Argument Structure of Deverbal Nouns in Brazilian Portuguese

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Abstract

This paper aims at verifying how the argument structure of the deverbal nouns in spoken Brazilian Portuguese represents the potential valency of the input verb predicate in searching for generalizations about the rule system which governs the expression forms. The sample examined shows that the predominant form of argument expression is an of-phrase including the potential subject reference in monovalent predicates; as a general rule, the assignment of possessor expression to the second argument predominates over the first one in two-place predicates. The sample also shows a strong preference for deverbal nouns in which no argument is present not even the Goal term. This kind adjustment to bare nominals leads to a progressive increase of referentiality, which makes the nominalization closer to the prototypical noun.

0. Introduction

Since verb-derived nouns are embedded constructions, they may act as terms in some higher predication; due to this property, verb derived nouns are marked by an interesting grammatical specificity: not only they may keep practically intact the argument structure of the input verb predicate, but they may also work as terms in the main predication playing syntactic, semantic and pragmatic functions which otherwise they would not be able to play, if they were maintained as verbs. Because of this, it is relevant to know the syntactic, semantic and pragmatic properties of both derived nouns and its arguments and satellites. It is sure that this knowledge will permit to evaluate the nature of the function that Portuguese verb-derived nouns play in the structure of the main clause and by extension in the textual chain they are inserted in.

A relevant aspect related to verb-derived nouns is the characterization of parts-of-speech. Considering the relation between the perception of ontological and grammatical categories,

the differences among languages have caused some troubles even to the apparently clear distinction between nouns and verbs in Western Indo-European languages; despite some special cases, it has been recognized the universality of this category distinction: in universal terms, it can be predicted that certain 'prototypical' perception of entities near to things are codified by a form which may be identified as nouns, while prototypical perceptions of actions or events are grammatically codified as verbs (Hopper & Thompson 1984).

As to nouns, the entity is something similar to 'object', or to a cognitive perception of what in Givón's terminology (1979) is called 'time-stability'. On the contrary, verbs are prototypically 'actions' or 'events', since they represent perceptions without time-stability. This perceptual duality reflects a universal tendency to associate time-stable entities with the grammatical class of nouns and to associate non time-stable entities with the grammatical class of verbs.

Since this correlation seems to be universally valid, Hopper & Thompson relate it to the cognitive principle of prototypicality, which was developed by Rosch (1973). According to her, the human categorization is not arbitrary but rather it goes from the most central instances of categories to the most peripheral ones and so the prototypical entities are just the more central instances of them and therefore those appearing to be the most salient to the speakers.

According to Dik (1985; 1997), as embedded predications acting as a term, verb-derived nouns are under pressure to model their expression after nominal terms. The adjustments of embedded predications to the pattern of nominal terms are described in Figure 1.
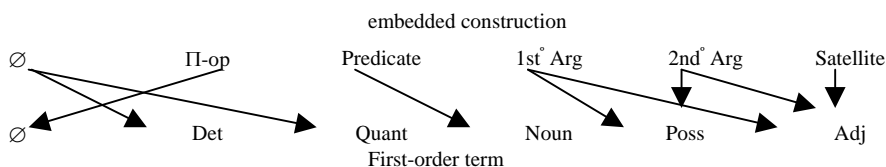

Figure 1: Formal adjustments (cf. Dik, 1997, p. 158)

These adjustments help to limit the types of nominalizations. According to Mackenzie (1987), embedded constructions (EC) may be ordered in a hierarchy between "completely verbal" and "completely nominal". In one extreme, the degree 0, an EC may be a

completely finite construction, fully verbal. In the other extreme, degree 4, an EC acquires characteristic features of nominal terms, as term operators, gender and number distinctions and adjectival modifiers.

This hierarchy has much to do with the idea of prototypical nominality. In this case, verb-derived nouns seem to be neither a central member of the nominal category nor a central member of the verbal category; in other terms, at least in degree 0, it can work as a prototypical verb, while in degree 4 an EC can be something next to a prototypical noun.

The most interesting point in this discussion is that verb-derived nouns are neither prototypical nouns nor prototypical verbs. A good hypothesis is that the more it preserves the verb argument structure the nearer to a state-of-affairs and so to a verb. It is only possible to establish the identification parameters from a syntactic, semantic and pragmatic description of the real occurrences in the discursive context. In Portuguese at least what can determine the nature of the category is the way it appears in the discourse. According to Hengeveld's definitions of parts-of-speech systems (1992), Portuguese may be typologically classified as a specialized language, since it displays four separate categories of predicates, that is, verbal, nominal, adjectival and adverbial predicates, fulfilling four different functions. To be only limited to the parts of speech we are concerned with, a verbal predicate may be defined as 'a predicate which, without further measures being taken, has a predicative use only', while a nominal predicate may be defined as 'a predicate which, without further measures being taken, can be used as the head of a term' (Hengeveld 1992: 58). It should be noted that, in his definitions, Hengeveld avoids making use of the notion of prototypicality, preferring to focus on the distinguishing syntactic functions of classes of predicates. Even so, these definitions are useful tools to our work, since only specialized languages have adjustment rules for several types of derived predicates, like verb-derived nouns.

On the basis of these principles, it seems to be fully justifiable to make a detailed description of the expression form in the discourse in a first stage and in a second one, an indication of the possible criteria that determine the prototypical category of verb-derived nouns. In its ongoing stage, this work is just on the beginning of the description just mentioned above. The corpus consists of a sample extracted from the spoken material recorded from graduate informants by Urban Standard Norm Project (Projeto

NURC)/Brasil). Up to now, the sample is limited to just one interview, EF-377, (Castilho & Preti 1986), consisting of a formal elocution.

1. The argument expression of the verb-derived nouns

As to argument expression, we can first look at both the referential categorization of the verb-derived nouns surveyed and the syntactic function they play in the higher predication, as shown in table 1.

Table 1: Degree of abstraction and syntactic function ção of the deverbal noun in the main clause

Degree of abstraction	1st order noun		2nd order noun		3th order noun		Total	
Syntacttic Function	N	%	N	%	N	%	N	%
Verb Complement	07	41.0	26	44.0	01	50.0	34	44.0
Noun determiner			02	3.0			02	2.0
Subject	04	24.0	17	29.0			21	27.0
Predicative	05	29.0	05	8.5			10	13.0
Satellite	01	6.0	05	8.5	01	50.0	07	9.0
Extra-clausal constituent			03	5.0			03	4.0
Noun complement			01	2.0			01	1.0
Total	17	22.0	59	76.0	02	2.0	78	100.0

Example (1) illustrates an instance of a noun representing a second-order entity; as such, it may be defined as a complete predication in itself playing subject function in the main predication.

> (1) *dentro de que contexto... pode se desenvolver <u>uma manifestação artística</u>* (EF-SP-405: 49) [within which context an artistic manifestation may be developed]

Nouns designating a second-order entity (Lyons 1977) predominate in the corpus with a frequency of 76.0% (59/78). This high incidence shows that the function of nominalizations is to represent events (actions and processes) and situations (positions and states), a semantic typology that is well applied to second order terms functioning as embedded predications. Another feature to be noticed is that the syntactic function of the verb-derived nouns in the main predication is mainly object and subject. 72,0% (56/78) of them play any type of argument functions beside subject and object in contrast with only 28,0% of the total amount playing non-argument functions. Playing syntactic functions in the higher predication shows that the verb-derived nouns can perform two important roles:

since they are endowed with lower categorial complexity, they can assume higher syntactic versatility than verbal predicates (Mackenzie 1985).

However, it is interesting to observe that 24.0% (17/78) of the verb-derived nouns consist of first and third-order terms; as such, they do not represent states of affairs but truly referential entities like prototypical nouns This means that not every noun consists of an embedded construction, a characteristic assigned only to second-order terms. In fact, first- and second-order terms are truly referential nouns, as can be seen in sentences (2) and (3) respectively.

(2) *em alguns dos <u>desenhos</u> das cavernas principalmente em Altamira... há uma fidelidade... linear à natureza* (EF-SP-405:57) [in some cavern drawings mainly in Altamira... there is a linear fidelity to nature]

(3) *e por isso eu vou precisar que vocês... se disponham a usar da <u>imaginação</u>... para se transportar para essa época* (EF-SP-405:49) [and because of this I'll need you to be willing to use your imagination… in order to transfer yourselves to this age]

The underlined nouns may not be said to be valent, as it is commonly postulated for second-order terms, like *manifestações artísticas* [artistic manifestations] in example (1), whose adjective represents the first argument. In the NP *alguns dos desenhos das cavernas* [some cavern drawings], the restrictors around the head are not able to recover the argument structure of the input predicate *desenhar* [to draw]. Thus, in spite of being truly derived nouns, they work as prototypical referential nouns; as a consequence, we can see that prototypicality is not a purely semantic property assigned to the lexical item itself, but rather this kind of referential property depends on the roles NPs play in the discursive context.

Now we will look at the relationship between potential and actual valency of verb-derived nouns, as shown in table 2.

Table 2: Relationship between potencial valency and actual valency

Syntactic function of the arguments	monovalent		bivalent		Total	
	N	%	N	%	N	%
Suject	8	100.0	04	22.0	12	46.0
Complement			13	72.0	13	42.0
Suject and complement			01	6.0	01	4.0
Subtotal	8	50.0	18	29.0	26	33.0
Nouns without valency expression	8	50.0	44	71.0	52	67.0
Total	16	21.0	62	79.0	78	100.0

Table 2 allow us to arrive at the following generalizations: (i) the potential argument structure is hardly preserved: only 50,0% (8/16) of the monovalent noun predicates have an overt argument; it should be noticed that one-place predicates have low frequency in the sample, that is, only 21.0% (16/78) of the total amount of verb-derived nouns; (ii) although the bivalent noun predicates have the highest incidence, 79.0% (62/78), they preserve only 29.0% (18/62) of their potential arguments; (iii) most of the two-place predicates preserve the second argument (the potential object), displaying a score of 72.0% in contrast with that of the first argument, the potential subject, which does not surpass 22.0% (04/18). While there is no occurrence of a three-place predicate, the sample surveyed shows that the higher the valency the lower the frequency of argument filling. A possible explanation for this high frequency of non-filling of argument structure lies on the three following reasons.

The first one is that the textual organization is already provided with enough information about the argument of the embedded predication, as seen in example number (4), a clear illustration of this pragmatic property.

(4) *ele percebeu que era capaz de CRIAR::... e criar uma imagem...(...) então:: ele vai tentar usar esta criação... que ele é capaz de fazer... para garantir a caça...*(EF-SP-405:52-3) [he realized that he would be able to create.... and to create an image… (…) then he is going to try to use this creation… that he is able to make… to grant the hunting]

The arguments of *criação* [creation] in (4) are easily recoverable in the preceding discursive context: the subject is *ele* [he; that is, the pre-historical man] and the object is *imagem* [image]. Now let's observe the instance contained in example (5).

(5) *porque na medida... em que acabava a caça do lugar OU (que) em virtude da época do ano no inverno por exemplo... imigravam para lugares mais quentes eles também precisavam acompanhar... o a migração da caça* (EF-SP-405: 49) [since as the hunting of the place finished OR (that) by virtue of the season in the winter for instance… it used to migrate to warmer places, they also need to follow the… migration of the hunting]

The first argument *caça* [literally 'hunting'; 'animals to be hunted'] in the underlined NP does not represent secondary information, which could thus be discarded, but rather by establishing a non-ambiguous distinction between the parallel expression *migração do homem* [man's migration] and *migração da caça* [hunting's migration], the presence of the

NP becomes absolutely necessary to the thematic continuity. Besides, once representing a generic entity, it consists of pragmatically new information in opposition to the preceding one, a given information represented by the NP *a caça do lugar* [hunting of the place]; therefore, the syntactic expression of this argument has semantic and pragmatic motivation.

It is the pragmatic function of verb-derived nouns to the discursive continuity that determines the formal expression of the arguments. If the pragmatic function is the introduction of a new referent, the verb-derived noun should manifest the NP corresponding to this argument; if, on the other hand, the pragmatic function played is to preserve text cohesion by recovering a preceding complete predication, the potential arguments can or cannot be formally expressed.

The second reason is that the argument structure may be recoverable by means of some other different devices, such as the use of relative clauses, as we can see in example (6), and the use of zero anaphora, as se can see in example (7) for recovering the first argument and in example (8), for recovering both first and second arguments:

(6) *não deixa de ser exatamente a evolução do <u>domínio</u> <u>que o homem tem sobre a natureza</u>* (EF-SP-405:52) [it is not but just the evolution of the <u>control</u> <u>man has</u> over nature].

(7) <u>*eles* viavam basicamente de *coleta*</u> *eram caçadores...* (EF-SP-405:49) [they lived basically from collecting they were hunters]

(8) *eles precisam pegar pele para esquentar... e ter comida ... para comer e se defender dos outros animais... então <u>as preocupações</u> são MUITO...* (EF-SP-405: 59) [they need take skin to get warm and… have food to eat and defend themselves from the other animals… so there were a lot of <u>preoccupations</u>.]

It is obvious to say that *coleta* [collecting] in (7) and the noun *preocupações* [preoccupations] in (8) set aside valency expression, since the potential arguments are easily recoverable in the preceding verbal context, as seen in example (8) in which to fill the argument slots would lead to an NP like *as preocupações deles com comida* [their preoccupations about food], a very strange and not acceptable construction in Portuguese if considered only the overall context of occurrence.

Finally, the third reason for no argument expression lies on the great number of derived nouns used in a generic sense, almost amounting to one third of the overall occurrences, as seen in example (9).

(9) *eu não tinha nada aqui e passo a ter a imagem da minha mão... e esta idéia de <u>criação</u> e que ainda ( ) é <u>representação</u>....* (EF-SP-405:52) [I didn't have anything here and then I have the image of my hand.... and it is this idea of <u>creation</u> that is still <u>representation</u>…]

In this kind of construction, the proper nature of the information flow also sets aside the filling of the argument positions, but in a different way from those constructions whose arguments are recoverable in the discursive context, since the state of affairs involved represents referential entities without any individualization or specification.

Now let's observe the expression form of the preserved arguments.

On the basis of the function the overt arguments play in the argument structure of the input predication, either internal (object) or external (subject), it is possible to deduce that the dominant expression is that of a possessor, as an NP introduced by de [of]. This is the preferential distribution, though only 23,0% of the derived nouns allow argument expression. The data also indicate that possessive pronouns may just represent potential external arguments. The expression of possessor phrase, possessive pronoun and adjective are assigned to the potential subject NP of the nouns contained respectively in examples (10) (11) and (12)

(10) *eles também precisavam acompanhar... o a <u>migração da caça</u> se não eles iam ficar sem comer* (EF-SP-405:49) [they also needed to follow the <u>the migration of the hunting</u> or else they would have nothing to eat]

(11) *eu vou trabalhar com barro vou fazer <u>minhas criações</u> ou eu vou pintar um quadro...* (EF-SP-405:51) [I'm going to work with clay, I'm going to make <u>my creations</u>, I'm going to paint a picture]

(12) *no final das contas toda a <u>evolução humana</u>... não deixa de ser exatamente a evolução do domínio que o homem tem sobre a natureza...* (EF-SP-405:52) [after all all <u>the human evolution</u>... is not but exactly the evolution of the control man has on the nature]

The expression of the potential object confirms Dik's postulate (1985) that, if there is a Goal argument, a possessor expression is assigned to it, as indicated by the frequency of 64,0% of the total tokens. The instances contained in (13) and (14) consist of clear evidence of this predominance.

(13) *quanto à coleta se eles dependiam... da <u>colheita de frutos... raízes</u>... que eles NÃO plantavam...* (EF-SP-405: 50) [as to collecting, they depended… on the collecting of fruits, roots… because they didn't plant].

(14) *mas a gente põe algumas outras coisas para melhorar o gosto...naquele tempo ia ser muito (difícil)... outras vezes... em vez da <u>representação da flecha</u> então da morte simBÓlica não?* (EF-SP-405:53) [but we put other things to improve the taste... in that time it would be very (difficult)… other times… instead of the representation of the arrow and so the representation of symbolic death]

As usual in the verbal predicates, the internal argument is normally the new information, the focal one, and the external argument is the given information, the topical one. The example included in (13) shows us that the verb-derived noun represents in general this informational organization. Since the text topic is about the pre-historical man's art, it is obviously the man who depended on the collecting of fruits and roots. The verb-derived noun does not need to include the external argument, which is already available information, but the kind of collecting they did is the new information and as such it must receive the overt expression of an NP. The noun in (14) contains no information about the subject argument since it represents a generic referent.

The predominant form of argument expression is an of-phrase including the potential subject reference which amounts to 54,0 %, (7/13) because of the high incidence of monovalent predicates. As a general rule, in two-place predicates the assignment of possessor expression to the second argument predominates over the first one. While the Goal term is generally expressed as a possessor phrase, the first argument of a two-place predicate, if expressed, can take the form of a pre-nominal possessor, as a possessive pronoun, or the form of an attributive adjective in post-nominal position. The single argument of monovalent nouns takes the form of possessor phrase. Although there is a competition between both arguments of a two-place predicate, there is only one case, example (15), in which both arguments are expressed as a possessor phrase:

(15) *toda e qualquer manifestação que a gente for procurar vai ter que estar necessariamente ligada... a esta preocupação vital do homem pré-histórico de... se conservar vivo* (EF-SP-405:50) [any manifestation we will search for is to be necessarily linked... to this vital preoccupation of the pre-historical man of… preserving himself alive]

The fact that the second argument of *preocupação* [preoccupation] is not expressed under a nominal phrase makes the repeated use of the same preposition possible. If the second argument were formally expressed as an NP like *morte* [death] for instance, the only possible NP would be *a preocupação do homem pré-histórico com a morte* (the preoccupation of the pre-historical man with death] which would preserve the preposition governing rule of the input verbal predicate.

2. The syntax of Portuguese verb-derived nouns

The results discussed show that argument structure of input verbal predicate is hardly preserved. The non-filling of the argument structure has pragmatic and semantic motivations. The pragmatic ones refer to the fact that the text organization provides enough information about the arguments of the embedded predication, which makes redundant to express them on the basis of an informational viewpoint. The desire to observe Grice's Maxim of Quantity (1975), mentioned by Mackenzie (1985) as 'avoidance of redundancy', makes unnecessary the specification of all arguments in the recovered mention in the textual sequence. The semantic motivation, which refers to the high incidence in the discourse of nouns referring to generic entities, leads the derived noun to a progressive increase of prototypical nominality and consequent loss of its predicative nature.

As to the argument expression, the results we have arrived at allow some relevant generalizations about spoken Portuguese. In his approach, Dik argues that nominalizations are embedded constructions which to some degree have adjusted to the typical expression pattern of primary, nominal terms, the so called 'Principle of Formal Adjustment' (Dik 1997: 158). According to this, the most central arguments are adjusted to a Possessor form. It is necessary to remember that Portuguese has morphologic and syntactic restrictions in relation to the Possessor expression. Unlike English for instance, Portuguese is not provided with the use of genitive for expressing Possessor, being limited to possessive pronouns and PP with de[of]. Therefore, it is possible to state the following rules for

expressing argument structure in Portuguese: (I) If there is a two-place predicate and the second argument plays Goal function then (a) express the first argument in pre-nominal position as a possessive pronoun or in post-nominal position as an attributive adjective; or (b) express the second argument either as a Possessor in the form of a PP introduced by de [of] (strongly preferred rule) or as an adjective. (II) If there is a one-place predicate, then (c) express the first argument as a Possessor in the form of a PP introduced by de (strongly preferred rule) or as an adjective or possessive pronoun. (III) arguments not specified in (a) to (c) are expressed according to their own semantic function.

These rules express a strong preference for using an of-phrase to represent both first and second arguments but in the same time they preserve the principle that, in case of a two-place predicate, in which both arguments are candidates for a postnominal possessor expression, then it is the second argument that wins out, as in *produção brasileira de soja* [Brazilian production of soy-bean]. The form of a possessive pronoun in prenominal position is assigned to the first argument, as in *minha produção de soja* [my production of soy-bean] or the form of an attributive adjective in postnominal position as in *produção brasileira de soja*, just mentioned before. However, these two devices are not semantically identical since the latter has more generic reference than the former. In case of a one-place predicate, the preferred rule is to express the potential subject as of-phrase, as in *caminhada de João* [walking of John]. Rule IV accounts for cases like *a preocupação de Maria com política* [Mary's preoccupation about politics] in which the second argument does not play function of a potential Goal. It is possible to express the second argument as an adjective like *eleições presidenciais* [presidential elections], and the satellite as an adjective, but the sample examined does not include any case of both these kinds of expression.

It is necessary to say that no rules above are obligatory. Even in the case of a two-place predicate, it is possible to express the first argument not as an adjective or a possessive pronoun but as an oblique, as in *a compra da casa por João* [the buying of the house by John], which consists of a very marked construction. This strategy is similar to the way Portuguese expresses the agent NP in passive constructions. In general the agentless passive construction is highly preferable but if there is a discursive necessity to express the agent NP this can be done by using an oblique form introduced by por [by]. In nominalized predicates the expression of an agent NP within a PP introduced by por [by] looks like an

expression of a satellite not an argument. We think that this is a good reason to support the principle postulated by Dik (1985) that in general the terms joined to verb-derived nouns are true arguments not satellites, as postulated by Mackenzie (1985). This author argues that a nominalization should be seen as a 'conversion-to satellite' strategy, accounting for the fact that nominalized predicates are in general characterized by valency reduction in comparison to the input verbal predicate. The advantage of this strategy is that 'the nominal predicate displays the appropriate lack of valency, yet the potential of referential specificity is retained' (Mackenzie 1985:35). It is necessary to mention that Mackenzie's proposal includes not only derived nouns but also non-derived ones like the house on the hill. In support to Dik's hypothesis, we are convinced that, if sometimes the term related to noun predicates may be downgraded to an oblique form, there is a good reason to believe that they are true arguments when in an of-phrase form and a true satellite when in by-phrase form. Besides, Portuguese displays verb-derived nouns like *a produção de soja no Estado de Goiás* [the production of soy-bean in Goiás State] in which there is an evident formal difference between the argument and the satellite.

It may be finally observed that the sample shows a strong preference for verb-derived nouns like *A compra foi lucrativa* [the buying was profitable] in which no argument is present not even the Goal term. The more an embedded construction is adjusted to the formal expression of a basic nominal term the closer its meaning is to "entity". As predicate operators like tense, aspect and mood are gradually replaced by term operators like Determiner, Quantifier, number and gender, the quantitative valency is proportionally downgraded: first because there is a strong preference for bare nominals and second because there is a strong preference for the expression of only one argument. The adjustment to bare nominals leads to a progressive increase of 'nouniness', making the nominalization closer to the prototypical noun (cf. Hopper & Thompson, 1984). The adjustment of two-place predicates to the expression of just one argument reflects a similar tendency that was already reported by DuBois (1987) for Sacapultec and by Pezatti (1992) for Brazilian Portuguese. This type of syntactic behavior implies a preferred argument structure rule like 'avoid more than one lexical argument per clause' (DuBois 1987: 819). For verb-derived nouns, this rule should be stated as 'express the single overt argument in possessive form' (Dik 1997: 162). This 'ergative' behavior, similar to that detected by Pezatti for Brazilian Portuguese simple clauses, is certainly the result of pragmatic

motivations, like give and new status, determining the expression or not of the argument structure.

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