

SYNTACTIC STRUCTURE OF THE VERB *IR* IN CONTEMPORARY EUROPEAN PORTUGUESE

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ABSTRACT. The aim of this paper is to analyse the syntactic structure of the portuguese verb *ir* ('go'). After establishing it as a ditransitive verb, we will proceed to describing its syntactic structure, for which purpose a brief background on X-bar Theory and Theta-Theory will be provided, as they will play crucial roles in our analysis. We will conclude that the syntactic structure of the verb *ir* is that of a *v*P-shell.

RESUMO. O objetivo deste artigo é analisar a estrutura sintática do verbo *ir* em Português Europeu. Depois de estabelecer que se trata de um verbo ditransitivo, passarei a descrever a sua estrutura sintática, introduzindo brevemente a X-bar Theory e a Theta-Theory, que desempenharão um papel crucial na análise apresentada. Concluirei que a estrutura sintática do verbo *ir* é a de uma *v*P-Shell.

1 - *Theoretical framework*

In this section we will make a short overview of the main characteristics of X-bar Theory and Theta-Theory according to Ouhalla (1999), so as to set a theoretical background which will allow us to study the syntactic structure of the verb *ir*. We will only address the key points of both theories.

1.1 - *X-bar Theory*

1.1.1 - *Projection Principle*

One of the core principles in X-bar Theory is the one which allows lexical items to be inserted into a tree according to their subcategorization frames, while avoiding the redundancy which arises from the Lexical Insertion Principle (LIR). This principle is known as the **Projection Principle** (adapted from Chomsky (1981), taken from Ouhalla (1999)):

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- (1) “Representations at each syntactic level (i.e LF, DS and SS) are projected from the lexicon, in that they observe the subcategorisation properties of lexical items.”

Ouhalla (1999)

Where the term “subcategorisation” is understood to include categorial features, LF stands for Logical Form, DS for Deep Structure and SS for Surface Structure. Subcategorisation properties are “checked” at each of these three levels: at DS, before phenomena such as movement starts; at SS, after overt movement has taken place; and at LF, after all movement is over. The fact that the subcategorisation properties must be observed at all levels of representation removes the need for a Trace Convention, as the existence of traces now derives directly from this principle.

1.1.2 - *Heads and Maximal Projections*

The phrasal level (XP) is called the maximal projection (of X) in X-bar terminology. The obligatory constituent of a maximal projection is called the **head** (of that maximal projection).

- (2) $XP \rightarrow \dots X \dots$

1.1.3 - *Specifiers and complements*

The distinction between subcategorised categories (complements) and non-subcategorised categories (adjuncts) in relation to the head of an XP is achieved by recognizing an additional level of categorial representation intervening between the head and its maximal projection called the **single bar projection**, X' . The intervening level includes the head and its complement and exclude the subject, making the first a sister to X (and a daughter to X') and the second a sister to X' (and a daughter to XP). The hierarchy is therefore from “double-bar” ($X''=XP$) to single bar (X') to “zero bar” ($X^0 =X$) (or vice-versa). The daughter of XP and the sister of X' is called the Specifier (Spec). Spec is often used interchangeably with the term “subject”, especially in relation to categories that are smaller than a clause.

1.1.4 - *Binary Branching*

In X-bar theory, there is a restriction on branching so that no more than two branches can be dominated by a given node, which makes this theory preferable to one where

one node can dominate any number of branches, as it puts a severe limit on the number of possible structures. The **Binary Branching** restriction can be stated as follows:

- (3) A node can dominate at most two branches.

1.1.5 - *Dominance and C-command*

The notion of c-command uses the notion of **dominance**, given in (4):

- (4) Node N1 dominates node N2 if N1 is above N2 in the tree, and one can trace a path from N1 to N2 moving only downwards in the tree.

C-command is defined as follows:

- (5) α c-commands β if:
- the first branching node dominating α also dominates β
 - α does not dominate β

1.2 - *Theta-Theory*

1.2.1 - *C-selection and s-selection*

Subcategorisation in terms of syntactic categories is called **categorial selection (c-selection)** and subcategorisation in terms of semantic categories is called **semantic selection (s-selection)**. While c-selection operates in terms of syntactic categories, s-selection operates in terms of semantic categories called **thematic roles** or **θ -roles**. For instance, the verb *hit* s-selects two θ -roles, an agent (the subject participant) and a patient (the object participant).

1.2.2 - *A-positions and θ -positions*

An **A-position** is a position where an argument can be found in LF representations. Complement positions of lexical heads, for example, are A-positions occupied by the internal argument of the lexical head. **A'-positions** are the positions where a non-argument can be found at in LF representations. Adjoined positions are an example of A'-positions. θ -positions are the positions which are assigned a θ -role. The assignment of θ -roles is conditioned by the θ -Criterion, which we will define in a moment. θ^0 -positions are, predictably, positions which are not assigned a θ -role.

1.2.3 - *θ -Criterion*

The θ -Criterion can be defined as follows:

- (6) a. Each argument must be assigned one and only one θ -role.
b. Each θ -role must be assigned to one and only one argument.

The θ -Criterion has the function of ensuring that the thematic structures of lexical items are accurately reflected in structural representations, such that each θ -role is paired with an argument in the structural representation. The Projection Principle ensures that the θ -Criterion applies not only at DS, but also at SS and LF. Now that we have provided the basics of X-bar Theory and θ -Theory, we can proceed to the syntactic analysis of the verb *ir*.

2 - Argument structure of the verb 'ir'

Consider the following sentences:

- (7) O Pedro foi do Porto a Lisboa.
the Pedro went from.the Porto to Lisbon
'Pedro went from Porto to Lisbon.'

- (8) O Pedro foi do Porto para Lisboa.
the Pedro went from.the Porto to Lisbon
'Pedro went from Porto to Lisbon.'

(7) and (8) both contain the verb *ir*, followed by two PPs. In (7), the head of the second PP is the preposition *a*, whereas in (8) it is the preposition *para*. While the choice of preposition is semantically relevant, it bears no consequence at the syntactic level, for which reason no distinction shall be made between the two PPs.

2.1 - Category of the PPs

In order to study the syntactic structure of the verb, we must first discover whether or not it has complements. Consider (9):

- (9) *O Pedro foi.
the Pedro went
'Pedro went.'

(9) proves that the verb *ir* does have at least one complement. Looking at (7) and (8), it stands to reason that at least one of those PPs is a complement of the verb, as the sentences are well formed. By applying the following test, we get that PP is a complement of the verb if the question/answer pair is ungrammatical, or an adjunct, if the question/answer pair is grammatical.

- (10) *O que é que o Pedro fez do Porto? Foi a Lisboa.
What did the Pedro do from Porto? Went to Lisbon
*'What did Pedro do from Porto? He went to Lisbon.'

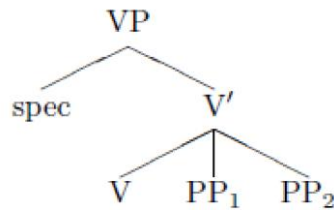
- (11) *O que é que o Pedro fez de Lisboa? Foi a Porto.
What did the Pedro do from Lisboa? Went to Porto
*'What did Pedro do to Lisbon? He went from Porto.'

In both (10) and (11), the question/answer pair is ungrammatical, and therefore both PPs are complements of the verb (oblique complements, as they are headed by prepositions).

2.2 - Syntactic structure of 'ir' – problems

Now that we have established that *ir* has two complements, one headed by the preposition *de* (PP₁) and the other by the preposition *a* or *para* (PP₂), it is time to analyse the syntactic structure of the verb. As we have seen above, the theoretical framework we are using does not allow for nodes to dominate more than two branches (recall the Binary Branching restriction shown in (3)). The syntactic structure of the verb *ir* cannot, therefore, be such as the following:

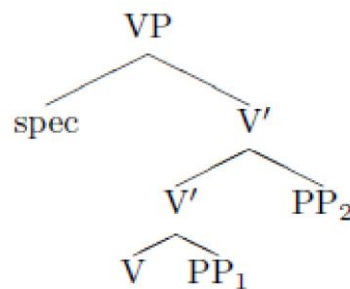
(12)



However, when we attempt not to breach the Binary Branching restriction, we are faced with two problems:

- (13) a. Which PP is a sister to V at DS?
 b. How do we build a structure such that the other PP is represented as a complement, and not as an adjunct (as we can see in (14))?

(14)



In this structure, the PP is in an adjunction structure and therefore in a θ^2 -position, which is impossible, due to the θ -criterion. Firstly, let us address the problem of deciding which PP is a sister to V at DS. In the beginning of this section we applied a test to sentences (7) and (8) so as to ascertain whether or not PP₁ and PP₂ were complements of the verb. Let us now apply a new test - the deletion test.

- (15) *O Pedro foi a/para Lisboa.*
 the Pedro went to Lisbon
 ‘Pedro went to Lisbon.’

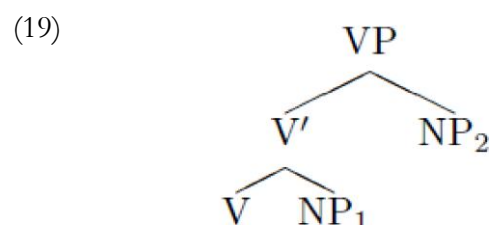
- (16) **O Pedro foi do Porto.*
 the Pedro went from.the Porto
 *‘Pedro went from Porto.’

Normally, if a given phrase can be omitted from a sentence, that implies that that phrase is an adjunct. However, we have seen from (10) that PP₁ (headed by the preposition *de*) is a complement of the verb *ir*. There seems to be a contradiction. In order to get to a solution to this problem, let us take a look at the following examples:

(17) *O Pedro deu um livro à Maria.*
the Pedro gave a book to.the Maria
'Pedro gave a book to Maria.'

(18) *O Pedro deu um livro.*
the Pedro gave a book
'Pedro gave a book.'

(17) contains the verb *dar* ('to give'), a ditransitive verb. In EP, the indirect object (IO) or dative object is often omitted, so that sentences like (18) can be considered acceptable, whereas the direct object (DO) is very rarely omitted. Given that the status of the indirect object as an object is not contestable, it stands to reason that the DO is a sister to V at DS (this poses the question of where to put the IO, which is in fact very similar to the problem we are facing with the verb *ir*). By comparison, we can then postulate that the PP₂ is a sister to V at DS, which solves our first problem. For our second problem, we could attempt to use the structure proposed by Chomsky (1981) for ditransitive verbs involving phrases of the form V-NP-NP (after adapting it, of course):



The reason why this structure does not work, along with the solution to our second problem (13b), will be provided in section 3.

3 - *Solution proposal*

3.1 - *vP-shell*

Barss and Lasnik (1986) provided evidence on asymmetries in the behaviour of the two objects in double object constructions which showed that in a verb phrase of the form V-NP-NP, the first NP c-commands the second, but not vice-versa, by means of phenomena involving c-command such as these (among others):

- (20) a. Anaphor binding: *I showed Mary herself.* / **I showed herself Mary.*
 b. Quantifier binding: *I gave every worker_i his_i paycheck.* / **I gave its_i owner every paycheck_i.*
 c. Weak crossover: *Which man_i did you send his_i paycheck?* / **Whose_i pay did you send his_i mother?*

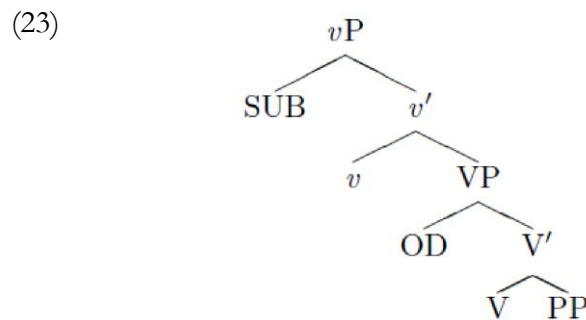
The structure proposed by Chomsky (1981), shown in (14), assumes that NP₂ asymmetrically c-commands NP₁ (or, under a definition of c-command based on containment in maximal projections (Aoun and Sportiche (1983) or m-command, there is no asymmetry whatsoever), which is impossible, as the evidence presented above clearly demonstrates that it is NP₁ that c-commands NP₂, and not vice-versa. Larson (1988) observed that the asymmetries found in V-NP-NP structures were also present in V-NP-PP structures:

- (21) a. Anaphor binding: *I showed Mary to herself.* / **I showed herself to Mary.*
 b. Quantifier binding: *I gave every check_i to its_i owner.* / ?? *I gave his_i paycheck to every worker_i.*
 c. Weak crossover: *Which check_i did you send to its_i owner?* / **Which worker_i did you send his_i check to?*

Furthermore, Larson (1988) points out that with these types of verb phrases, it seems that the predicate transmitted by a ditransitive verb + objects regularly depends on the contribution of the IO. Among other examples, he considers the pair (22a,b):

- (22) a. *Beethoven gave the Fifth Symphony to the world.*
 b. *Beethoven gave the Fifth Symphony to his patron.*

The difference of meaning between the two sentences arises from the nature of the IO. This means that it is the V plus its outer complement that assigns the DO its semantic role. Larson (1988) takes this as evidence that the V is a sister to PP at DS. However, at SS we see that the DO NP comes between the verb and the IO PP. This can only be explained through movement of the verb, specifically by V Raising, over the DO. The question now is where to place the V and the DO. We know we must observe Binary Branching, that there must be three positions for argument XPs (subject (SUB), DO and IO (PP)) and that the DO must c-command the IO. Larson (1988) solves this problem by pointing out that there must be another XP above the VP. Since the SUB is in the specifier position of the higher XP, that must be a VP as well. The resulting structure is known as a "vP-shell".



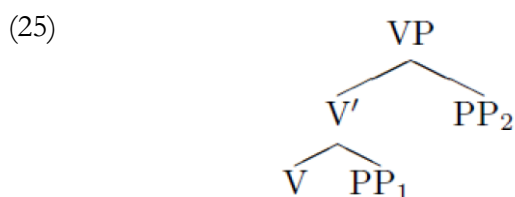
The verb in the higher phrase is a "light verb" (for which reason it is represented by a small *v*). Its contribution is to assign the θ -role to subject. The lower verb assigns the θ -roles to the OD and the PP, with the DO c-commanding the PP. *v* is the position where V moves to at SS. V Raising leaves a trace, as we can see in example (24):

(24) *Peter gave_i [_{VP} a book *t_i* to Mary] and [_{VP} a magazine *t_i* to John].*

Note that this structure implies the existence of a small clause (VP), with OD as its subject, as it is in the subject position (spec, VP).

3.2 - Syntactic structure of the verb 'ir'

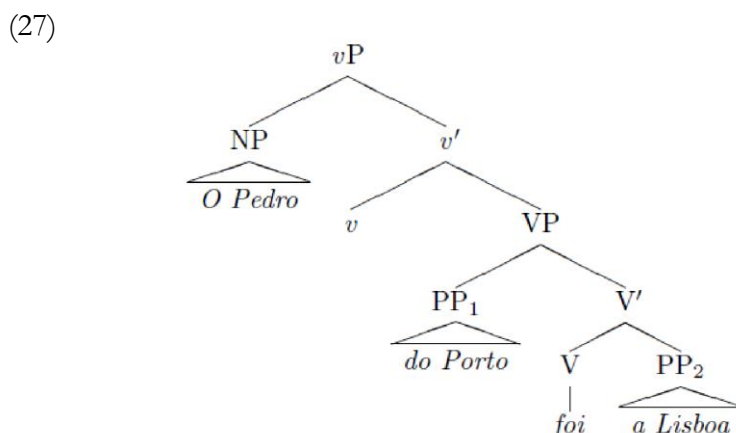
We now possess the necessary theoretical tools to decide which structure best describes the syntactic properties of the verb *ir*. In section 2.2 we decided against a structure of the type of (19), adapted to the verb *ir* in (25). We will now see why.



In order for this structure to work, PP₂ must asymmetrically c-command PP₁. Moreover, PP₁ must be a sister to V at DS. Using the same test used by Barss and Lasnik (1986), we see that this is not the case:

- (26) a. *O Pedro foi do Porto a Lisboa.*
 the Pedro went from.the Porto to Lisbon
 ‘Pedro went from Porto to Lisbon.’
- b. **O Pedro foi a Lisboa do Porto.*
 the Pedro went to Lisbon from.the Porto
 ‘Pedro went from Lisbon to Porto.’

(26b) would only be have the same meaning as (26a) in very specific contexts (e.g with a particular intonation, in a specific discourse context where it was not immediately clear where Pedro was departing from), and would still be considered a deviant form. This shows that it is PP₁ that c-commands PP₂, and not the other way around. It stands to reason, then, that the structure of this verb must be a *v*P-shell structure such as (27):



As we can see from (27), the ditransitive verb *ir* is also in a *v*P-shell structure. PP₁ c-commands PP₂, with the word order seen at SS resulting of Verb Raising of the V to the position of *v*. The "light verb" assigns the Agent θ -role to the subject, while V assigns the θ -roles to its complement PPs (which θ -roles are assigned is not relevant to this particular study). PP₁ is the subject of the small clause VP, as it occupies the position spec,VP. While it is not the goal of this paper to study the syntax of other ditransitive verbs, it is interesting to note that the Portuguese verb which corresponds to the English verb *give*, *dar*, does not seem to have a *v*P-shell structure, as its English counterpart does. Rather, it would appear that the structure proposed by Chomsky (1981) works for this verb, under m-command:

- (28) a. *O Pedro deu um livro à Maria.*
the Pedro gave a book to.the Maria
'Pedro gave a book to Mary.'
- b. *O Pedro deu à Maria um livro.*
the Pedro gave to.the Maria a book
'Pedro gave to Mary a book.'

Hence, it is possible to say that not all ditransitive verbs in EP have *v*P-shell structures. Also noteworthy is the fact that the existence of a *v*P-shell structure for a ditransitive verb in EP implies that there is a *v* which assigns the Agent θ -role in EP, which means that it must be present in other small clause structures which contain an agentive subject.

4 - Conclusion

In conclusion, evidence from constituent order, namely that a switch in the order of PP₁ (the source argument) and PP₂ (the goal argument) results in ungrammatical sentences, shows that a *v*P-shell type of structure is the one that best accounts for the fact that PP₁ must c-command PP₂ and that the later is a sister to V at DS.

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