

# Portuguese Adjective Position and Adverbial Readings in the Generative Lexicon

Raquel Fonseca Amaro

Centro de Linguística da Universidade de Lisboa (CLUL)

Av. Prof. Gama Pinto, 2

1649-003 Lisbon, Portugal

[ramaro@clul.ul.pt](mailto:ramaro@clul.ul.pt)

## Abstract

The semantic change involved in some Adj-Noun / Noun-Adj constructions, occurring in Portuguese, can be represented in the Generative Lexicon using the already existent generative devices, namely the Selective Binding and the event Head determination for verbal alternations, and using a more complete semantic representation of relative adjectives and individual-level nouns. This results in a simpler structure to account for this kind of phenomenon.

## I. Introduction

The adjective position within nominal phrases can reflect more than just a style option or a more or less objective use. This paper will provide an economical account of the adjectives influence in the meaning of nominal phrases depending on their position, within the Generative Lexicon framework (Pustejovsky (1995)).

In section II it will be discussed this particular phenomenon and some approaches to its treatment; section III will provide a description of the kind of nouns that allow this phenomenon and their representation within the GL; in section IV it will be proposed a economic representation for the adjectives that enable these constructions; and section V will summarize the possible conclusions of this proposal.

## II. Adjective position and adverbial readings

In Portuguese, as in some other languages, the adjective position in nominal phrases can provide a distinction between adverbial and intersective readings (cf. Larson (1999)). In these cases, the pre-nominal adjective position enables the adverbial reading of the phrase (cf. (1a)), and the post-nominal position enables the intersective reading of the phrase (cf. (1b)).

(1) a. *velho amigo*  $\cong$   
Q<sub>e</sub>[friendship(e,x) ... old(e)]  
(old friend  $\cong$  person who is in a friendship relation that exists for a long time)

b. *amigo velho*  $\cong$   
Q<sub>e</sub>[friendship(e,x) ... old(x)]  
(old friend  $\cong$  person that exists for a long time who is in a friendship relation)

This phenomenon occurs systematically when in the presence of relative adjectives that may also modify events, such as

- (2) a. *velho amigo/ amigo velho*,  
(old friendship/ old person)  
b. *alto funcionário/ funcionário alto*  
(high functionary/ tall functionary)  
c. *grande marinheiro/ marinheiro grande*  
(great sailor/ big sailor)  
d. *mau médico/ médico mau*  
(bad doctor/ cruel doctor)  
e. *rico pai/ pai rico*  
(great father/ rich father)

(cf. Amaro 2002).

Bouillon (1996, 1999) treats this phenomenon for the adjective *vieux* in French. According to her proposal, the adjectives may alter between a predicative reading, when in post-nominal position, and a attributive reading, when in pre-nominal position. The relevant distinction made is that when the adjective occurs in pre-nominal position, i.e. when in an attributive use, “looses” its predicate condition, being considered as a nominal modifier. This implies that the adjective is no longer a relative adjective.

According to Larson (1999), the ambiguity of nominal phrases such as *old friend*, in English, derives from the fact that the relative adjective may predicate either the individual or the event denoted by the noun. In Portuguese, as in French, it is the adjective position in the nominal phrase that determines its predicate argument. However, it isn't obvious that the adjective in pre-nominal position is no longer a relative one.

Relative adjectives are those adjectives whose interpretation needs a comparison term: *This is a big house. This building is big for a house (but small for a mansion)*. Therefore it is necessary to introduce this comparison term, here named C, in the adjective semantic representation, (cf. (3)).

(3) a. *velho amigo*  $\cong$   $Q_e[\text{friendship}(e,x) \dots \text{old}(e, \mathbf{C})]$   
 (old friend  $\cong$  person who has a friendship relation that exists for a long time. This friendship is **old for a relationship**.)

b. *amigo velho*  $\cong$   $Q_e[\text{friendship}(e,x) \dots \text{old}(x, \mathbf{C})]$   
 (old friend  $\cong$  person that exists for a long time who has a friendship relation. This friend is **old for a person**.)

In (3a), the duration of the friendship described is relative to the type of relationship. Being a relationship between humans, it is clear that its duration is related to the duration of the entities which participate in it. It could not be, for instance, a friendship of two thousand years.

On this account, I propose these adjectives to be represented in one single manner, and that the comparison term is recovered from the type of the adjective

argument, being the relative value of the adjective represented in the Constitutive quale.

In (4), *velho amigo* ( $\cong$  old friendship), the adjective modifies the type of the event, a **state**; in (5), *amigo velho* ( $\cong$  old person), the adjective modifies the type of the individual, a **human**.

(4) *velho amigo* ( $\cong$  old friendship)

$$\left[ \begin{array}{l} \text{EVENTS} = [E_1 = e_1 : \text{state}] \\ \\ \text{ARGS} = \left[ \text{ARG}_1 = \left[ \begin{array}{l} \text{human} \\ \dots \\ Q = \left[ \begin{array}{l} \dots \\ \text{TELIC} = \left[ \begin{array}{l} \boxed{1} \quad \boxed{2} \text{state} \\ \dots \end{array} \right] \end{array} \right] \end{array} \right] \right] \\ \\ Q = \left[ \begin{array}{l} \text{CONST} = \text{relative\_to\_a\_class}(e_1, \boxed{2}) \\ \text{FORMAL} = \text{exist\_for\_a\_long\_time}(e_1, \boxed{1}, \boxed{2}) \end{array} \right] \end{array} \right]$$

(5) *amigo velho* ( $\cong$  old person)

$$\left[ \begin{array}{l} \text{EVENTS} = [E_1 = e_1 : \text{state}] \\ \\ \text{ARGS} = \left[ \text{ARG}_1 = \left[ \begin{array}{l} \boxed{2} \text{human} \\ \text{ARGS} = \left[ \begin{array}{l} \text{ARG}_1 = \boxed{1} x : \text{human} \\ \text{ARG}_1 - D = y : \text{human} \end{array} \right] \\ Q = \left[ \begin{array}{l} \text{FORMAL} = \boxed{1} \\ \dots \end{array} \right] \end{array} \right] \right] \\ \\ Q = \left[ \begin{array}{l} \text{CONST} = \text{relative\_to\_a\_class}(e_1, \boxed{2}) \\ \text{FORMAL} = \text{exist\_for\_a\_long\_time}(e_1, \boxed{1}, \boxed{2}) \end{array} \right] \end{array} \right]$$

### III. Individual-level nouns

The nouns that allow this kind of constructions must be nouns that denote a pair individual-event in a specific manner, i.e., the event denoted by the noun must have relevance for the individual identification, and therefore individual-level nouns are the natural

candidates for these constructions (cf. Amaro (2002)).

Bouillon (1996, 1999) considers these nouns as dotted typing nouns in order to describe the adjective argument selection depending on its position. However, individual-level nouns as *maire* (mayor), *alcoolique* (alcoholic), *marin* (sailor) or *violinist* are not dotted typing nouns in the sense that they are not regularly polyssemous (cf. Antunes (2002)). It is not possible to consider a context where just one of the supposed subsemantic types is available. Besides, it is possible to represent this particular adjectival binding without considering the modified nouns as dotted typing nouns.

Other nouns such as *livro* (book) or even stage-level nouns also allow these constructions. Nevertheless, in this paper I will consider only the individual-level nouns case.

Note, however, that nouns as *amigo* (friend), *pai* (father), and so on, are considered relational nouns and don't share the same Qualia representation as the individual-level nouns. Pustejovsky (1995) states that relational nouns are nouns that denote a set of individuals that establish a relationship with, at least, one other, being these relationships the ones that can be established between animated individuals. His proposal is that, for the fact that there is a relationship between these nouns arguments, this relation is to be represented in the Formal quale of the noun (cf. (6)).

(6) *amigo* (friend)

$$\left[ \begin{array}{l} \text{ARGS} = \left[ \begin{array}{l} \text{ARG1} = x : \text{human} \\ \text{ARG1} - \text{D} = y : \text{human} \end{array} \right] \\ \text{Q} = \left[ \begin{array}{l} \dots \\ \text{FORMAL} = x, \text{friendship\_relation}(e1, x, y) \end{array} \right] \end{array} \right]$$

The definition for individual-level nominals, such as *violinist*, states that the nouns refer to an activity in its Telic quale that identifies the individual but “it need[s] not [to] be an activity or state that holds at the time of reference” (Pustejovsky (1995:229)). This definition holds for the case of relational nouns. Sentences like (7), (8) or (9) exhibit the proximity between this two kinds of nouns.

(7) The violinist is sleeping. (He is not playing the violin.)

(8) The father doesn't know his younger son. (He is not being a parent.)

(9) I haven't seen my friend in years. (I'm not establishing a friendship relation.)

These examples show that relational nouns also denote an activity that defines in a permanent way the individual denoted by the noun.

Furthermore, the argument relation in relational nouns, according to Pustejovsky (1995), is represented in the Formal quale, in order to distinguish them from the other simple typing nouns. However, this is the only case of simple typing nouns in which this occurs, for, also according to Pustejovsky (1995), the Formal quale value for simple typing nouns should be “identical to sortal typing of the argument”, as opposed to complex typing nouns (Pustejovsky (1995:95)).

For these reasons, it is possible to consider relational nouns as a subclass of individual-level nouns, here exemplified in (10).

(10) *amigo* (friend)

$$\left[ \begin{array}{l} \text{ARGS} = \left[ \begin{array}{l} \text{ARG1} = x : \text{human} \\ \text{ARG1} - \text{D} = y : \text{human} \end{array} \right] \\ \text{Q} = \left[ \begin{array}{l} \dots \\ \text{FORMAL} = x \\ \text{TELIC} = \text{friendship\_relation}(e1, x, y) \end{array} \right] \end{array} \right]$$

#### IV. Representation of the adjective position

In Portuguese as in Spanish, the adjective default position is the post-nominal one (cf. Casteleiro (1981), Demonte (1999), Avelar (2000)). In most of the cases, the pre-nominal position doesn't result in such a drastic change of meaning for the nominal phrase in which it occurs, being only described as a sign of the adjective predicative or restrictive interpretations.

In the cases here presented, the adjective position is directly responsible for the adverbial reading (pre-nominal position) or intersective reading (post-nominal position) and, therefore, it is relevant to consider that the syntactic position must be accounted for in the semantic representations of these phrases.

According to Bouillon (1999), one way to do so is to consider that, in the pre-nominal position, the adjective is interpreted as a nominal modifier and for that reason the semantics of the adjective is applied to that of the noun, being the type **individual** coerced into a **state** by Type Transcription (i.e. the type of the argument is not changed into to the type required by the predicate, but the information present in the predicate semantics is added to the argument semantics). The Type Transcription is possible in this case because the adjective selects dotted typing nouns (**ind•state**) and because the noun denotes a part of the selected type (**ind**) (cf. (11)).

(11) *un vieux alcoholic* (an old alcoholic)

$$\left[ \begin{array}{l} \text{ARGS} = \left[ \begin{array}{l} \text{ARG1} = x : \text{human} \\ \dots \end{array} \right] \\ \text{EVENTS} = \left[ \begin{array}{l} E1 - D = e1 : \text{state} \\ E2 - D = e2 : \text{process} \end{array} \right] \\ \text{Q} = \left[ \begin{array}{l} \text{agentive\_lcp} \\ \text{FORMAL} = x \wedge \text{old}(e1) : \text{exist}(e1, x \bullet e2) \wedge \text{old}(e1) \\ \text{TELIC} = \text{drink}(e2, x) \\ \text{AGENTIVE} = \text{have\_the\_habit\_of}(e1, x, e2) \end{array} \right] \end{array} \right]$$

(Adapted from Bouillon (1999:13))

Another way, here proposed, to account for the adjective syntactic position in the semantic representation of these phrases is to consider the representation of the verbal alternations in the GL.

Verbal alternations are represented in the event structure of the verb. The alternation reflects the event part that is being focused and that is, for that reason, the head of the event structure. Pustejovsky (1995) compares the behaviour of the adjective *sad* with the behaviour of causative / inchoative verbs as *to break*. In these verbal alternations, the event head is determined by focus: the subevent focused is the head of the event, and the syntactic structure is, by that mean, accounted for.

Adjectives, as state predicates, are atomic, i.e., adjectives don't have a complex event structure from which to select a subevent that might be the head of its structure. However, being the post-nominal position the default position in Portuguese, it is the focus that is responsible for the adjective pre-nominal

position and for the consequent adverbial reading of the noun phrase. Therefore, it is possible to consider that the adjective event structure allows for the contextual event head definition and for the event denoted by the modified noun to be focused.

Considering that the semantic composition might extend to the event structure, a structure as the one in (12) may represent this kind of adjectives.

(12) adjective\_α

$$\left[ \begin{array}{l} \text{EVENTS} = \left[ \begin{array}{l} E1 = e1 : \text{state} \\ \text{HEAD} = [\gamma^*] \end{array} \right] \\ \text{ARGS} = \left[ \begin{array}{l} \text{ARG1} = \left[ \begin{array}{l} \dots \\ Q = [\dots x : \beta \dots] \end{array} \right] \end{array} \right] \\ \text{Q} = \left[ \begin{array}{l} \text{CONST} = \text{relative\_to\_a\_class}(e1, \beta) \\ \text{FORMAL} = \text{adjective\_}\alpha(e1, x, \beta) \end{array} \right] \end{array} \right]$$

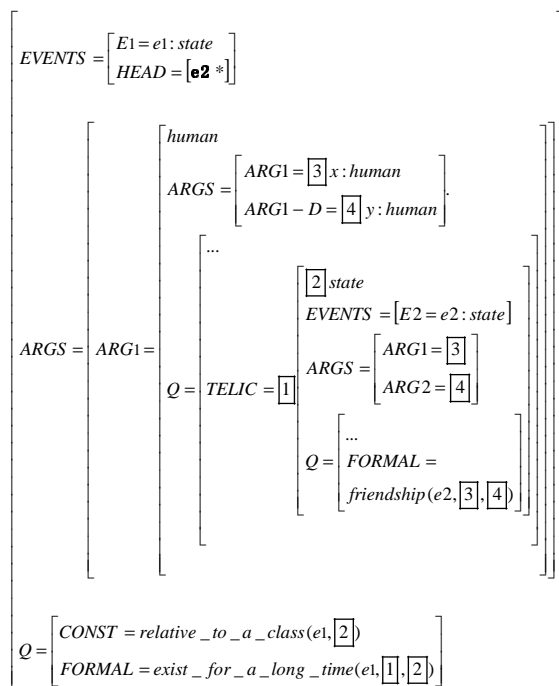
γ = variable of the type **event** that can be equal to x.

In (12) we have a atomic event with one argument in its event structure that can loose proeminence if the value of γ is filled by an event from the Qualia of the modified noun. The presence of γ as the event head assures that it is of the **event** type. When filled, in a focus construction, this will be the most proeminent event.

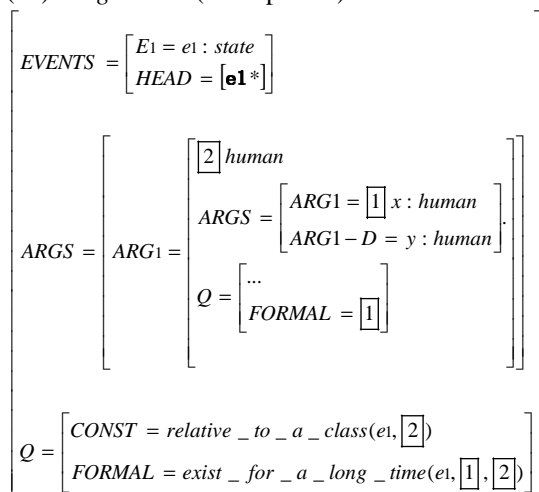
In (13), *velho amigo* (≡ old friendship), the event head is *e2*, the **state** denoted by the noun, in this case, the friendship relation. In this context, the adverbial reading is possible: the adjective predicates the event present in the Telic quale of the noun.

In (14), in the default context, the event head is the **state** denoted by the adjective, and the adjective predicates the value present in the Formal quale of the noun, in this case, the sortal typing of the argument.

(13) *velho amigo* ( $\cong$  old friendship)



(14) *amigo velho* ( $\cong$  old person)



In this way, it is possible to define the relation between the events denoted by the phrase (the events denoted by the modifier and by the noun) and, at the same time, account for the permeability of these adjectives to the context.

It is necessary to note that this proposal considers adjective predicates similar to verb predicates and it is on that account that a noun phrase is represented within the semantic representation of an adjective.

## V. Conclusion

The proposal here presented considers three major aspects:

First, that the adjectives involved in this constructions are not polyssemous and maintain their semantic structure whether selecting arguments of the type **individual** or arguments of the type **event**.

Second, that the nouns that allow this kind of syntactic and semantic phenomenon are simple typing nouns that denote, at different levels, a individual and a event, namely, individual-level nouns.

Third, that this phenomenon is accounted for by means of applying the same device that allows for the representation of verbal alternations within the GL.

For these reasons, this proposal is a economical and universal one since it doesn't introduce language specific devices nor radically different lexical entries to account for the semantic representations of the words and of the "alternation" that these words allow: it only involves a more complex semantic representation of relative adjectives and the extension of the alternation representation device to the adjectives.

Accordingly to this proposal it is possible to predict that:

(i) The adjective in the post-nominal position binds to the argument of the type **individual**; in the pre-nominal position, the focus position, the adjective binds to the argument of the type **event**.

(ii) In the post-nominal position, the adjective selects the argument within the Formal quale; in the pre-nominal position, the adjective selects the argument within the Telic quale.

(iii) The comparison term is always determined by the semantic type of the selected argument.

This analysis doesn't include all the cases in which the adjective position "interferes" with the noun phrase meaning, namely in cases where the noun is not an individual-level noun, as mentioned above, but it provides a simple structure to account for this phenomenon.

## VI. References

AMARO, Raquel (2002), *Posição do Adjectivo e Ligação Selectiva: especificações para a computação do significado*, MA Dissertation, University of Lisbon.

ANTUNES, Sandra (2002), *Computação da Polissemia Regular em Português*, MA Dissertation, University of Lisbon.

AVELAR, J. Ornelas (2000), *A Colocação do Adjectivo no Século XIX: Variação e Mudança no Português do Brasil*, IX Encontro Anual de Iniciação Científica, Universidade Estadual de Londrina.

BOUILLON, Pierrette (1996), "Mental State Adjectives: the Perspective of Generative Lexicon", *Proceedings of COLING-96*, Copenhaguen.

BOUILLON, Pierrette (1999), "The Adjective 'Vieux': the Point of View of 'Generative Lexicon'", in E. Viegas (ed.), *Breadth and Depth of Semantic Lexicons*, Kluwer.

CASTELEIRO, João Malaca (1981), *Sintaxe transformacional do adjectivo - regência das construções completivas*, Instituto de Investigação Científica, Lisboa.

DEMONTE, Violeta (1999), "El Adjectivo: Clases y Usos. La Posición del Adjetivo en el Sintagma Nominal.", in Bosque, Ignacio e Violeta Demonte (orgs.), *Gramática Descriptiva de la Lengua Española*, Real Academia Española - Espasa, Madrid.

LARSON, R. K. (1999), *Semantics of Adjectival Modification*. Lectures presented at the Dutch National Graduate School (LOT), Amsterdam.

PUSTEJOVSKY, James (1995), *The Generative Lexicon*, The MIT Press, Cambridge, Massachusetts and London, England.