, as in “I gave the book to Maria”, where “Maria” is the dative object.

### 3.2 DATIVE ALTERNATION

According to Salles (2010, p.194), the dative alternation is a sort of syntactic alternation in which the number of arguments of such a verb is kept the same, but these arguments may present different syntactic realizations. This phenomenon only occurs with a very particular group of verbs: (a) the verb must be ditransitive (that is, it requires two internal arguments); (b) its morphological stem cannot be Latinate (unless it is a monosyllabic verb); and (c) one of these arguments must have the thematic role of possessor (PERPIÑAN & MONTRUL, 2006).

The examples in (11) are well-formed sentences in English, in which the verb requires two internal arguments. In (a) there is a construction V NP PP, known as *dative* (OEHRLE, 1976; LARSON, 1988; BEAVERS, 2011, among others), and in (b) there is a V NP NP construction also called *double object* (hereinafter DOC).

- (11) a. Peter gave a ring to Julie.  
       b. Peter gave Julie a ring.

However, not all English ditransitive verbs may present such alternation, as we can observe in the examples in (12):

- (12) a. Peter donated some money to Santa Casa.  
       b. \*Peter donated Santa Casa some money.

Note that (12-b) is not possible because Santa Casa is not an animate object, and therefore it cannot possess anything. This will be discussed later in section 3.3 in more detail.

Malchukov, Haspelmath and Comrie (2007) point out that this type of alternation also occurs in other languages, especially in Bantu, Western Nilotic and Western Malayo-Polynesian, but it is not very frequent in the world's languages. In a study in 1998, Siewierska (1998, *apud* MALCHUKOV, HASPELMATH and COMRIE, 2007) found such alternation in 12 out of 219 languages observed in her sample (about 6%).

The most common type of alternation is the prepositional/indirective construction (dative), but alternations between indirective and secundative constructions are also found in European languages, and although they are more widespread, they tend to be limited to relatively few verbs (MALCHUKOV, HASPELMATH and COMRIE, 2007, p. 14), as shown

in the examples in (13) from Serbo-Croatian (ZOVKO DINKOVIZ, 2007 *apud* MALCHUKOV, HASPELMATH and COMRIE, 2007, p. 14).

(13) a. Lena je poslužila gost-ima Zaj i keks-e.

Lena AUX served guest-DAT.PL tea.ACC and biscuit-ACC.PL

'Lena served tea and biscuits to the guests.'

b. Lena je poslužila gost-e Zaj-em i keks-ima.

Lena AUX served guest-ACC.PL tea-INS and biscuit-INS.PL

'Lena served the guests (with) tea and biscuits.'

English also presents this pattern of alternation, but only with verbs such as 'provide', 'supply', 'credit', and a few others.

(14) a. Mary provided a snack to the kids.

b. Mary provided the kids with a snack.

(15) a. Peter supplied beer to the bar.

b. Peter supplied the bar with beer.

Other languages allow even more diversity. Kayardild, for example, presents five patterns with the verb *wuu* 'give'. Three of these alternation possibilities are provided by Evans (1995, p. 336 *apud* MALCHUKOV, HASPELMATH and COMRIE, p.14) and reproduced below:

(i) In the Dative Construction, the R is expressed by the "verbal dative", and the T and P by "modal cases":

(16) *wuu-ja wirrin-da ngijn-waru-th!*

give-IMP money-NOM 1SG-VDAT-IMP

'Give me money!'

(ii) In the Instrumental Construction, the T is expressed by the proprietive instrumental case, and the R and P by modal cases:

(17) *Nguku-wuru wuu-ja dangka-y.*

water-PROP give-ACT person-MLOC

‘(I) will provide mankind with water.’

(iii) In the Dative-Instrumental Construction, R is expressed by the “verbal dative”, T by the ”propriative”-instrumental case:

(18) Maku dun-maru-tha wuu-ja nguku-wuru.

woman.NOM husband-VDAT-ACT give-ACT water-PROP

‘A woman gives water to her husband.’

Considering that one language allows different alternating constructions, these alternations do not seem to be random, on the opposite, they seem to be semantically motivated. In English, for instance, the dative alternation is directly related to the degree of affectedness of the recipient, that is, the agent may either cause the recipient to have the theme or may cause the theme to go to the recipient. These relations are better discussed in the next section of this chapter.

Consonantly, Malchukov, Haspelmath and Comrie (2007, p. 15) argue that similarly to what happens in English, affectedness has also been implicated in the case of some Bantu languages like Zulu. However, other meaning-relation differences can hardly be generalized. In Kayardild, for example, the Dative Construction (example 13) is said to stress beneficial effect; the Instrumental construction (14) is preferred to express “important gifts or contractual exchange”, while the Dative-Instrumental construction (18) is used for “small gifts”.

On the other hand, alignment alternations have also been related to distinctions between the objects in prominence, such as animacy, topicality, etc. The Double object construction in English, for example, is favored when R outranks T on the prominence scales (cf. Bresnan & Nikitana 2007, Haspelmath 2007).

This section aimed to discuss the phenomenon of the Dative alternation that occurs in different languages. In the following part, this discussion will be focused on English, in which this alternation is widely known and discussed.

### 3.3 ENGLISH DATIVE ALTERNATION

The extensive literature on the dative alternation in English (Green 1974; Oerhle 1976; Gropen et al. 1989; Pinker 1989, Levin & Rappaport-Hovav 2005/2008, among others) found that when such a verb can alternate datively, the alternating patterns are associated to the representation of different meanings, in other words, syntactic patterns that alternate express different semantic representations governed by the same basic semantics of the verbs.

In English, this dative alternation only occurs with a subclass of prepositional phrases governed by the prepositions *to* and *for*. Soares and Menuzzi (2010) claim that in the dative alternation the prepositional phrase becomes a direct object, since the object can be passivized (19-d).

- (19) a. John gave a book *to Mary*.  
 b. John gave *Mary* a book.  
 c. John gave *her* a book.  
 d. *Mary* was given a book.

There are in English then two possibilities of syntactic representation of ditransitive verbs, as mentioned earlier. The first one is the Double Object Construction (DOC) in which the verb receives two direct objects (NPs) as internal arguments (V NP NP). The second is the Dative construction, in which the verb receives respectively a direct object (NP) and an indirect object (PP) as internal arguments (V NP PP).

Oerhle (1976), Francez (2006) and Beavers (2011), among others, assume that the DOC variant is associated with the **possession causation** ("X causes Y to have Z"), while the dative variant is associated with the **motion causation** ("X causes Z to go to Y"), that is, if we say *Mary gave John a book*, we are indicating that Mary made John have the possession of the book. But if we say *Mary gave the book to John*, we are saying that Mary gave some book to a person named John, but this book does not necessarily belong to him (gave him to hold it, for example).

In Krifka's analysis, as in many others, the causation of possession meaning corresponds or gives rise to a direct object realization of the non-theme argument, while the causation of directed motion meaning corresponds or gives rise to an oblique realization of that argument" (FRANCEZ, 2006, p.138)

Oerhle (1976) argues that two syntactic representations of the same verb are not semantically identical. The author states that such semantic differences, for example, could explain why some verbs accept a variant, but not the other, as the examples in (20):

(20) a. The movie gave me the creeps.

\*The movie gave the creeps to me.

(OERHLE, 1976, p.66)

b. Alex gives his mother headaches.

\*Alex gives headaches to his mother.

c. I washed the car for Mary.

\*I washed Mary the car.

(SOARES & MENUZZI, 2010, p. 03)

d. Mr. Bishop donates used clothes to the Salvation Army every year.

\* Mr. Bishop donates the Salvation Army used clothes every year.

Sometimes only the DOC variant is possible (20- a, b). In other cases just the Dative construction may occur (20- c, d). However this choice among the options does not seem to be random, they are rather driven by specific restrictions and native speakers of English do not face problems in recognizing and choosing the correct variant.

Similarly, Gropen et al. (1989) point out that not all verbs can undergo dative alternation due to semantic and/or morpho-lexical restrictions. Semantically, the argument target/recipient in the DOC variant shall be a possible possessor of the theme argument, that is, the recipient/target has to be animate to be capable of having something. Note the examples in (21), extracted from Beavers (2011, p. 8): in (a), London is seen as the "moving target" as the letter goes on to London (local); however, (b) is not possible, because the place is inanimate and therefore incapable of owning something.

(21) a. John mailed a letter to London.

b. \*John mailed London a letter.

(However, if London is interpreted as the “London office”, for example, then the sentence is not ungrammatical.)

The morpho-lexical restriction defines that only monosyllabic verbs may alternate datively. Verbs such as *contribute* and *donate* which have more than one syllable occur only in the dative variant, as shown in (20-d) above.

Moreover, Oerhle (1976) states that the DOC variant will occur only if the *prospective possessor restriction* (nomenclature by GROPEN *et al.*, 1989, p.243) is fulfilled, that is, the “*dativization*” will happen only if the recipient does not own the theme of the sentence prior to the event denoted by the verb, but after that the recipient possesses it. In sum, elements will undergo dativization process only if they can establish a relation of *future possession* (SOARES & MENUZZI, 2010).

This condition could explain, for example, why dative alternation only occurs with some benefactive verbs but not with malefactive ones.

- (22) a. Julie baked some cupcakes for Peter.  
 b. Julie baked Peter some cupcakes.

- (23) a. Peter fixed the lamp for Julie.  
 b. \*Peter fixed Julie the lamp.

In (22) the benefit arising from the event comes exactly from having the possession of the theme (prospective possession); while in (23) the theme belongs to the recipient before and after the event, that is, the recipient is the current possessor of the theme, so there is no indication of future possession, and although there is benefit, the dativization process is not possible to occur. Similarly, a malefactive verb will not be dativized because its theme is already possessed by the recipient prior to the event, as exemplified in (24):

- (24) a. Peter stole the lunch from Julie.  
 b. \*Peter stole Julie the lunch.

In (24) Julie possesses the “lunch” and after the event this no longer belongs to her, there is no future possession as well.



In this section a description on English dative alternation was presented. Next, Portuguese ditransitive verbs will be discussed and a comparison to the English dative phenomenon will be made.

### 3.4 PORTUGUESE DITRANSITIVE VERBS AND THEIR ALTERNATIONS

Portuguese also presents ditransitive constructions, as mentioned earlier; however, as we can observe in the examples in (25) and (26), the Dative Alternation, as it occurs in English, does not seem to be possible:

- (25) a. Pedro deu um anel à Julia. (Pedro gave a ring to Julia)  
 b. Pedro deu à Júlia um anel. (\*Peter gave to Julia a ring)  
 \*Pedro deu anel Julia/\*Pedro deu Julia um anel.

- (26) a. Pedro doou dinheiro à Santa Casa. (Pedro donated money to Santa Casa)  
 b. Pedro doou à Santa Casa dinheiro. (\*Pedro donated to Santa Casa money)  
 \*Pedro doou dinheiro Santa Casa/ \*Pedro doou Santa Casa dinheiro.

Considering the examples above, we can notice that although the complements in Portuguese may alternate in order, the DOC variant (V NP NP) is not possible, that is, in Portuguese a ditransitive verb requires a direct object (NP) and an indirect object (PP) as complements, while two direct objects are not possible, since the preposition cannot be omitted. However, similarly to English, Portuguese ditransitive verbs may be dativized, that is, the indirect object, or recipient, may be transformed into a clitic pronoun, as shown in (27) below:

- (27) a. Pedro deu-lhe um anel. (Pedro gave her/him a ring)  
 b. Pedro doou-lhes dinheiro. (Pedro gave them Money)

Although there is no DOC variant (V NP NP), the vast majority of ditransitive verbs in Portuguese can switch freely in the order of internal arguments, but always conserving the preposition in the recipient argument. The default order is V NP (theme) PP (recipient), and the inversion of this order seems to be favored in case of contrast, as shown in (28):

(28) Pedro enviou à mãe flores e à irmã bombons. (Pedro sent to the mother flowers and to the sister candies)

Moreover, when we refer to the dativization process, Soares and Menuzzi (2010) argue that it suffers a similar restriction as the prospective possession. However, such condition is less restrictive in Portuguese, since both benefactive and malefactive verbs can be “dativized”, as we can observe in the examples.

- (29) a. Peter preparou o jantar para nós. (Peter prepared dinner for us)  
 b. Peter nos preparou o jantar. (Peter prepared us dinner)

(30) Julia me estragou o carro. (\*Julia break me the car)

The example in (30) has no counterpart in English, because in Portuguese the dative is simply the possessor of the theme, it does not need to indicate future possession, but only possession, be it past, present or future, and involving both malefaction and benefaction.

Portuguese still seems to differ from English in cases of idioms with the verb *give*. While English does not allow the prepositional variant, Portuguese allows the inversion of objects with no harm to the meaning, however it does not accept the deletion of the preposition, as shown in (31) and (32):

- (31) a. Aquele filme me causou arrepios. (That movie gave me the creeps)  
 b. Aquele filme causou arrepios em mim. (\*That movie gave the creeps to me)

- (32) a. A tagarelice me deu uma dor de cabeça. (The chatter gave me a headache)  
 b. A tagarelice deu uma dor de cabeça em mim. (\* The chatter gave a headache to/in me)

Note that in these examples, the selected preposition is "em" and not "para", this fact could be explained considering that English has no such variation with "in", whereas Portuguese presents it in contexts where there is no transfer of possession. Smith (2010) argues that in Portuguese the preposition "em" can express affected locatives, while in English such locatives are expressed by a direct object, as in (33):

(33) João bateu em Maria. / João hit Maria./ \*João hit in Maria.

Therefore, in (31) and (32), there is no possession relation, there is rather an affectedness relation, in which the prepositional object is affected.

Armelin (2011) suggests that in Portuguese the possibility of inversion of the internal arguments results in the change on focus of the utterance as a kind of topicalization.

(34) a. João deu o livro a Maria. (João gave a book to Maria)

b. João deu a Maria o livro. (João gave to Maria a book)

Thus, in (34-b) there would be a change in the informational nature of the sentence, whose focus would be on the one to whom the book was given, unlike (34-a) - default order in Portuguese – in which both arguments contain equally relevant information.

Up to here, we can argue that the Dative alternation phenomenon in the same way as it occurs in English is not possible in Portuguese. However, considering that in English such alternation results in a difference in meaning, one may question how Portuguese can represent these same semantic differences. Armelin (2010) argues that Portuguese presents sentences in which direct and indirect objects establish between them a relation of possession and other sentences in which these same objects are related only with the event described by the verb, and that this fact seems to be strongly linked to the preposition required by the verb.

(35) a. O João deu o dinheiro ao pai. (João gave money to the father)

b. O João deu o dinheiro pro pai. (João gave money to the father)

c. O João deu o dinheiro o pai. (\*João gave money father)

Considering the examples in (35), we can notice that both “a” and “para” are possible prepositions selected by the verb *dar* (give). (35-c) shows an example that occurs in a specific dialect in Portuguese, namely *Mineiro dialect*, a variety of Portuguese in which the preposition can, sometimes, be omitted/deleted, but only when the preposition “a” is a possibility, whenever only “para” is possible, the NP variant will not occur.

Although (35-c) is a possible variation in Portuguese, especially in the so-called “*Zona da Mata Mineira*” (SCHER, 1996), it is not accepted all over the country. In my dialect (the “*gaucho*” dialect), for instance, such sentence would sound ungrammatical. In fact, in most Portuguese dialects, this variation is not possible, and therefore it can be considered an

idiosyncrasy in Portuguese. Nevertheless, for the purpose of this paper, this alternation is relevant, and it will be discussed more closely.

According to Scher (1996), the “*Mineiro*” dialect presents a similar alternation phenomenon compared to the English Dative Alternation, since in particular contexts, there can occur the loss of the preposition and the subsequent V NP NP order. The author’s initial hypothesis was that the V NP NP order in the “*Mineiro*” dialect would be equivalent to the DOC variant in English; this hypothesis, however, was not proved, and Scher (1996) concluded then that, in fact, only the preposition “*a*” could be omitted, and whenever “*para*” was the only option of the verb the deletion of the preposition was not possible. This led the author to the conclusion that differently from the English DOC variant that expresses possession relation, the V NP NP order in the “*Mineiro*” dialect only represents a change on the focus of the sentence, being the first NP put in evidence, as in a contrast sentence or in a topic situation, which also occurs in the V PP NP order of Portuguese.

(36) a. The father needed money to pay for the car, for example, João had the money and would not use it so soon, *João deu o dinheiro ao/para o pai*.

b. The father needed to hand Maria the money, but when Maria was available to go get the money, the father wasn’t home, *João deu o dinheiro para o pai*.

Therefore, the possible contexts for the sentences (35-a) and (35-b) provided respectively in (36-a) and (36-b) allow us to come up with a hypothesis: if both prepositions are possible, there is a relation of possession in the meaning, but if only “*para*” may occur this relation no longer exists, and there seems to be a kind of relation between the object and the verb, as in a movement sense: *João entregou o dinheiro para o pai*.

Such hypothesis has not yet been corroborated, but it raises some intriguing questions as to how the prepositions “*a*” and “*para*” behave in ditransitive constructions. The next step in the elaboration of this thesis will be to investigate whether this hypothesis is viable or not.

### 3.5 PORTUGUESE HYPOTHESIS

As mentioned earlier, in Portuguese the complements of ditransitive verbs can occur freely, that is, they can occur in the order V NP PP or V PP NP with apparently no restrictions, changing the focus of the sentences (Armelin, 2010) though, that is, when the

default order (V NP PP) is altered the focus of the utterance changes to the recipient. Moreover, according to Armelin (2010), in the *Mineiro* dialect there is still the possibility of a V NP NP order; however, this order is restricted only to verbs that besides “*para*” also select “*a*” as a preposition, while for those verbs that only select the preposition “*para*” this order is no longer possible.

Still comparing Portuguese to English, as discussed in the previous sections, it is known that in English the alternation in the order of the complements results in differences in meaning: while the V NP PP order conveys movement meaning, V NP NP order conveys transfer of possession, and this phenomenon is known as dative alternation.

Portuguese, on the other hand, does not present dative alternation; however, ditransitive verbs’ arguments do alternate. The question raised here is whether this alternation causes differences in meaning or not (not just change on informational aspects). If there is semantic difference, how is that explained then? Is there a syntactic structure that represents this difference as in English? And if there is no such difference, how are the different meanings expressed in English by the dative alternation conveyed in Portuguese? Else, how is that possible that in the *Mineiro* dialect the preposition can be omitted, but this omission is not random at all, on the contrary, it is governed by the prepositions which the verb may or may not select? Does this choice on the prepositions have anything to do with the meaning conveyed by ditransitive verbs?

According to Luft (1987), the semantic features of the verbs are responsible for the selection of the preposition whose features combine with theirs, for example, verbs of direction, that is, those that indicate movement of starting or finishing, select prepositions like “*de*”(from), “*a/até*”(to), and “*para*”(to) that also indicate movement. In other words, the choice on the prepositions is not random, but depends on the intrinsic meaning of the verb. Can we argue then that when both “*a*” and “*para*” are selected by the verb, this verb expresses possession relation and when only “*para*” is possible there is a movement meaning?

To better understand the choice on the prepositions in Portuguese, we will base our discussion on comparing ditransitive constructions in Portuguese to ditransitive constructions in languages which have been more extensively studied.

Firstly, it is important to mention that in this section we will concentrate the discussion on the matter of the prepositions chosen by Portuguese ditransitive verbs, leaving aside the alternation in the order of the objects. We do that because we here assume Morais’s (2006) thesis that the inversion in the default order (V NP PP) of the internal arguments of

ditransitive verbs in Portuguese, that is (V PP NP), results in change of focus of the sentence topic. In other words, Morais (2006), based on Scher (1996) and Armelin (2008, 2010), argues that the possibility for the inversion of the arguments' order in ditransitive verbs seems closely connected to *informational* aspects, and not to semantic differences.

One of the major challenges for theories of argument structure of the predicate is to understand how the elements that constitute important parts in the construction of the events are designed in the syntactic structure, and how their meanings are obtained, that is, how these elements are licensed both syntactically and semantically. Hale and Kayser (1993, 2002), for example, propose that syntactic structure is what determines the possible meanings of verbs and arguments.

Spanish ditransitive verbs present behavior very similar to Portuguese ditransitive verbs, that is, they also have both orders V NP PP and V PP NP, being the latter favored in cases of contrast; moreover, the DOC construction is not permitted either.

- (34) a. Paolo mandó una carta a la niña. (Paolo sent a letter to the girl)  
 b. Paolo mandó a la niña una carta. (\*Paolo sent to the girl a letter)  
 c. \* Paolo mandó la niña una carta. (Paolo sent the girl a letter)

However, unlike Portuguese, Spanish presents a phenomenon called *clitic doubling*, which allows the verb to have, besides the accusative object (NP), other two dative objects for the same verb, one being expressed by a clitic pronoun and the other by a prepositional phrase, as in (d). Several recent studies (Cuervo, 2001; Anagnostopoulou, 2003; Perpiñán and Montrul, 2006) have proposed that Spanish dative constructions with dative clitic doubling would be equivalent to DOC constructions in English.

- (34) d. Paolo le mandó una carta a Maria. (\*Paolo send her a letter to Maria)

Such proposals are based on analyzing ditransitive verbs through a different perspective, the perspective of applicative heads.

The term applicative is very old, but it only became known in the current linguistic literature through the study of Bantu languages. In some of them, such as Chaga and Chichewa, the applicative head is manifested morphologically through an affix or specific morpheme (-i,-ir) which licenses an indirect object (IO) or oblique object, seen as extra

arguments, which could not be regarded as elements of the argument structure of the verb. Typically, the arguments are interpreted as *beneficiary* or *instrumental*.

(35)

a. Chaga - beneficiary

N    -ǎ̃ -ĩ̃-lyì -í -à            m̃- kàk-élyá  
 FOC-1s-PR-eat-APPL-FV      1-wife 7-food  
 ‘*He is eating food for his wife*’

(PYLKKÄNNEN, 2002 *apud* MORAIS, 2006, p. 244)

b. Chichewa – instrumental

Mavuto a -na -umb -ir -a mpeni mtsuko  
 Mavuto SP-PAST-mold-APPL-ASP knife waterpot  
 ‘*Mavuto molded the waterpot with a knife*’

(BAKER, 1988 *apud* MORAIS, 2006, p. 244)

Marantz (1993 *apud* MORAIS, 2006) recognizes similarities between Bantu languages and English and proposes to treat the English DOC as an applicative construction, even in the absence of morphological expression of the applicative head, that is, the lexical applicative marker. As we know, the phenomenon of dative alternation is manifested in two basic structures: (a) *prepositional ditransitive construction* (dative construction), in which the indirect object is introduced by a lexical preposition, performing as a prepositional phrase (PP); (b) *DOC*, in which the indirect object is no longer a PP, but an NP, and the argument is interpreted even as recipient/goal or beneficiary.

(36) Dative Construction

- a. John sent a letter to Mary.
- b. John baked a cake for Peter.

(37) DOC

- a. John sent Mary a letter.
- b. John baked Peter a cake.

Pylkkänen (2002) notes that, although English and Chaga both present DOC with a beneficiary argument, they differ semantically and syntactically. In Chaga, beneficiaries may appear with inergative verbs, as in (38-a), while in English DOC this is not possible (38-b):

(38) a. N -a%o -i -zrìc -í - à mbùyà.

FOC-1s-PR-run-APPL-FV 9 friend

‘He is running for a friend’

(BRESNAN AND MOSHI, 1993 *apud* MORAIS, 2006, p. 244)

b. \* I run her.

Moreover, in English, an applicative head cannot be related to an event, as in (36-a) and (36-b) above – sentences like “\**He ate his wife food*” or “*He molded a knife the waterpot*” are not possible.

According to Pylkkänen (2002), English and Chaga are languages that reveal a universal typology of applicative heads that introduce arguments. The author’s proposal is that, semantically, there are two distinct types of applicative heads: the high applicative, denoting a relationship between event and individual (recipient); and the low applicative, denoting a relationship between two individuals (theme and recipient), and establishing a possession relation between the two. This way, beneficiaries in Chaga present high applicatives, while in English they present low applicatives.

While some grammarians argue that clitic doubling in Spanish is mandatory only for predicates that are interpreted as *source* or *beneficiary* (39-\*), and when it is the *recipient/goal* clitic doubling is optional; Cuervo (2003), on the other hand, defends that the clitic doubling *presence vs absence* status in ditransitive constructions has both semantic and syntactic effects which show the two dative alternation variants. This way DOC corresponds to a transitive predicative with applicative arguments, and the dative clitic is the lexical or morphological realization of the applicative head. This proves, for instance, why clitic doubling is mandatory only in contexts that contain a true-dative “*a*” (39-a), without the clitic there is only a prepositional dative (39-b):

(39) a. Paolo (le) mandó una carta a Maria. (Paolo sent (her) a letter to Maria)

Paolo \*(le) sacó la bicicleta a Maria. (Paolo took (her) the bike to Maria)

Paolo \*(le) cocinó una torta a Maria. (Paolo baked (her) a pie to Maria)



b. Paolo mandó una carta a Maria/a Madrid. (Paolo sent a letter to Maria/ to Madrid)

Paolo sacó la bicicleta de Maria. (Paolo took the bike from Maria)

Paolo cocinó una torta para Maria. (Paolo baked a pie for Maria)

Cuervo (2003) assumes that redoubled dative arguments are *a-NPs* with an inherent dative Case, being thus *a* a dative Case marker; while, in the prepositional variant, on the contrary, *a* is a true preposition that contributes for the directional meaning of the sentence. So, in Spanish, according to Cuervo (2003), prepositional dative constructions are represented by high applicatives and express movement; while clitic doubling variants are associated to low applicatives and express possession relation, being then equivalent to the English DOC variant.

Morais (2006) and Armelin (2010) propose, based on English and Spanish data, the hypothesis that Portuguese also presents a type of dative alternation. They argue that in the prepositional dative construction, the indirect object is a PP introduced by a lexical preposition *a/para* that contributes with the directional meaning (movement); while in the DOC variant, the dative argument is realized as a lexical item of the kind *a-NP* or as a 3<sup>rd</sup> person clitic (*lhe/lhes*), being both forms in complementary distribution. Consider the examples in (32) and their possible contexts in (33) above, reproduced in (40) and (41), respectively:

(40) a. O João deu o dinheiro ao pai./ O João deu-lhe dinheiro.

b. O João deu o dinheiro pro pai.

c. O João deu o dinheiro o pai.

(41) a. The father needed money to pay for the car, for example, João had the money and would not use it so soon, *João deu o dinheiro ao/para o pai*.

b. The father needed to hand Maria the money, but when Maria was available to go get the money, the father wasn't home, *João deu o dinheiro para o pai*.

Based on these examples, we can assume that in the sentences (40-a, b) and their context in (41-a), there is clearly a possession relation between the direct object (o dinheiro) and the indirect object (o pai), being expressed thus by a low applicative. On the other hand, when only *para* is a possible preposition (41-b), there is no more a possession relation, but

rather a simple relation between the direct object and the event of ‘*dar*’, selecting then a high applicative.

This way, since low applicatives express possession relation and high applicatives express movement, we can argue that the hypothesis raised above can be explained and confirmed: when both “*a*” and “*para*” are selected by the verb, this verb expresses possession relation and when only “*para*” is possible there is a movement meaning.

Moreover, we can say that the variant V NP NP in the *Mineiro* dialect could be equivalent to DOC variant of English, considering that only both “*a*” and “*para*” are possible selections of the verb there is a possession meaning.

In this chapter, we discussed in more detail what ditransitive verbs are, what constitutes the phenomenon of dative alternation in some of the languages where it occurs, and, in a comparison with English, we have reached the conclusion that the phenomenon does not happen in Portuguese in the same way as it does in English, even though an alternation does occur in that language. We have also defended and explained, by means of high and low applicatives, a hypothesis that might explain the alternation that occurs in Portuguese; that, when both *para* and *a* are possible as choices of preposition, there is a possession relation between the direct and indirect object, which does not occur when only *a* is possible. In the next chapter, the discussion will be focused on how the dative alternation is represented, both syntactically and semantically, in English, as well as in Portuguese.

## 4 PORTUGUESE AND ENGLISH DITRANSITIVE CONSTRUCTIONS: A DUAL ANALYSIS

This chapter is aimed to analyze how GB and HPSG theories represent and explain the dative alternation phenomenon. Our main goal here is to show how these two theories deal with such phenomenon both syntactically and semantically, that is, we intend to show how ditransitive constructions are syntactically represented and how their semantic differences are explained according to GB and HPSG. In order to do that, we will divide this chapter into two main sections: GB analysis and HPSG analysis. To illustrate our discussion, we will use examples of both English and Portuguese ditransitive constructions, considering here that the Portuguese hypothesis addressed in the previous chapter is “true”, that is, that Portuguese also presents a type of dative alternation, and that when both prepositions “*a*” and “*para*” are selected by the verb we have a possession meaning, whereas when only “*para*” is possible we have movement meaning.

### 4.1 GOVERNMENT AND BINDING ANALYSIS

As mentioned in the second chapter of this paper, Government and Binding theory assumes that a large portion of the grammar of any language is shared by all languages, and is then part of UG, which can be broken down into two main components: levels of representation and a system of constraints. According to GB, there are four levels of representation: D-structure, S-structure, Phonological Form (PF) and Logical Form (LF). At the D-structure the lexical items are combined according to the items they subcategorize for and then mapped into S-structure, which in turn will be divided into PF and LF.

According to Chomsky (1988), UG distinguishes four main categories of lexical items (verb, noun, adjective and preposition), each one receiving a projection of which they are the heads. Every lexical category selects phrases as complements and these complement selection requirements are, in turn, represented in subcategorization frames.

Thereby, considering ditransitive verbs, we can argue that English ditransitive verbs subcategorize for two complements, which can be either two NPs or one NP and one PP. Portuguese ditransitive verbs, on the other hand, subcategorize for one NP and one PP, just alternating in order.

(1) English ditransitive verbs

a. V, [ \_ NP NP]

b. V, [ \_ NP PP]

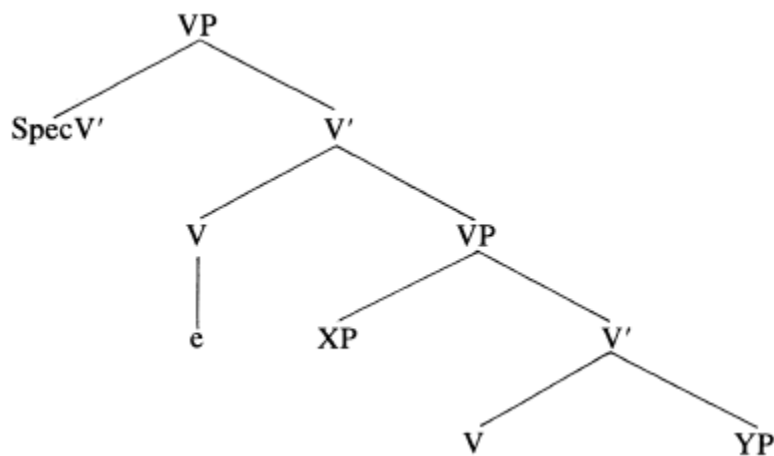
(2) Portuguese ditransitive verbs

a. V, [ \_ NP PP]

b. V, [ \_ PP NP]

These subcategorization frames can be represented by trees, in X-bar structures. According to Larson (1988), based on Chomsky (1955/1975), the X-bar structure for dative constructions is as follows:

(3)



(LARSON, 1988, p. 380)

According to the tree above, the D-structure of ditransitive verbs is a strictly binary branching structure, consisting the VP of an empty V taking a VP complement whose specifier is a XP, whose head is a V and whose only complement is a YP. In other words, in the Larsonian structure for dative and double objects there are two verbal heads and the direct object originates in the lower one. Larson (1988) considers ditransitive verbs deep VP to be clause-like, being the NP considered the subject and the PP the object, as in the example (4) below.

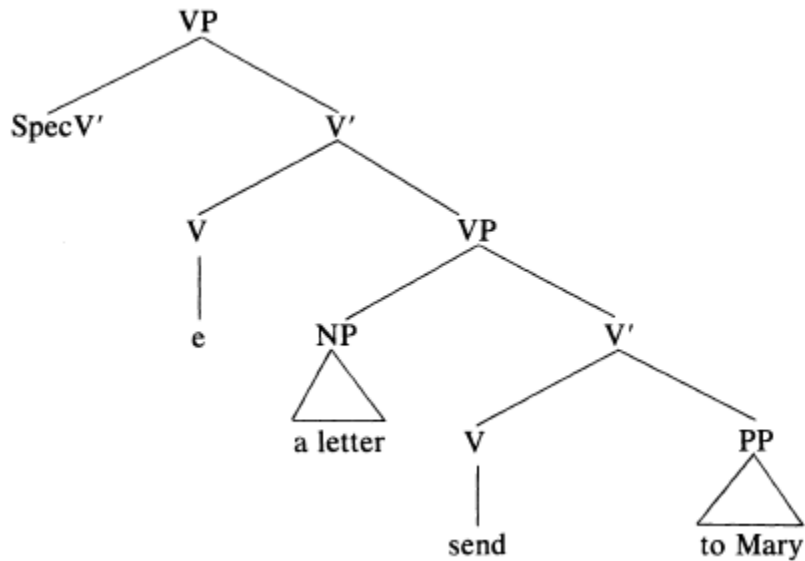
This Larsonian structure for ditransitive constructions is well known and adopted by different authors, such as Haegeman (1999), Cuervo (2003), Morais (2006), among others. However, according to Larson's (1988) analysis, ditransitive verbs are considered to have a

single meaning and their different syntactic realizations are said to be a derivation of the other (in this case the DOC variant would be a derivation of the Dative Variant).

(4) a. John sent a letter to Mary.

b. V, [\_ NP PP]

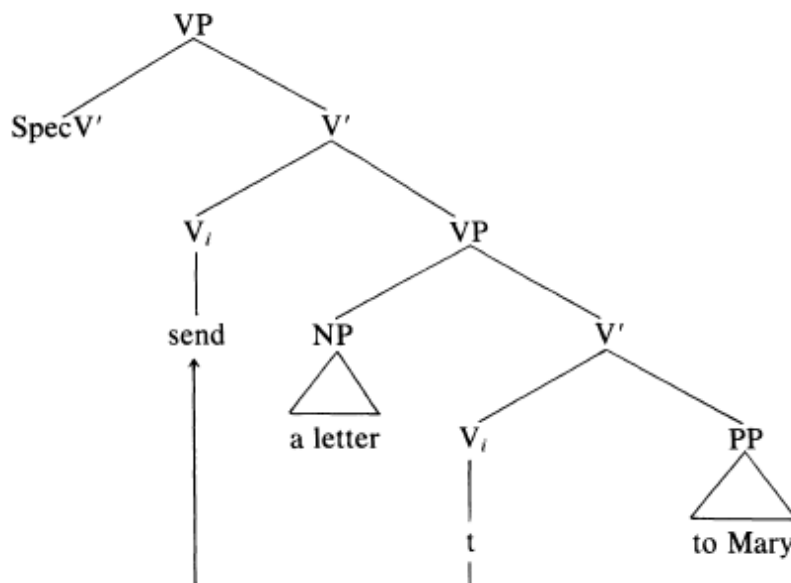
c.



(LARSON, 1988, p. 342)

Obviously, a sentence such as *John a letter send to Mary* is ill-formed in English. Here, the author assumes that the surface form of this sentence arises by the movement of the verb *send* to the empty V position (V raising), as shown below (LARSON, 1988, p. 343):

(5)



Concerning the DOC variant in English, Larson (1988) argues that it must be represented in terms of transformations, rather than different lexical entries, as defended by some authors (Dowty, 1978; Oehrle, 1976). This is due to the fact that in many languages with the so-called applicative constructions, oblique and dative object structures present a highly productive relation suggestive of derivational relatedness, which argues for transformation operations similar to Dative Shift<sup>5</sup> to be available in principle. Also, the dative – DOC relation is desirable under any strong theses about the relation between structure and the assignment of thematic roles (Larson, 1988).

*Uniformity of  $\theta$ -Assignment Hypothesis*

Identical thematic relationships are represented by identical structural relations between the items at the level of D-structure.

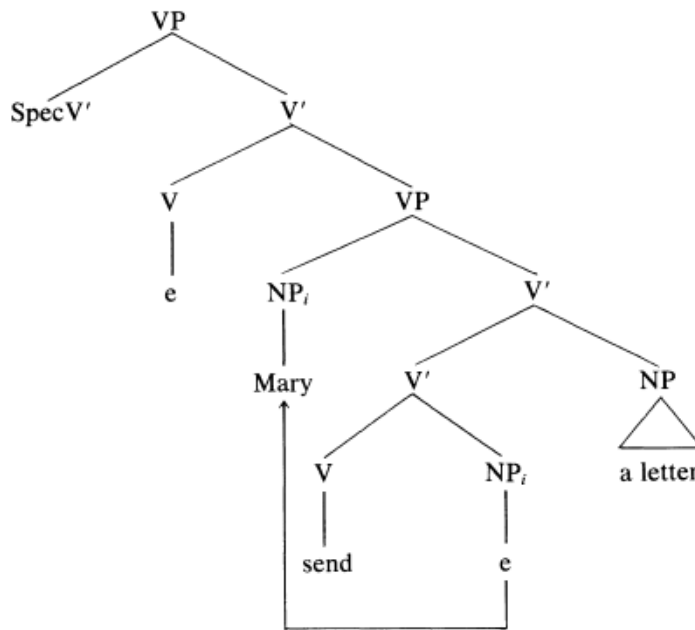
This hypothesis, developed by Baker (1985) and here defended by Larson (1988), at the same time that it narrows the class of initial D-structure realizations of a given set of thematic roles, it virtually forces a derivational description of the dative-DOC relation, once the thematic roles assigned in these constructions are identical.

Therefore, we can argue that the X-bar structure of the DOC variant would be as follows:

- (6) a. John sent Mary a letter.
- b. V, [ \_ NP NP]
- c.

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<sup>5</sup> As Levin and Rappaport Hovav (2001) call attention, there is a difference between Dative Shift and Dative Alternation. Dative shift is a derivational analysis that assumes that ditransitive verbs, such as give, have a single meaning but two derivationally related syntactic structures that do not present difference in meaning. This analysis tends to be syntactically rather than semantically motivated. Besides Larson, authors like Baker (1988) and Dryer (1986) also adopt this approach (KORDONI, 2004). The dative alternation approach, on the other hand, is a non-derivational analysis that assumes that ditransitive verbs have two distinct meanings, each giving rise to its own syntactic realization of arguments.



(LARSON, 1988, p. 353)

The inner VP of the DOC variant is analogous to a passive, since in both situations an object is moved to a subject position, with the former subject assuming an adjunct status<sup>6</sup>. Of course, Dative Shift and Passives present differences: in passives the verb is marked with participial morphology (-en), while in DOC the verb remains in its active form. Also, in passives the demoted adjunct phrase (the logical subject) can be suppressed, whereas in DOC the demoted adjunct (the logical direct object) cannot be suppressed.

Moreover, Larson (1988) assumes that the preposition “to”, in a VP like *send a letter to Mary*, has the status of a dative Case marking, analogous, for example, to indirect objects in highly inflected languages, such as Portuguese.

The author defends the theory that “to” is in fact contentful, but when it appears in V’s headed by Dative-shifting verbs it is reduced to Case marking, and therefore can be suppressed under Passive. In other words, “to” is assumed to be an independent preposition in English with its own role to assign. Also, although verbs may select indirect object arguments, they cannot assign Case to this argument. This way, a V’ containing a dative verb and an indirect object can be well-formed only if an independent Case-assigning element such as “to” appears. Moreover, both V and P must assign thematic roles to the object, as for

<sup>6</sup> Larson (1988) believes that both NP Movement (as occurs in passives) is similar to Dative Shift (as occurs in (6) above). For that reason, the author calls both operations as *Passive*  
 A ball hit Mary – Mary was hit (by a ball)  
 John sent a letter to Mary – John sent Mary \*(a letter)

instance in the VP “*give a book to Mary*”, where *give* assigns ‘beneficiary’, ‘goal of motion along some path’; and *to* assigns ‘goal of motion along some path’. Here the roles assigned by the verb subsume the role assigned by *to*, the semantic contribution of the preposition is then redundant and it is effectively reduced to Case marking.

This proposal also explains why some verbs like “*donate*” and “*distribute*” do not have a DOC variant. Larson (1988) argues that these verbs only assign the role of beneficiary, and not of goal. This thesis is supported by evidence from certain verb-particle constructions, such as *give out* and *give away*, which are formed by a Dative-shifting verb *give* and a directional adverb particle indicating centrifugal motion. This way, superimposing the latter component upon the meaning of *give*, we have phrasal verbs that preserve the notion of ‘beneficiary’ and intuitively connote transfer of possession from a source and not to a goal. Thus “*to*” is not a mere case marker, since its semantic content is not redundant and hence it resists to Dative Shift, occurring only in the variant V NP PP.

There are, on the other hand, some verbs that can only occur in the DOC variant, such as *spare*. For those verbs, Larson (1988) proposes a theory of *unaccusativity*, that is, relevant verbs are thematically incompatible with any potential Case assigner and this way force their third argument to undergo movement. Taking *spare* as an example, we can notice that its notional indirect object, although it is a beneficiary, cannot be a goal or a source, *to* and *from* are then semantically incompatible with the role the verb assigns to its third argument.

However, in sentences like “\**John gave a black eye to me*”, the obligatory DOC variant is not explained in terms of unaccusativity, but rather in terms of the oddness of the second object to be understood as undergoing motion along some path. In other words, a black eye in no sense can travel from John to me, so the compositional semantics of the VP is not fully compatible with the directional meaning contributed by *to*.

At this point, two important questions must be raised: (a) why cross-linguistically dative and other oblique cases cannot be suppressed under Passive?; and (b) why Dative Shift (or Dative Alternation) is possible in English but impossible in Romance languages such as Portuguese?

To answer these questions, Larson (1988) appeals to Kayne’s (1981) proposal that the preposition in English assigns Objective Case, which allows the preposition to be thematically reanalyzed with the verb when a prepositional object is extracted, which in turn will permit the trace of the latter to be licensed under the Empty Category Principle (ECP). In Romance languages, on the other hand, prepositions assign Oblique Case, reanalysis is then blocked due



to the conflict between V (Objective Case assigner) and P (Oblique Case assigner), and thus resulting in an ECP violation whenever a prepositional object is extracted.

And how are the thematic roles explained?

Larson (1988) assumes two principles governing the projection of arguments.

P1

If  $\alpha$  is a predicate and  $\beta$  is an argument of  $\alpha$ , then  $\beta$  must be realized within a projection headed by  $\alpha$ .

(LARSON, 1988, p. 382)

Moreover, the author bases his second principle on a thematic hierarchy developed by Carrie-Duncan (1985):

Thematic Hierarchy

AGENT > THEME > GOAL > OBLIQUES (manner, location, time,...)

(CARRIER-DUNCAN, 1985 *apud* LARSON, 1988, p. 382)

P2

If a verb  $\alpha$  determines  $\theta$ -roles  $\theta_1, \theta_2, \dots, \theta_n$ , then the lowest role on the Thematic Hierarchy is assigned to the lowest argument in constituent structure, the next lowest role to the next lowest argument, and so on.

(LARSON, 1988, p. 382)

We have then that in (5) the PP “to Mary” is the lowest argument, so it is the goal, while the next lowest argument is the NP “a book”, so it is the theme. In (6), on the other hand, the lowest NP is an empty category that by movement is associated to the NP “Mary”, being this the goal then. The second lowest argument is the NP “a book”, so it is the theme. Here we can notice that although there is the inversion in the order of the arguments (and the loss of the preposition), the two internal arguments present the same thematic roles in both variants.

Nevertheless, although this analysis succeeds in presenting the Dative Shift syntactically, as well as their theta-roles, it fails if we consider that the phenomenon of Dative Alternation does exist, that is, it fails in explaining in what forms the alternation in the order of the internal arguments causes semantic differences. In other words, the syntactic

representation for the English Dative Shift is satisfactory, however, there is a lack of semantic explanations as to how the different syntactic realizations result in different meanings<sup>7</sup>. Why is the DOC variant associated to possession meaning, while the Dative variant expresses movement meaning?

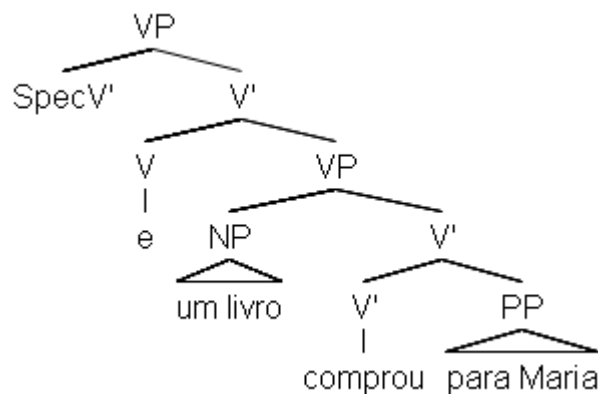
Moreover, the Larsonian structure satisfactorily represents syntactically the Dative Shift/Alternation phenomenon in English, but can this same structure be applied to Portuguese ditransitive constructions too?

Apparently, for the default order in Portuguese (V NP PP), the Larsonian structure model would be acceptable, as shown in (7) below:

(7) a. João comprou um livro para Maria. (João bought a book to Maria)

b. V, [ \_ NP PP]

c.



In this example, the lowest argument is the PP “*para Maria*” being then associated to the goal role. The second lowest argument is the NP “*um livro*” associated to the theme role.

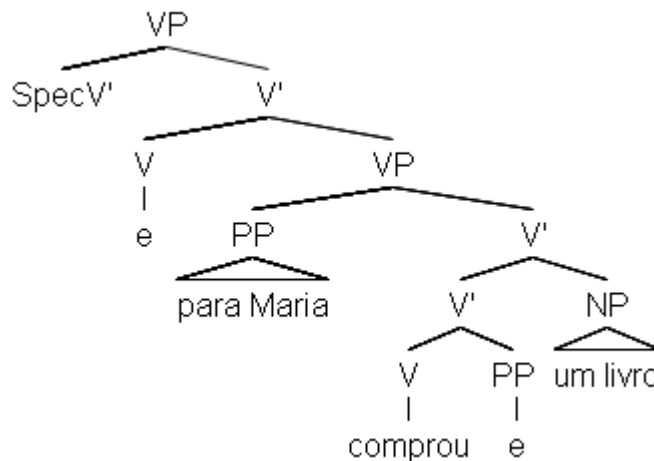
However, when it concerns the inverted order in Portuguese (VPP NP), the Larsonian structure seems a bit odd, as in (8) below:

(8) a. João comprou para Maria um livro. (\*João bought to Maria a book)

b. V, [ \_ PP NP]

c.

<sup>7</sup> This is due to the fact that according to Larson (1988), there are no semantic differences arising from the alternation of the internal arguments. However, in this paper, I assume otherwise. I justify my choice in using the Larsonian structure though in terms of its importance among the studies on ditransitives and their alternations. Although Larson (1988) claims the alternation between V NP NP and V NP PP in ditransitives does not cause difference in meaning, many approaches which defend that this difference does exist use Larson’s structure (Haegman, 1999; Cuervo, 2003; Morais, 2006).



This may be due to the fact that in Portuguese the inversion in the order of the internal arguments results in topicalization, a change in the focus of the sentence, so there is a possibility that the PP topicalized should be “raised” in position.

Up until here, we can argue that the Larsonian structure fails to represent the semantics differences arising from Dative Alternation in English, and also from the change of focus in Portuguese.

Another important point to be discussed is whether GB can help us corroborate or refute the hypothesis that Portuguese also presents a type of dative alternation, that is, that when both prepositions “*a*” and “*para*” are selected by the ditransitive verb in Portuguese we have a possession meaning, whereas when only “*para*” is possible we have movement meaning.

If we consider what Larson assumes for the English preposition *to* that it by itself is contentful and assigns to its object the role of goal along some path, we can argue that the Portuguese counterpart of *to*, namely “*para*”, also assigns to its object the same role. Considering this, we can say then that the V NP PP order in Portuguese conveys a movement meaning. Similarly, Torres Morais (2012) argues that when the verb selects both “*a*” and “*para*” as prepositions, there is a possession relation.

Despite the attempts of representing and explaining the phenomenon of ditransitivity and dative alternation, it seems, in my opinion, that GB is not enough to explain the semantic differences that arise from this phenomenon. This might be due to, as Cuervo (2010) defends, the impossibility of a verb to select two internal arguments, being the ditransitives then considered a subgroup of transitives. According to GB and the binary branching principle, it is not possible for a head to take two complements.

## 4.2 HEAD-DRIVEN PHRASE STRUCTURE GRAMMAR ANALYSIS

As mentioned in chapter 2, Head-driven Phrase Structure Grammar is a highly lexicalist theory which defends that the lexicon is more than just a list of entries, rather it is organized in terms of multiple inheritance hierarchies and lexical rules. The sign is the basic unit in HPSG and it contains information about the phonology, syntax and semantics of a word (or phrase). Such information is represented through feature structures. All signs have at least two features, also called attributes: [PHON] that gives the phonetic form (since it is not the main focus on this paper, it will not be discussed in detail); and [SYNSEM], that provides the syntactic and semantic information. SYN attributes tell us about the grammatical properties of the node, such as its category, any inflectional properties, what elements the node can combine with (subcategorization), etc. SEM, conversely, gives us information about how the word and the sentence are to be interpreted.

Each feature is paired with a value in an AVM. The value of SYNSEM is a structure object - the *synsem* object - with attributes called LOCAL and NONLOCAL. NONLOCAL information figures in the analysis of unbounded dependency phenomena, such as *wh*-movement, and therefore it will be left aside on the discussion of this paper. LOC information in turn is divided into CATEGORY, CONTENT and CONTEXT attributes. CATEGORY value includes the category of the word in question and also the grammatical arguments it requires, that is, its lexical categories, here called HEADs and its subcategorization (SUBCAT). The CONTENT value constitutes the word's contribution to aspects of semantic interpretation of any phrase that contains it; it would be roughly equivalent to the theta-roles in GB. And, finally, the CONTEXT value contains context-dependant linguistic information.

Most researchers, such as Pinker (1989), Jackendoff (1990), Levin (1993), Goldberg (1995), Wechsler (1995), Koenig & Davis (2000) among others, agree that subcategorization correlates significantly with semantics.

Thereby, considering ditransitive verbs, we can argue that English ditransitive verbs would be represented in an AVM as follows:

(9) John gave Mary a book.





In (10), we also see that the internal arguments are represented as sisters. Their theta roles are also expressed in the CONTENT value, and there is no need of movement/transformation either.

Bender, Sag & Wasow (2003) also call the attention to the fact that in this analysis the preposition *to* receives no semantics of its own, since it can be omitted if the arguments are presented in another order (DOC), differently from the Larsonian theory, which defends that the preposition *to* by itself assigns the role of “goal along some path”. The authors say that the preposition, in sentences like (10), is functioning to mark the role of its NP with respect to the verb, doing what in many languages would be done by means of case inflection on the noun. This is due to the fact that English has only a vestigial system of case marking, so the prepositions and word order are used to mark the roles of the NPs in the sentence.

However, as well as the GB approach, HPSG also seems to fail when it comes to the explanation of the difference in meaning resulting from the Dative Alternation. This theory, as far as I am aware, does not present a clear hypothesis why the alternation between the two syntactic representations culminates in semantic difference.

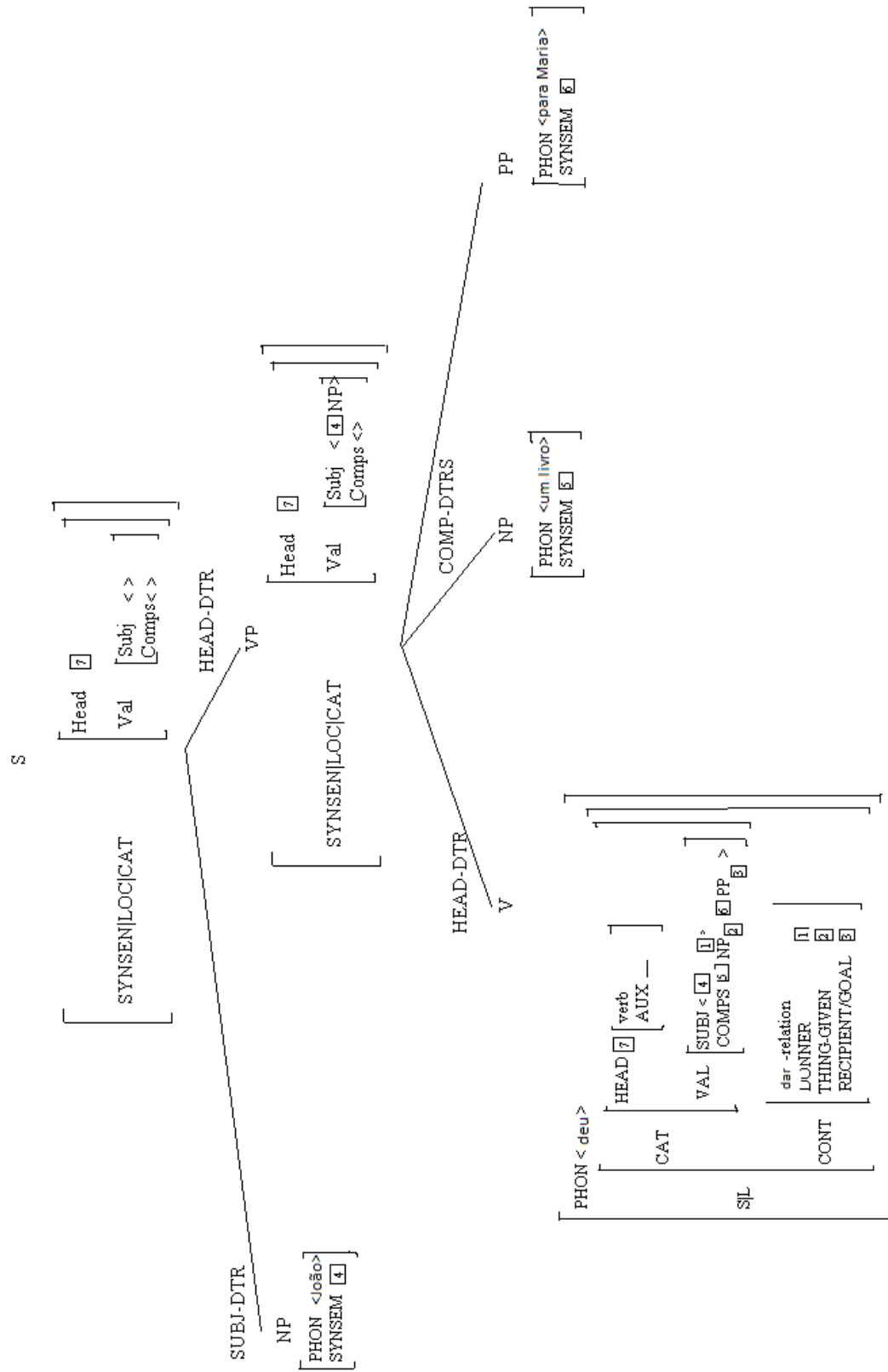
According to Bender, Sag & Wasow (2003), Dative alternation as shown in the examples (9) and (10) may be explained in terms of derivational rules (*d-rules*). Rather than listing different entries for a same verb, in the authors’ opinion it makes more sense to list only one entry with one of two valence patterns fixed and to derive the other by a derivational rule. This, however, generates a problem for (ditransitive) verbs that do not present such alternation (as *donate* or *spare*), underlining the need for a theory of lexical rules and lexical irregularities. The authors claim that “All these patterns of valence alternation are governed by both semantic and syntactic constraints of the kind that could be described by finely tuned lexical rules” (BENDER, SAG, WASOW, 2003, p. 268).

D-rules, however, do not explain the Dative Alternation phenomenon either. The ditransitive verb is said to have only one lexical entry, but the different meanings they convey are not explained simply by their different valence patterns, since their arguments roles are said to be same (note the Content value in the AVMS (9) and (10), they are exactly the same).

On the other hand, HPSG seems to be more accurate to what concerns the syntactic representations of ditransitive verbs in Portuguese, since the same configurational AVM can be used for both variants.

Notice (11) below,

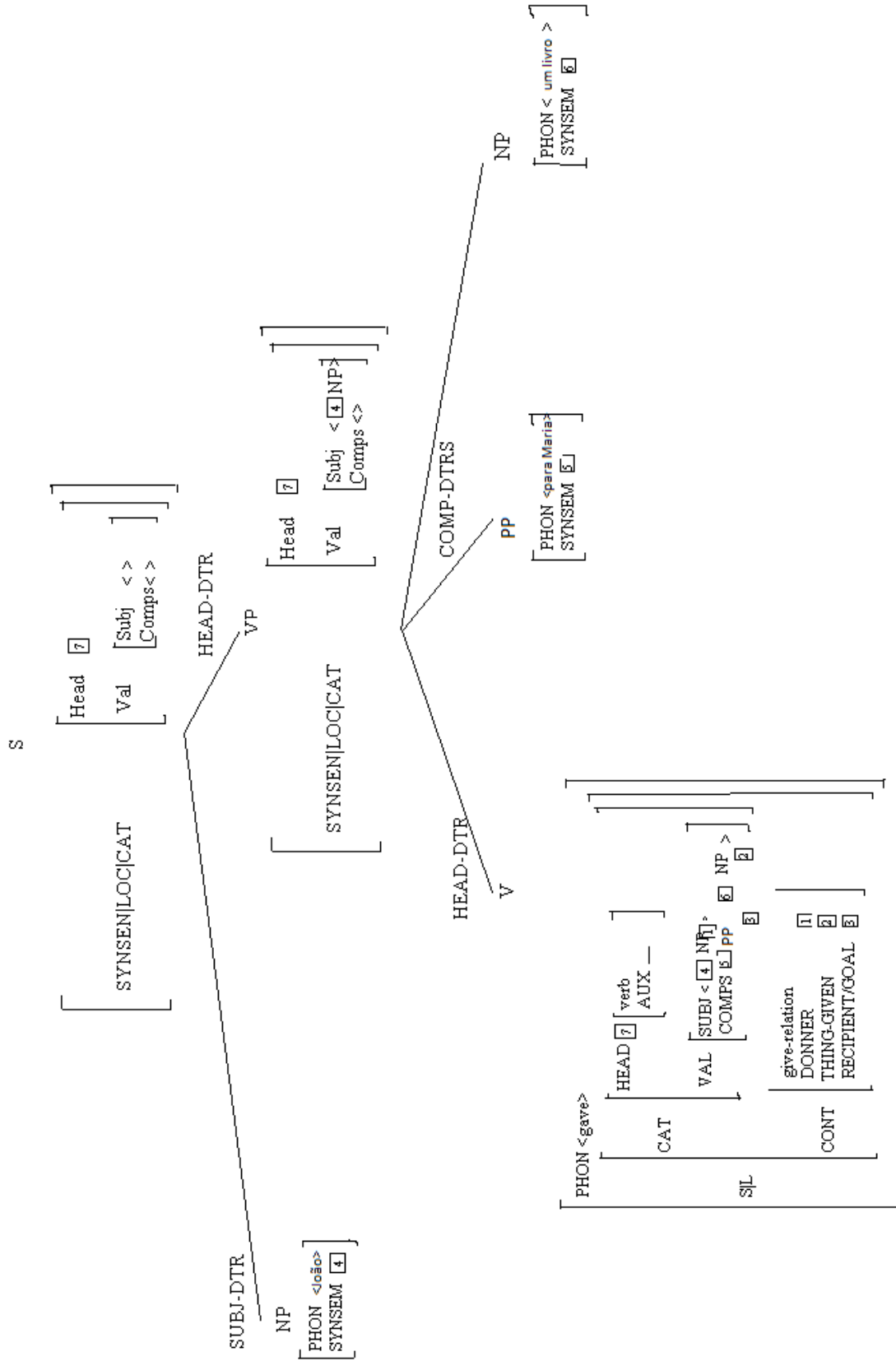
(11) João deu um livro para Maria. (John gave a book to Mary).



and (12):



(12) João deu para Maria um livro. (John gave Mary a book)



The AVM in (12), similar to what happens with X-bar structures, does not show the character of topic of the inverted PP either, that is, HPSG also fails to explain the semantic (and in this case informational) differences resulting from the alternating patterns of ditransitive verbs both in Portuguese and in English.

Moreover, concerning the different meanings the choice on the prepositions selected by the verb in Portuguese may suggest (hypothesis raised in chapter 3), HPSG's lexical approach considers the meaning of each word in the sentence according to its entry in the lexicon. This way, we can argue that in an HPSG view the preposition “*a*” may present a different (but related) meaning compared to “*para*”, since each one of them has a different lexical entry. This way, we might raise the hypothesis that the different meanings ditransitive constructions convey through the Dative Alternation in English might be conveyed in Portuguese by the choice on different prepositions. This hypothesis needs a very careful analysis and due to time and space limits, it will be left aside in this paper, but it may serve as a propeller for future studies.

Nevertheless, HPSG - because it does not defend a binary branching account – seems to present fewer problems concerning the status of ditransitivity of the verbs analyzed. According to this theory, both dative and accusative arguments are directly connected to the verb as sisters, and thus neither one of them is considered to be closer to the verb core. It means that, differently from GB, the predicate does not contain two verbal heads and the VP is not considered to be clause-like, therefore neither is the recipient/goal argument said to be the subject of VP nor the theme argument is said to be the object of the lower VP.

Moreover, HPSG presents a “sharper” view of the projections of the sentence arguments and the roles they are assigned. AVMs, in my view, have a simpler form to what concerns structural organization. Almost everything you need to know about a word or phrase is contained in its lexical entry and represented in its AVM.

This chapter's aim was to analyze how GB and HPSG theories represent and explain the dative alternation phenomenon. In doing so, I could notice that both GB and HPSG theories present flaws in representing ditransitive verbs syntactically, and in explaining the semantic differences arising from their Dative Alternation. In what concerns the English ditransitive constructions, we can argue that they have been more widely studied and therefore at least their syntactical representation is better drawn if compared to Portuguese. On the other hand, Portuguese ditransitive verbs are still in need of better descriptions.

Moreover, it is important to mention here the lack of papers about Portuguese ditransitive constructions, especially based on the HPSG approach.

Finally, in this chapter, besides reaching the conclusion that neither theory currently explains thoroughly enough the phenomenon to its entirety both syntactically but especially semantically, I have also suggested that possible avenues of investigation for future papers in the area could be, in the case of GB, the possibility for the prepositions “*a*” and “*para*” to be considered contentful (as defended by Larson (1988) concerning the preposition *to*) and therefore explain the different meanings ditransitive verbs may convey. As for HPSG, a hypothesis for the explanation of the phenomenon in Portuguese might be raised in terms of the different lexical entries the prepositions “*a*” and “*para*” represent in the lexicon, suggesting that they have different meanings and therefore change the connotation of the verbs they are associated with.

## 5 CONCLUSION

In this thesis, we have attempted to shed some light on the study of ditransitive constructions in both Portuguese and English languages, analyzing also a very peculiar phenomenon of syntactic alternation that such verbs undergo in English - the Dative Alternation. In order to do that, we have first of all delimited, in chapter two, the theories employed in the elaboration of this paper. We have started by a brief description of the most recent and debated syntactic theories. Then we followed to a more descriptive analysis of Chomsky's Government and Binding Theory. After that, a minute description of Pollard and Sag's Head-driven Phrase Structure Grammar was offered. And finally the two theories in focus were contrasted.

We have seen that among the similarities between GB and HPSG, we can point out that the two theories share the same goal, which is to characterize human linguistic competence. Both GB and HPSG intend to construct a scientific theory of the system of knowledge that is embodied in the mind/brain, making language possible, as well as to determine what all languages have in common (Universal Grammar). Moreover, we could see that among the main differences between the two approaches, HPSG is not syntactocentric as GB, that is, there is no assumption that syntax is somehow primary, or that morphology is done in the syntax. Instead, HPSG assumes that we need to understand different systems of linguistic knowledge, including syntax, semantics, morphology, phonology, and pragmatics.

In the third chapter, we have established what a ditransitive verb is – a verb which requires two internal arguments which, in English for example, may occur either as an NP and a PP or as two NPs, while in Portuguese they occur as a NP and a PP, alternating only in order. Dative alternation has also been defined as being a sort of syntactic alternation in which arguments of the same verb may present different syntactic realizations (an argument recipient, for instance, may occur either as a PP or as an NP). Still in chapter three, English Dative Alternation was presented and discussed as to how such alternation results in semantic differences. It has been stated that when the syntactic variation is possible, the Double object variant (V NP NP) is associated to causation of possession ('X causes Y to have Z'), whereas the prepositional variant (V NP PP) is associated to causation of movement ('X causes Z to go to Y'). As for Portuguese ditransitive verbs, we have established that Dative alternation in the same way as it occurs in English is not possible, considering that the Double object variant is not viable, since Portuguese does not accept the deletion of the preposition of the recipient

argument. As an alternative hypothesis for Portuguese ditransitive constructions, I have suggested, based on Armelin (2010), that the choice of the recipient argument prepositions would convey a different meaning: when only the preposition “*para*” may be used, it is associated to movement, while the choice for “*a*” and/or “*para*” at the same time would suggest a causation of possession, similar to what happens in English in the Dative Alternation.

As for chapter four, GB and HPSG theories were analyzed and contrasted as to how they represent and explain the syntactic and semantic phenomenon of Dative Alternation in both English and Portuguese. We have reached the conclusion that neither theory currently explains satisfactorily enough the phenomenon to its entirety both syntactically but especially semantically. Due to this fact, I have suggested as possible avenues of investigation for future papers in the area two hypothesis: regarding GB, I propose the possibility for the Portuguese prepositions “*a*” and “*para*” to be considered contentful (as defended by Larson (1988) regarding the preposition *to* in English) and therefore the choice between the two could explain the different meanings ditransitive verbs may convey. As for HPSG, another hypothesis has been raised. The phenomenon in Portuguese might be explained in terms of the different lexical entries of “*a*” and “*para*” in the lexicon, suggesting that the two prepositions represent different meanings and therefore they might change the connotation of the verbs they are associated with.

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## APPENDIX

### A

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#### POWER POINT PRESENTATION

PONTIFÍCIA UNIVERSIDADE CATÓLICA DO RIO GRANDE DO SUL  
FACULDADE DE LETRAS  
PROGRAMA DE PÓS-GRADUAÇÃO

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### DATIVE ALTERNATION: A SYNTACTIC AND SEMANTIC PHENOMENON

Fernanda Serpa Fritsch (nandafritsch@yahoo.com.br)  
Orientadora: Dr. Ana Maria Tramunt Ibaños

### **OBJETIVOS**

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- Investigar se as duas realizações sintáticas possíveis dos argumentos internos de verbos bitransitivos em Língua Inglesa (V NP NP x V NP PP) apresentam variação quanto ao significado;
  
  - Verificar se o mesmo fenômeno variacional ocorre em Português;
-

## **OBJETIVOS**

---

- ❑ Analisar de que forma a Teoria de Regência e Ligação (GB) representa sintática e semanticamente o fenômeno da alternância dativa;
  - ❑ Verificar como a Head-driven Phrase Structure Grammar (HPSG) explica este mesmo fenômeno.
- 

## Verbos Bitransitivos

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↻ dois argumentos internos (tema, recipiente/meta)

Ex.: Pedro deu um anel à Julia.

Peter gave Julie a ring.

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## John gave a book to Mary.

John gave Mary a book.

John gave her a book.

Mary was given a book.

---

Todo verbo pode alternar dativamente?

---

{ Peter donated some money to Santa Casa.

\*Peter donated Santa Casa some money.

{ I washed the car for Mary.

\*I washed Mary the car.

- Somente a construção dativa é possível

---

Todo verbo pode alternar dativamente?

---

- { That movie gave me the creeps.
- { \*That movie gave the creeps to me.
  
- { Alex gives his mother headaches.
- { \*Alex gives headaches to his mother.

- Somente DOC é possível.

---

### ***Condições para a Alternância Dativa*** (PERPIÑAN & MONTRUL, 2006 )

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- o verbo tem que ser do tipo bitransitivo (ter dois argumentos internos);
  - sua raiz morfológica não pode ser Latina (com exceção dos verbos monossilábicos);
  - e um de seus argumentos internos tem que ser do tipo possuidor.
-

## **Condições para a Alternância Dativa**

(GROPEN, 1989)

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- Semanticamente, o argumento alvo/meta/recipiente na variante DOC deve ser um possível possuidor do argumento tema, isto é, o recipiente/meta precisa ser animado para ser capaz de possuir algo.

John mailed a letter to London.

\*John mailed London a letter.

(Nesse caso, a sentença não será agramatical se interpretarmos London como sendo "the London Office", por exemplo)

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## **Variante DOC**

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- Oerhle (1976) observa que esta estrutura só ocorrerá se a restrição de *possuidor prospectivo* (nomenclatura criada por GROPEN *et al.*, 1989, p. 243) for atendida;
  - relação de *posse futura* (SOARES & MENUZZI, 2010).
-

## Variante DOC

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I baked a cake for Lucy.  
I baked Lucy a cake.

Peter fixed the lamp for Julie.  
\*Peter fixed Julie the lamp.

Peter stole the lunch from Julie.  
\*Peter stole Julie the lunch.  
(malefactivo)

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DOC - **causação de posse** ("X causes Y to have Z");

Construção Dativa - **causação de movimento** ("X causes Z to go to Y").

Oerhle (1976), Pinker (1989); Gropen et al (1989), Francez (2006) e Beavers (2011), entre outros.

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## Português

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{ João deu um livro a Maria. (V NP PP)  
\*João deu Maria um livro. (V NP NP)  
João deu a Maria um livro (V PP NP)

{ Pedro fez um bolo para Julia. (V NP PP)  
\*Pedro fez Julia um bolo. (V NP NP)  
Pedro deu para Julia um bolo. (V PP NP)

---

- 
- Armelin (2011) sugere que em Português a possibilidade de inversão dos argumentos internos resulta na mudança de foco do enunciado, como uma topicalização.
  - Essa inversão também é favorecida em caso de contrastes:

Ex.: Pedro enviou à mãe flores e à irmã bombons.

### ***Dativização do objeto indireto***

Transformação do objeto preposicionado em pronome clítico:

- Soares e Menuzzi (2010) afirmam que a dativização do Português sofre uma restrição semelhante à da posse prospectiva do Inglês, porém é menos restritiva, visto que tanto verbos benefactivos quanto verbos malefactivos podem ser dativizados. Além disso, a relação de posse não precisa ser futura.

### ***Dativização do objeto indireto***

Maria preparou um jantar para nós.

X

Maria nos preparou um jantar.

João consertou o computador para mim.

X

João me consertou o computador.

\*Pedro estragou o carro para mim.

X

Pedro me estragou o carro.

## "Give"/Dar idiomáticos

---

Aquele filme me causou arrepios.  
That movie gave me the creeps

Aquele filme causou arrepios em mim.  
\*That movie gave the creeps to me.

A tagarelice me deu uma dor de cabeça.  
The chatter gave me a headache.

A tagarelice deu uma dor de cabeça em mim.  
\*The chatter gave a headache to/in me.

---

- Não tem relação de posse, mas relação de afetação

## Hipótese para o Português

---

□ **Dialeto Mineiro** (Scher, 1996; Armelin, 2010)

V NP NP é possível

Se PARA e A forem possibilidades de seleção do verbo.

Ex.: João deu o dinheiro ao/para o pai.  
(por exemplo, o pai precisava de dinheiro e não tinha, mas João tinha o dinheiro e não iria usar tão cedo)

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## Hipótese para o Português

---

V NP NP não é possível

Se somente PARA puder ser selecionado pelo verbo.

Ex.: João deu o dinheiro para o pai.

(João precisava entregar um dinheiro para Maria, mas ela não estava em casa, então ele entregou para o pai)

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## Núcleos Aplicativos (Pylkkänen, 2002)

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### Aplicativo Alto

Relação entre o evento e o recipiente

### Aplicativo Baixo

Relação de posse entre o tema e o recipiente

- DOC em Inglês
  - clitic doubling em Espanhol
-

## Cuervo (2003)

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- Espanhol, construções preposicionadas são representadas por aplicativos baixos, e associadas a movimento, pois a preposição "a" é considerada uma preposição verdadeira, denotando significado direcional.
  - Construções com *clitic doubling* são associadas a aplicativos baixos, servindo a preposição "a" como um marcador de caso, sem significado intrínseco, sendo considerado como a realização morfológica/lexical do núcleo aplicativo, e denotando assim relação de posse.
- 

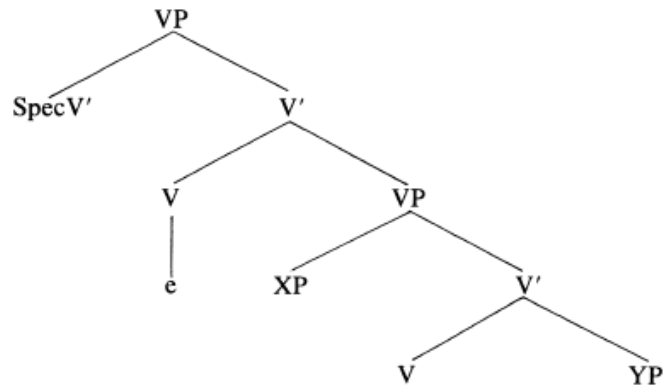
## Morais (2006) e Armelin (2010)

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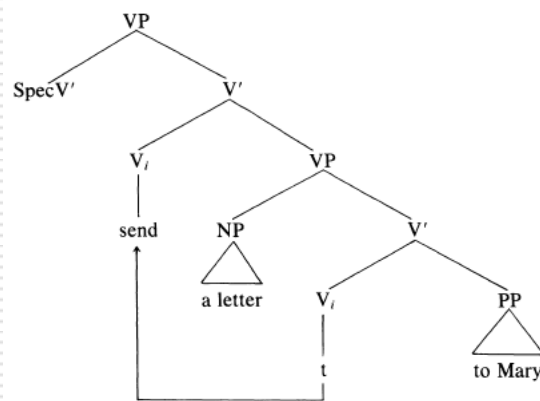
- Português (dialeto Mineiro), na variante preposicionada, o objeto indireto é introduzido por uma preposição PARA que contribui para o sentido direcional (de movimento) da sentença. (aplicativo alto)
  - Enquanto na variante sem preposição, ou com a preposição A, o argumento dativo é realizado por um item lexical a-NP, cuja preposição é um marcador de caso, ou como um pronome clítico "lhe/lhes", sendo associado a um aplicativo baixo e causação de posse.
-

# GB

Larson (1988)

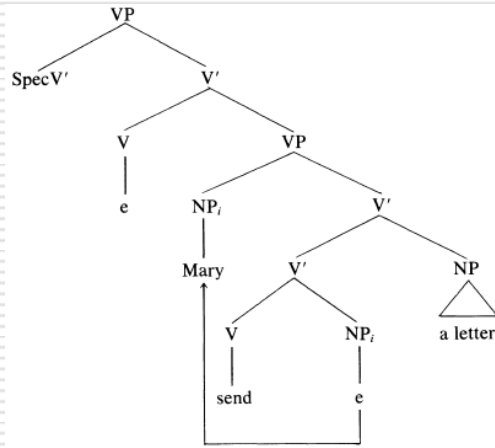


John sent a letter to Mary.



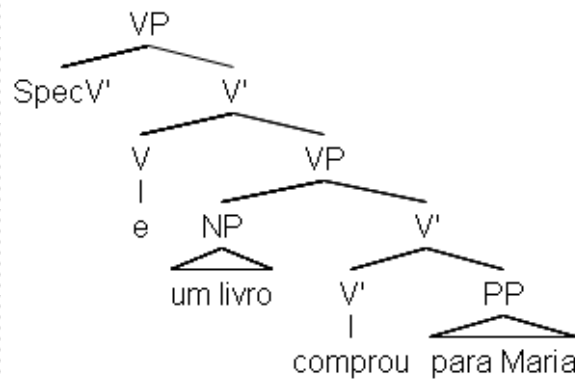
(LARSON, 1988, p. 342)

John sent Mary a letter.

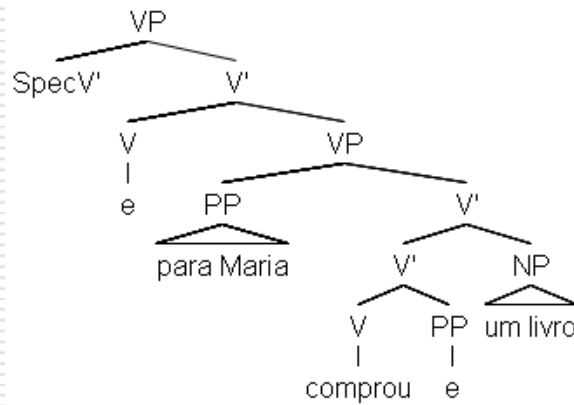


(LARSON, 1988, p. 353)

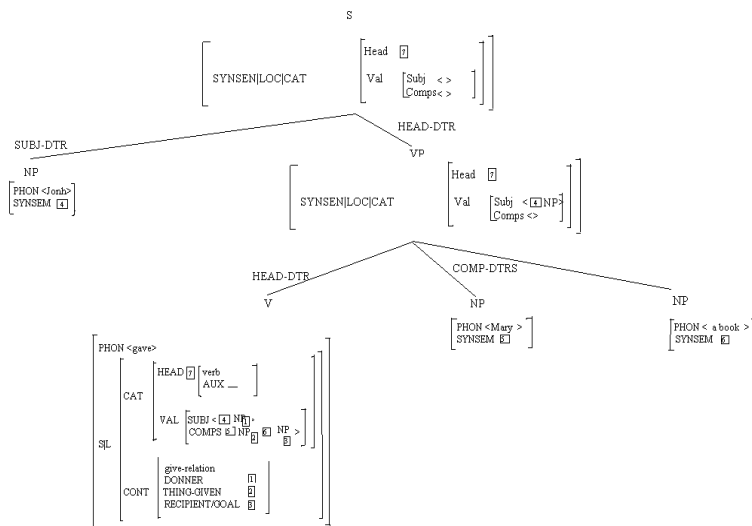
João comprou um livro para Maria.



João comprou para Maria um livro.

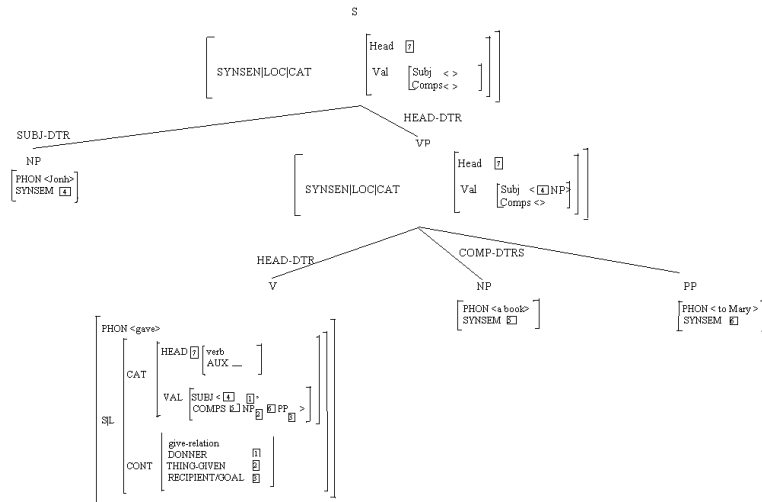


HPSG John gave Mary a book.

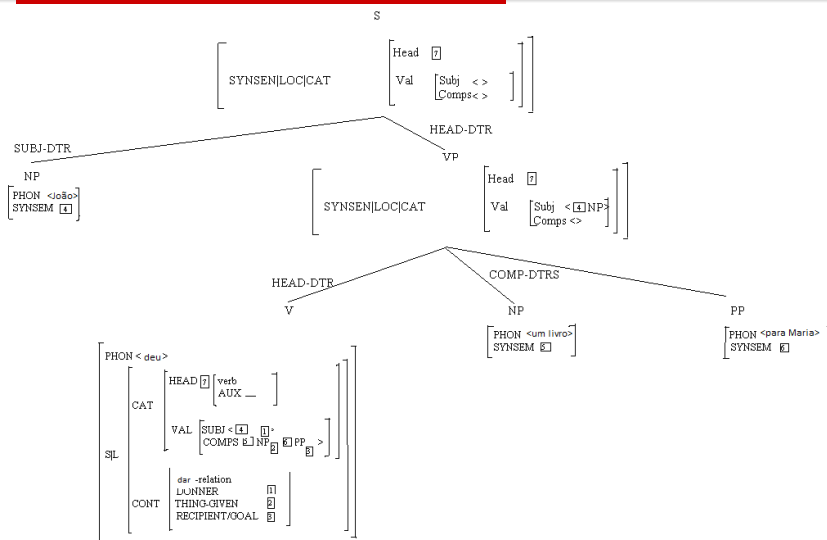




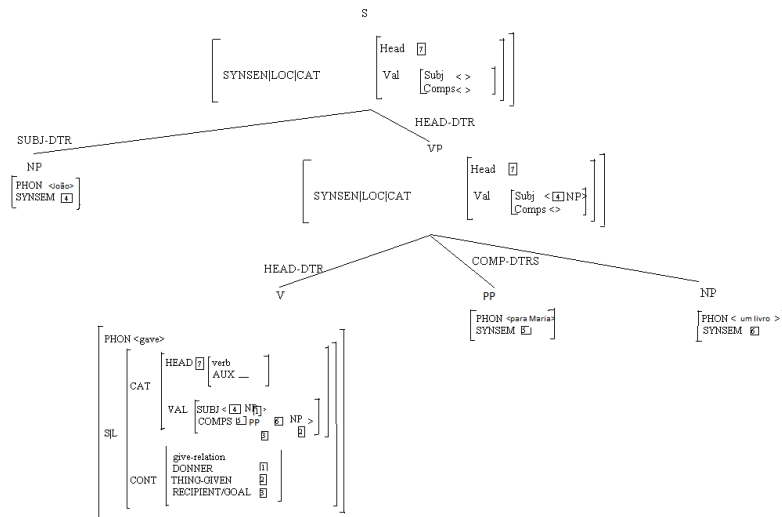
## John gave a book to Mary



## João deu um livro para Maria



## João deu para Maria um livro



## Conclusões

- A alternância dativa na Língua Inglesa só ocorre com um grupo bastante particular de verbos: tem que ser do tipo bitransitivo, sua raiz morfológica não pode ser Latina e um de seus argumentos internos deve ser do tipo possuidor;
- Quando o fenômeno ocorre, verifica-se então diferença de significado. Diz-se que a variante DOC (V NP NP) está associada ao significado de **causação de posse**, enquanto a variante preposicionada (V NP PP) está associada ao de **causação de movimento**;

## Conclusões

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- Quanto ao Português, fica evidente que a alternância dativa, tal qual como ocorre em Inglês, não é possível, pois a variante DOC (com exceção do dialeto mineiro) não ocorre;
  - Quanto ao significado, o Português aparentemente não apresenta diferenças significativas. Argumenta-se que a alternância na ordem default dos objetos (V NP PP) seria um tipo de topicalização, na qual se está mudando o foco do enunciado para o objeto indireto.
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## Conclusões

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- Além disso, a escolha da preposição parece estar relacionada ao significado da sentença. Quando "a" e "para" são possíveis, tem-se relação de posse; quando somente "para" é possível, tem-se relação de movimento.
  - Tanto a GB quanto a HPSG parecem representar satisfatoriamente os verbos bitransitivos sintaticamente, contudo ambas teorias apresentam dificuldade em explicar a diferença semântica resultante da alternância dativa.
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## Conclusões

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- GB, devido à restrição de ramificações binárias, têm mais dificuldade de representar a alternância dativa, se comparado com a HPSG.
  
  - HPSG poderia explicar o fenômeno do Português em termos de diferentes entradas lexicais das preposições A e PARA, sugerindo que as duas preposições representam significados diferentes e, por isso, mudariam o significado dos verbos aos quais se associam.
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