TOWARD A COMPREHENSION OF AN INTUITION: CRITERIA FOR DISTINGUISHING VERBAL ARGUMENTS AND ADJUNCTS

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▪ ABSTRACT: The distinction between verbal arguments and adjuncts is essential to ground various linguistic theories. However, although we may have reliable intuitions regarding prototypical cases, such intuitions fail in the judgment of certain verbal relations. We are, thus, in need of a reliable criterion (beyond mere intuition) that is capable of differentiating verb complementation from adjunction. Therefore, our goal is to present and to discuss some of the main tests that seek to distinguish verb arguments and adjuncts (JACKENDOFF, 1977; DOWTY, 1982; CAPPELEN; LEPORE, 2005; HAEGEMAN, 2006; KENEDY, 2013; MIOTO; FIGUEIREDO SILVA; LOPES, 2013), especially concerning the thematic roles of beneficiary and locative – because they occur both in internal argument and in adjunct positions. We are going to present the following tests: (i) term optionality, (ii) subcategorization, (iii) s-selection, (iv) entailment and (v) anaphora, and try to show what problems each one of them faces. Surprisingly, the argument–adjunct distinction does not seem to find any consistent and definitive support in any of the tests found in the literature. The last one, however, anaphora, is the only one that seems capable of capturing this distinction, although it diagnoses as transitives some verbs usually considered to be unergative (like "to travel" (*viajar*) and "to phone" (*telefonar*)).

▪ KEY-WORDS: Verbs. Argument Structure. Adjunction. Syntactic Tests. Locative. Beneficiary.

Introduction

The traditional distinction between so called *essential* and *ancillary terms* belongs to a set of distinctions which are fundamental to most linguistic theories. This dichotomy

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stems from pretty intuitive notions, dividing parts of the clause into two groups: those that are considered to be indispensable for composing the verbal scene, and those that merely modify it. However, when we attempt to apply this distinction across the board, we begin to witness the emergence of unexpected complexities.

(1) João deu o bolo para Maria.

('João gave the cake to Maria')

(2) João cozinhou o bolo para Maria.

('João cooked the cake for Maria')

The same constituent, *para Maria* ("to/for Maria"), works as an argument in (1) and as a modifier, or an adjunct, in (2). We know this because the verb *dar* ("to give") selects three arguments, while *cozinhar* ("to cook") selects only two. Both phrases receive the beneficiary theta-role – even though they're subcategorized by different heads[1]; they are, however, in different syntactic relations to the verb. But how could we reliably define this distinction?

Our intuitions are pretty clear regarding simple and prototypical cases like

(3) Ana conheceu João durante as férias.

('Ana met João during vacation')

In (3), we know that *Ana* and *João* are arguments of the verb and that *durante as férias* ("during vacation") is a temporal adjunct. However, our intuition wavers when we encounter cases like

(4) Ana viajou para a Bahia.

('Ana traveled to Bahia')

Is *para a Bahia* ("to Bahia") an essential term or a modifier? The locative theta-role does not solve the problem, since it could be attributed by the preposition and the verb alike. The question is that we need a reliable – and not merely intuitive – criterion that is capable of explaining and differentiating cases of complementation and adjunction. In order to regard the criterion as reliable, it must provide convincing results for all (or most) of the relevant cases.

This article aims to present and discuss some of the main tests that have been proposed to distinguish verbal arguments and adjuncts[2], especially when they involve the beneficiary and locative theta-roles – because both occur in internal argument as well as in adjunct positions.[3]

Surprisingly, this fundamental and amply used distinction does not seem to find consistent and definitive support in any test proposed in the literature. We will discuss

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[1]   More precisely, [$_{PP}$ para Maria] is beneficiary in (1) and [$_{NP}$ Maria] is beneficiary in (2). In (1), the verb *dar* ("to give") is trivalent and distributes its theta-roles to each of its three arguments, [João], [o bolo] and [para Maria]; *para* ("for/to") is here merely a functional preposition. In (2), the verb *cozinhar* ("to cook") is bivalent and ascribes theta-roles to its arguments [João] and [o bolo], while [Maria], being part of the adjunct [para Maria] is subcategorized and thematically marked by the lexical preposition *para* ("for/to"). (Cf. MIOTO; FIGUEIREDO SILVA; LOPES, 2013).

[2]   Throughout this paper, we will use the terms *adjunct* and *modifier* as synonymous; when we are referring specifically internal arguments, we will also use the term *complement* of the verb.

[3]   The differences between relative sentences that can fulfill the role of both arguments and adjuncts will not be addressed here.

here the following: (i) optionality, (ii) subcategorization, (iii) s-selection, (iv) entailment and (v) anaphoric resumption. The latter is the only one that, given certain caveats, seems to work reasonably well in distinguishing adjuncts from complements.

Even though the division between arguments and modifiers is quite intuitive, it does not appear to be so solid when we try to define it with precise theoretical criteria. Any syntactic (or syntactic-semantic) theory should deal with this distinction somehow, either by denying it, or by formalizing it within some portion of the grammar. We should emphasize here that the problem we want to face is not one regarding *notation*. That is, our objective is not to question particular formalizations of these two categories, but to discuss the unsatisfactory manner in which they have been defined in the literature.

Within most theories, we find various proposals to formalize the difference between arguments and adjuncts. Even within the X-bar theory of phrase structure, we find different suggestions. In the initial version of Jackendoff (1977), for instance, it is proposed that adjuncts (or "restrictive modifiers", as he calls them) are attached specifically at the V'' level. Carnie (2006) suggests duplicating V' level to host adjuncts; Haegeman (2006) choses to duplicate the highest level of the verbal phrase, VP, in order to guarantee that the verb is not included within the verbal maximal projection. In Simpler Syntax, on the other hand (CULICOVER; JACKENDOFF, 2005), arguments and adjuncts are not differentiated by the phrase structure component – their only syntactic difference lies in the fact that only arguments, but not adjuncts, correspond to grammatical functions in the GF-Tier.[4] Their main differences, however, are captured in Conceptual Structure, where modifiers are merely added as further descriptive specifications to a propositional structure that is already formed by the semantic counterparts of the verb and its arguments (JACKENDOFF, 2002).

The question, therefore, is finding a way of identifying and distinguishing these two categories. Once that is settled, one could work towards a desired proposal regarding notation, but this will not be the focus of this paper.

The tests

Optionality of the term

Assuming the intuitive notion that arguments are essential and adjuncts are optional, some propose (JACKENDOFF, 1977; KENEDY, 2013, e. g.) that removing an argument would make the sentence ungrammatical, while removing of an adjunct would be acceptable by the system without compromising the structure.[5] This first test, as we see it, is the simplest of them all: it is simply the *removal* of the phrase to be tested. In

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[4]   The Grammatical Function tier is postulated, within Simpler Syntax, in order to deal with phenomena traditionally explained (within Mainstream Generative Grammar) through movement operations, raising, case marking and agreement. For more details, cf. Culicover and Jackendoff (2005, chap. 6).

[5]   In case one adopts a transformational theory of grammar, the *removal of an argument* is only done in surface structure.

case the resulting sentence is ungrammatical, we have an indication that the removed constituent is an argument; if the result is acceptable, the constituent is taken to be an adjunct. See the contrasting cases below, which were taken from Kenedy (2013, p. 156):

(5) O manobrista colocou o carro na vaga.

('The valet placed the car on the spot')

(5a) *O manobrista colocou o carro.

('The valet placed the car')

(6) O manobrista estacionou o carro na vaga.

('The valet parked the car on the spot')

(6a) O manobrista estacionou o carro.

('The valet parked the car')

When we withdraw the phrase *na vaga* ("on the spot") in (5a), the resulting sentence is ungrammatical; this allegedly proves the PP's nature as an argument, since, in being removed, it compromises the sentence's grammaticality. In contrast, when we do the same to the constituent in (6a), the sentence remains grammatical; this would constitute evidence for treating *na vaga* here as an adjunct, i.e. as an "ancillary term". According to Kenedy (2013), this is due to the fact that the verb's argument structure is determined by the lexicon, and not by the discourse; arguments would be, therefore, licensed by the verb's lexical semantics (cf. JACKENDOFF, 1990).

However, as Jackendoff (1977) points out, this test, even though it may constitute sufficient condition for considering a phrase to be an argument, cannot be a necessary condition, since many verbs may appear with elided arguments. For example[6]:

(7) João contou uma mentira pro Pedro.

('João told a lie to Pedro')

(7a) João contou uma mentira.

('John told a lie')

(7b) João contou pro Pedro.

('John told Pedro')

In the above sentences, we can remove either the PP *pro Pedro* ("to Pedro"), as in (7a), or the NP *uma mentira* ("a lie"), as in (7b), without jeopardizing the grammaticality of the resulting sentence. Nonetheless, both constituents are still arguments of *contar* ("to tell"), even though they are elided. According to Jackendoff, they are subcategorized by the verb, projected onto syntactic structure and subsequently deleted in the passage to the surface form.[7] In most cases, it suffices to imagine a context to supply the elided constituent, which can normally be recovered from the discourse. Jackendoff (1977) does not offer, however, any test to differentiate an elided argument from an adjunct.

Renzi et al. (1988 apud PERINI, 2008, p.268) in analyzing cases as (8) and (9) claims that the same verb can appear in two different constructions:

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[6]   The examples are adapted from Jackendoff (1977, p.58).

[7]   In his 1977 work, Jackendoff was working within the Revised Extended Standard Theory framework (cf. CHOMSKY, 1975), still assuming a transformational model of grammar.

(8) Piero está comendo a sopa.

('Piero is eating the soup')

(9) O menino está comendo.

('The boy is eating')

According to the authors, in (8), the verb *comer* ("to eat") is transitive, since it subcategorizes two arguments, while in (9) it appears within an intransitive construction, containing only an external argument. Perini (2008, p.268) raises the same question we've been attempting to discuss here: "How can we distinguish cases in which a constituent is optional from cases in which it is obligatory, even though there exists an identical construction that does not contain it? The authors do not address this problem nor do they appear to notice it."

This test fails because not only it does not capture argument ellipsis cases, but also because it presupposes that adjuncts are *always* optional. Some cases listed below show that the notion of optionality is not even sufficient to distinguish adjuncts from arguments. Bosque (1989 apud PERINI, 2008, p.267) presents the following examples:

(10) As igrejas dos países escandinavos são feitas de madeira.

('The churches of Scandinavian countries are made of wood')

(11) ?As igrejas dos países são feitas de madeira.

('The churches of countries are made of wood')

In the sentence (10), *escandinavos* ("Scandinavian") is surely a nominal adjunct of *países* ("countries"), i.e. its only role is being a restrictor or a qualifier for the noun. Even so, when we remove this adjective, as in (11), the ensuing sentence is anomalous, to say the least.

Culicover (1997, p.159-160) also cites examples of obligatory verbal adjuncts in English:

(12) Bill worded the letter *very carefully*.

(12a)   *Bill worded the letter.

(13) Mary weighs *too much*.

(13a)   *Mary weighs.

In the examples (12) and (13), the verbs occur with the adjuncts *very carefully* and *too much*. However, when we attempt to remove these modifiers, the resulting sentences (12a) and (13a) are ungrammatical. There is no perfect equivalent for verb *to word* in Brazilian Portuguese (BP), but *to weight* has an equivalent counterpart in *pesar*, even though these verbs do not behave exactly alike. The removal of the adjunct *muito* ("a lot"), in (14a), affects the acceptability of the sentence:

(14) Maria pesa *muito*.

('Mary weighs *a lot*')

(14a) ?Maria pesa.

('Mary weighs')

Another example, from Grimshaw and Vikner (1993, p.146), illustrates the obligatoriness of adjuncts in passive structures with specific semantic verb types (note that in (16a) the insertion of the adjunct makes the sentence grammatical):

(15) Guess what? John was murdered.

(16) Guess what? *Syntactic Structures was written.

(16a) Guess what? Syntactic Structures was written *for engineering students*.

This first test, therefore, is not efficient, since it does not capture a great number of cases in which the sentence remains grammatical under argument ellipsis; besides that, it wrongly presupposes that all modifiers are non-obligatory.

Subcategorization

This takes us to the second test, discussed by Dowty (1982), which involves subcategorization. According to the author, modifiers can occur freely in the sentence, combining with any kind of verb, while arguments behave in a much more constrained way. Therefore, beneficiaries such as [para Maria] ("to/for Mary"), could occur alongside unergative verbs, as in (17), transitives, as in (18) or indirect transitives, like (19):

(17) João sorriu *para Maria*.

('João smiled to Maria')

(18) João pescou o peixe *para Maria*.

('João caught the fish for Maria')

(19) João compareceu à reunião *para Maria.*

('João attended the meeting for Maria')

In the three sentences above, [para Maria] ("to/for Maria") is a modifier. Nevertheless, this same phrase can also figure as an argument:

(20) João deu o livro *para Maria*.

('João gave the book to Maria')

In (17), (18) and (19), the PPs are not part of what the verbs select and they all receive their beneficiary theta-roles from the lexical prepositions which governs them. In (20), on the other hand, *para Maria* ("to/for Maria") retains its beneficiary status, but now as an argument of the verb. This is because the particular verbal head therein subcategorizes three arguments, one being the PP in question. However, if we applied Dowty's (1982) test, we would conclude that *para Maria* ("to/for Mary") can occur with almost all kinds of verbs – an alleged property of modifiers.

The question remains: how can we rigorously define the relation *para Maria* ("to/for Maria") holds with respect to the verb in each of these sentences? The answer surely involves the verb's subcategorization properties; what we need though is a rule or a test that is capable of clearly identifying the verb's argument structure.

Notice that the question is not purely descriptive. It is not simply a matter of classifying verbs according to the number of arguments they select and, then, defining whether a given constituent is subcategorized by given a verb or not. The problem is precisely how to define particular valences without taking them for granted by means of a rule that is capable of capturing this relationship.

Still within a descriptive dimension, one could imagine a study that involved an exhaustive analysis of data and a survey of token frequency. That is, one could verify in a given corpus what is the construction (what are the arguments or adjuncts) with which a particular verb appears more frequently and stipulate, using statistics that the more commonly co-occurent terms are arguments and the less frequent ones are adjuncts. However, this analysis would not be adequate for our purposes, since frequency effects do not define the structure of the language for our object of study. It is quite likely, for example, that we would find a larger number of occurrences of sentences like *João comeu muito ontem* ("John ate a lot yesterday") than of sentences like *João comeu bolo* ("John ate cake") – even though *muito* ("a lot") and *ontem* ("yesterday") are adjuncts and *bolo* ("cake") is a complement.

S-selection

Another test, quite similar to the previous one, has to do with s-selection. According to Dowty (1982) and Mioto, Figueiredo Silva and Lopes (2013), verbs do not impose any semantic restrictions on their adjuncts, but only on their arguments. So we get:

(21) João correu.
('João ran')
(22) João correu ontem.
('João ran yesterday')
(23) João correu até as 18h.
('João ran until 6p.m.')
(24) João correu ontem, até as 18h, no parque, usando roupas vermelhas.
('João ran yesterday, until 6p.m., in the park, wearing red clothes')
But not:
(25) *A pedra correu.
('The rock ran')

The modifier phrases *ontem* ("yesterday"), *até as 18h* ("until 6p.m.")*, no parque* ("in the park") e *usando roupas vermelhas* ("wearing red clothes") are semantically different from each other. This seems to indicate that the verb doesn't s-select its adjuncts, which can signal time, place, manner etc. However, the same doesn't happen in (25), because, since *a pedra* ("the rock") is an argument, it must be semantically selected by the verb which, in this case, requires a [+ animate] agent.

This test seems reliable enough, until we come across the following examples:

(26) João correu no parque.
('João ran in the park')
(27) João colocou o livro na estante.
('João put the book on the shelf')
(28) *João correu na estante.
('João ran on the shelf')

In the example (26), the unergative verb *correr* ("to run") appear alongside the adjunct *no parque* ("in the park") and in (27), the ditransitive *colocar* ("to put") selects both *o livro* ("the book") and *na estante* ("on the shelf") as internal arguments. However, when we try to insert *na estante* ("on the shelf") in (28), the resulting sentence is anomalous, even though this phrase is clearly a locative adjunct, in the same sense *no parque* ("in the park") is in (26). It seems therefore that the verb can also s-select its adjuncts, thereby revealing the insufficiency of this test in distinguishing complements from adjuncts.

Notice that, even if we take the s-selection of *a estante ("*the shelf") in (27) and (28) to be imposed by the preposition *em* ("on/in"), the question is not resolved, because *em* ("in/on") can select all kinds of locations as complements. The problem is not, therefore, a thematic incompatibility between the preposition and the NP it subcategorizes.

Another interesting point that is revealed by these examples is that locative phrases can function both as adjuncts and as arguments, further blurring the distinction between these two categories. Besides that, just like locatives, beneficiaries too can exert both functions depending on the verbal head to which they are attached.

(29) Maria tocou violão *pra Júlia*.

('Maria played the guitar *to Júlia*')

(30) Maria emprestou o violão *pra Júlia*.

('Maria lent the guitar *to Júlia*')

In (29) and (30) we have, again, one identical constituent serving the roles of adjunct and argument, respectively, in different sentences.

Torres Morais and Berlinck (2006) argue that morphological criteria may be relevant in defining arguments in Portuguese, especially for the so-called indirect object. Strictly speaking, the indirect object in Portuguese is an argument that is introduced by a preposition, which functions as a dative case marker. Being so, the indirect object "refers to the set of full arguments introduced exclusively by the preposition *a* ("to/for") and, in that case, they are in complementary distribution to the cliticized form *lhe/lhes* ("for him/for them")" (TORRES MORAIS; BERLINCK, 2006, p.100.).

This morphological criterion is only fully applicable in European Portuguese (EP) because, in BP, two changes have provoked a reorganization of dative case marking. These changes were the following: the substitution of the preposition *a* for the preposition *para* and "the loss of the morphological strategy for expressing dative complements, that is, the demise of 3rd person anaphoric datives, *lhe/lhes*" (TORRES MORAIS; BERLINCK, 2006, p.102).

The loss of morphological expressions for datives, traditionally realized by the preposition *a*, leads to a competition among various prepositions with a directional semantic value in BP: the expressions *ir na floresta* ("go to the forest"), *ir no banco* ("go to the bank") and *ir na escola* ("go to the school"), all quite common in BP, compete, not only with the more formal *ir à floresta, ir ao banco, ir ao cinema* (TORRES MORAIS; BERLINCK, 2006, p.99), but also with the forms *ir para a floresta, ir para o banco e ir para o cinema*.

It seems, thus, that the morphological criterion, in BP, is no longer significant for the distinction between full arguments and adjuncts. Indeed, prepositional phrases with locative or directional values can be analyzed both as arguments and as adjuncts, since they are both exchangeable for adverbs (the examples below come from Bechara (2009, p.347):

(31) Seus parentes moram *no Rio*. / Seus parentes moram *aqui*.

('Your relatives live in Rio / Your relatives live here')

(32) O artista já não vive *em São Paulo*. / O artista já não vive *lá.*

('The artist no longer lives in São Paulo / The artist no longer lives there')

(33) Iremos *a Petrópolis*. / Iremos *aí* (*ali*).

('We will go to Petrópolis / We will go there')

Notice that in BP it would be quite common to say *Iremos para Petrópolis* ("We will go to Petrópolis"), which would have as an equivalent *Iremos lá* ("We will go there"). Therefore, the prepositional phrases which Bechara (2009) calls relative complements exhibit a dubious syntactic character between arguments and adjuncts.

This means that even if the dative case once had a clear morphological expression in Portuguese, in current usage a range of locative and directional prepositions mark a wide variety of semantic functions whose syntactic function is not well defined.

Entailment

The fourth test to be discussed here is the entailment test, and it was also presented by Dowty (1982). Since the arguments are essential to the event, they would be entailments of the verb[8].

(34) Ana comeu o bolo.

('Ana ate the cake')

The verb *comer* ("to eat"), in (34), entails that there is an agent, who executed the action, and an object, that, in this sentence, was affected by the verb. Hence, we would have two arguments. However, as Cappelen and Lepore (2005) and Moura (2017) observe, a verb like *comer* also entails, for instance, that the event took place somewhere and at some time:

(34a) Ana comeu o bolo *na confeitaria às 16h*.

('Ana ate the cake in the candy store at 4p.m.')

The existence of a place and a time for the event which, on the aforementioned case, are expressed by the phrases *na confeitaria* ("in the candy store") and *às 16h* ("at 4p.m."), is also entailed by the verb, even though theses constituents are sentential adjuncts. If we were to consider all entailments to be arguments, even zero-valence verbs would count as having arguments:

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[8] Technically, the test shouldn't be formulated like this, since the relation of entailment is typically defined between full-blown propositions, not between lexical items or intermediary phrases.

(35) Chove.

('It rains')

(35a) Chove *granizo hoje em Florianópolis*.

('It rains hail today in Florianópolis')

According to Dowty (1982), arguments are indispensable terms for completing the verb's meaning, while modifiers only express ancillary information. But the notion of "completeness", although quite intuitive, is too vague. How can one check whether a verb's meaning is complete? *Viajar* ("to travel"), for example, is often considered an unergative verb, although the place to which one travels is essential to complete the event of travelling.

Cappelen and Lepore (2005) argue that incompleteness claims and tests for grounding them, such as the entailment one, say nothing about linguistic structure. From the fact that the event of rain, as in (35a), requires an object (*granizo* / "hail"), a time (*hoje* / "today") and a place (*Florianópolis*), nothing can be inferred about the argument structure of the verb that denotes this event in BP.

> These arguments are *not* about language; they are about various nonlinguistic aspects of the world. Even if they were good arguments, nothing would follow about the sentences in question, more generally, no semantic conclusions follow from these arguments even if they were sound. (CAPPELEN; LEPORE, 2005, p.11)

Perhaps this radical split between language and the world is not desirable, but perfect isomorphism certainly cannot be taken for granted, as we can see in the inconvenient proliferation of arguments for the example (35a).

The entailment test is, therefore, not reliable, since it diagnoses clear modifiers as arguments. The reason why this test fails seems to rest on an attempt to capture a *syntactic* distinction by means of a *semantic* relation: entailment, which can only operate over semantic categories. The same applies to the notion of completeness; however vague, it certainly is not a syntactic concept. Still, this test is widely used in the literature, due to the implicit adoption of what Culicover and Jackendoff (2005, p.6) call the Principle of Interface Uniformity[9]:

> Interface uniformity
> The syntax–semantics interface is maximally simple, in that meaning maps transparently into syntactic structure; and it is maximally uniform, so that the same meaning always maps onto the same syntactic structure.

The treatment of semantics and syntax as uniform levels can lead to confusion with respect to the real nature of each linguistic phenomena – this seems to be the case in

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[9] See also Moura (2018) and Miliorini (2016).

the usage of the entailment test as a means to detect syntactic relations. The adoption of this principle can also prompt some empirical troubles when we analyze sentences like (36), which is mentioned by Dalrymple (2001):

(36) Maria está procurando uma solução para o problema.

('Maria is looking for a solution to the problem')

Even though the verb *procurar* ("to look for") selects an internal argument, if Mary looks for a solution, this does not mean that such a solution exists. What we have here is, as Moura (2017) claims, a non-equivalence between syntax and semantics: in (36), even though *uma solução para o problema* ("a solution to the problem") is an argument, its existence is certainly not entailed by the verb. Thus, the entailment test also fails for examples such as these, because they display a syntactic argument which is not entailed by the verb – i.e., which cannot be defined by a semantic criterion.

We could take this result, however, as an indication that the phrases entailed by the verb are arguments of the *semantic function* it encodes (Cf. JACKENDOFF, 2007), regardless of the syntactic relation they establish with the head. However, as Cappelen and Lepore (2005) argue, adopting this idea would lead us to proliferate almost indefinitely the amount of semantic arguments, also burdening the semantic component of our theory of language.[10]

Anaphoric resumption

The fifth test suggested in the literature (JACKENDOFF, 1977; HAEGEMAN, 2006) is anaphoric resumption by *do so* – or, adapting to Portuguese, *fez isso*. Assuming that verbs and their internal arguments form a single constituent and that adjuncts, even though contained by the VP, are not included within it[11], we can use this test to ascertain whether a constituent is necessarily part of VP (like an argument) or not (like an adjunct). For the purposes of this discussion, if a constituent to be tested cannot follow the expression *fez isso*, we take it to be an argument – which was included in the VP and got "severed" in the attempt to anaphoric resumption.

(37) Pedro leu o livro na internet e João *fez isso* na biblioteca.

('Pedro read the book on the internet and João did so at the library')

(38) *Pedro colocou o livro na estante e João *fez isso* na mesa.

('Pedro put the book on the shelf and João did so on the table')

The sentence in (37) is possible, revealing that *fez isso* is substituting for the whole VP *leu o livro* ("read the book"), whereas *na internet* ("on the internet") and

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[10] The authors propose a major reduction of the components which are part of what they call the semantic *basic set* of context dependent arguments/variables, pushing other issues into pragmatics: they defend a Semantic Minimalism coupled with a Speech Act Pluralism. This discussion, however, is not within the scope of this article. For more details about this proposal, see Cappelen and Lepore (2005).

[11] See Mioto, Figueiredo Silva e Lopes (2013, p.67-68) for the distinction between *containment* and *inclusion*.

na biblioteca ("at the library") figure as adjuncts. Sentence (38), on the other hand, results anomalous, since *na mesa* ("on the table") is an argument and, therefore, it cannot be separated from the VP.

Another possibility is to employ *isso aconteceu* ("that happened") to recover anaphorically the VP. This version of the test is more comprehensive, since it does not impose an agentivity restriction on the external argument. Since agentivity is not relevant for what we have proposed to analyze, both versions of the test (*fez isso* and *isso aconteceu*) will provide the same diagnostic – as long as we adapt the expression to the semantic type of the particular verb we are testing.

(39) Ele dançou no quarto.

('He danced in the room')

(40) Ele colocou o livro no quarto.

('He put the book in the room')

(39a) Ele dançou *e isso aconteceu* no quarto.

('He danced and that happened in the room')

(39b) Ele dançou no quarto *e isso aconteceu* na quarta-feira.

('He danced in the room and that happened on Wednesday')

(39c) Ele dançou no quarto, na quarta-feira *e isso aconteceu* às 15h.

('He danced in the room, on Wednesday, and that happened at 3 p.m.')

(39d) Ele dançou no quarto, na quarta-feira, às 15h *e isso aconteceu* secretamente.

('He danced in the room, on Wednesday, at 3 p.m. and that happened secretly')

(40a) *Ele colocou o livro *e isso aconteceu* no quarto.

('He put the book and that happened in the room')

In (39), the PP [no quarto] ("in the room") can remain within the VP as well as be separated from it, as in (39a). The following sentences (39b, 39c, 39d) point to another common characteristic of adjuncts: their capacity to freely occur within sentences in an unbounded fashion (Cf. DALRYMPLE, 2001). These examples are all possible because the pronoun *isso* ("that") is capable of retrieving both a single constituent as well as a larger part of the previous discourse. However, when we try to move [no quarto] ("in the room") in (40a), using *isso* as a resumptive for the antecedent phrase, the result is ungrammatical because, in that case, the PP is included in the VP, i.e. it is an argument of the verbal projection. The ungrammaticality ensues, once again, due to the fact that we are trying to move a part of a VP and also because we are trying to recover a mere portion of it by means of the pronoun *isso*.

This test also works for transitive verbs with dative complements:

(41) Ana resistiu à agressão ontem.

('Ana resisted the aggression yesterday')

(41a) Ana resistiu à agressão *e isso aconteceu* ontem.

('Ana resisted the aggression and that happened yesterday')

(41b) *Ana resistiu *e isso aconteceu* à agressão ontem.

('Ana resisted and that happened (to) the aggression yesterday')

(42) Ana confiou em João ontem.

('Ana trusted João yesterday')

(42a) Ana confiou em João *e isso aconteceu* ontem.

('Ana trusted João and that happened yesterday')

(42b) *Ana confiou *e isso aconteceu* em João ontem.

('Ana trusted and that happened (to) João yesterday')

(43) Ana precisou de ajuda ontem.

('Ana needed help yesterday')

(43a) Ana precisou de ajuda *e isso aconteceu* ontem.

('Ana needed help and that happened yesterday')

(43b) *Ana precisou *e isso aconteceu* de ajuda ontem.

('Ana needed and that happened (to) help yesterday')

The verbs *resistir* ("to resist"), *confiar* ("to trust") and *precisar* ("to need") select two arguments, and the internal one must be marked for dative case. We can retrieve anaphorically the whole VP in (41a, 42a, 43a), leaving *ontem* ("yesterday") stranded at the end. This shows that the adverb is an adjunct – as expected. However, in (41b, 42b, 43b), when we try to displace to the end of the sentence *à agressão* ("the aggression"), *em João* and *de ajuda* ("help"), respectively, the resulting sentences are ungrammatical, because the internal structure of the VP is broken apart in the attempt to isolate the complement of the verb.

(44) Ana torceu pelo Neymar ontem.

('Ana cheered for Neymar yesterday')

(44a) Ana torceu pelo Neymar *e fez isso* ontem.

('Ana cheered for Neymar and did so yesterday')

(44b) Ana torceu *e fez isso* pelo Neymar ontem.

('Ana cheered and did so for Neymar yesterday')

In (44b) it seems that we can only have a grammatical reading for the sentence if we consider *pelo Neymar* ("for Neymar") to be a beneficiary (i.e. Ana cheered for somebody and she did that for Neymar's sake). In this case, the phrase is an adjunct and the complement is subject to some kind of ellipsis. We can see this clearly by providing the verb with an independent argument:

(45) Ana torceu para o Barcelona pelo Neymar.

('Ana cheered for Barcelona for Neymar')

In the above example, *pelo Neymar* ("for Neymar") is clearly an adjunct, since *para o Barcelona* ("for Barcelona") now occupies the complement position. The same thing happens with the verb *telefonar* ("to telephone / to phone"). In (47), it is possible to fill the argument slot with *pro médico* ("for the doctor"), leaving *pra Maria* ("for Maria") inevitably in the adjunct position.

(46) Ana telefonou pra Maria.

('Ana telephoned for Maria')

(46a) Ana telefonou *e fez isso* pra Maria.

('Ana telephoned and did so for Maria')

(47) Ana telefonou pro médico pra Maria.

('Ana telephoned for the doctor for Maria')[12]

Examples (44) and (46) are both ambiguous: the most prominent reading for both is the one that takes *pelo Neymar* ("for Neymar") and *pra Maria* ("for Maria") as complements with a patient (or theme) theta-role[13]. However, when we fill the internal argument slot with another phrase, the only possible interpretation left for these PPs is beneficiary. Trying to maintain the patient reading after placing the phrase at the end, as we did in previous examples, makes the sentence odd. That is, *Ana telefonou e fez isso pra Maria* ("Ana telephoned and did so for Maria") e *Ana torceu e fez isso pelo Neymar* ("Ana cheered and did so for Neymar") are ungrammatical under patient readings for the PPs, because in these cases the patient would need to occupy an argument position. Both sentences are only possible under a beneficiary reading.

We can observe the same behavior with the verb *vender* ("to sell"):

(48) Ana vendeu o carro pra Maria.

('Ana sold the car to Maria')

(48a) Ana vendeu o carro *e fez isso* pra Maria.

('Ana sold the car and *did so* for Maria')

(49) Ana vendeu o carro pro João pra Maria.

('Ana sold the car to João for Maria')

Here, once again, the sentence (48a) is only possible under a beneficiary reading (even if this interpretation is not so accessible). This becomes clear once we fill the argument slot with *pro João* ("to João") in (49). In line with Raposo's (1992) proposal, the verb *vender* ("to sell") is, thus, diagnosed as trivalent verb, although some may consider it to be merely bivalent.

(50) Ana viajou pra Bahia ontem.

('Ana travelled to Bahia yesterday')

(50a) Ana viajou pra Bahia *e fez isso* ontem.

('Ana travelled to Bahia and *did so* yesterday')

(50b) *Ana viajou *e fez isso* pra Bahia ontem.

('Ana travelled and *did so* to Bahia yesterday')

The verb *viajar* ("to travel"), in contrast to *torcer* ("to cheer")*, telefonar* ("to telephone / to phone") and *vender* ("to sell"), isn't ambiguous: sentence (50b) is not possible, because the phrase *pra Bahia* ("to Bahia") can only have locative reading, never a beneficiary one. Since it can't be placed at the end, *pra Bahia* ("to Bahia") counts as a genuine argument for *viajar* ("to travel"). This is an interesting result, since it reinforces our previous analysis: verbs like *torcer* ("to cheer") and *telefonar* ("to telephone / to phone") figure as transitives, selecting two arguments. This becomes

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[12] This doesn't quite work for English, because the analogous verb, to phone, doesn't require a preposition. So, we would have *Ana phoned Mary* or even *Ana called Mary*. In Portuguese, however, the constituent following the verb *telefonar* must be a PP.

[13] The debate involving the difference between patients and themes will not be addressed here. We will use "patient" as a generic label to indicate both roles that usually called patients as well as the ones usually called themes.

particularly clear when we apply this test and try to place the relevant constituent at the end, retrieving anaphorically what should be the VP, rendering the resulting sentence ungrammatical.

So, this last test seems to be the only one we discussed here which is capable of differentiating verbal complements and adjuncts – for simple prepositional phrases. Nevertheless, it diagnoses verbs like *viajar* ("to travel") and *telefonar* ("to phone") as transitives, whereas a large part of the literature (BURZIO, 1986; LEVIN; RAPPAPORT HOVAV, 1995) take them to be unergatives. Moreover, it also identifies *vender* ("to sell") as trivalent, despite there being no consensus in the literature regarding this verb's argument structure. In future research, it will be necessary to look into the wider discussion around unergatives (including proposals that question their existence, like the VP-shells proposal in Larson (1988) and Hale and Keyser (1993)[14]) and to investigate specific instances of verbs traditionally placed in that category, comparing these results to the ones obtained through the anaphoric resumption test.

Final remarks

We discussed here five of the main tests which are commonly employed to distinguish complements and modifiers in the verbal domain. All of them are problematic: the optionality test does not work because, besides presupposing that modifiers are always optional, it can't handle complement ellipsis; the subcategorization test errs in considering that only adjuncts can occur unrestrictedly with any verb class; the entailment test presents false results – often diagnosing adjuncts as arguments and arguments as adjuncts -, because it muddles linguistic levels in the analysis insofar as it presupposes isomorphism between syntax and semantics; the s-selection test is not reliable, since adjuncts also appear to suffer semantic restrictions imposed by the verbal head; the anaphoric resumption test, at last, is the soundest of them all, and it seems to work, even though it predicts as transitives some verbs which are classically held to be unergatives.

The tests presented here only attempt to provide a way of detecting the difference between simple PPs, which subcategorize NPs. To verify the status of *sentences* that may exert the syntactic roles of adjuncts or complements, there are more suitable tests, involving A' movement and island effects, which we haven't covered here. Another issue that we left open is the possibility of a unification of tests to verify unrestrainedly the argument/adjunct status for all kinds of phrases (simple or sentential).

Given all of the confusing and sometimes conflicting results the tests provide, a possible alternative would be to consider all of them to be valid, concluding that there is no difference between adjuncts and arguments – both would be equally "essential"

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14   Cf. also Roberge (2002). This author proposes a Transitivity Requirement (TR) that, in analogy to the Extended Projection Principle (EPP), obliges internal arguments to be projected in the syntax for all VPs, regardless of the verb's semantic type. However, while EPP is a requirement on the functional domain, TR is required on the thematic domain.

for composing the verbal scene (this seems to be the case in Frame theory (FILLMORE, 1982)). However, aside going against a very intuitive dichotomy, adopting this would lead us to abandon a distinction on which many solid linguistic principles and analyses are grounded.

If we consider all the test results presented here to be sound, we would be compelled to integrate, little by little, some modifiers into the set of arguments, until we get to the point where each verb selects an indefinite number of arguments. Following the criteria suggested by the tests, we would exponentially increase the amount of arguments a verb can have – or *ought to have* in order for the sentence to communicate a full proposition. Hence, that would lead to a problem similar to the one Cappelen and Lepore (2005) discuss, which we mentioned above: semantics (or, even more gravely, syntax) becomes overloaded, because it would need to comprise all of the information necessary to attain a complete sense. Each verb would have to occur with, besides something like an agent and a patient, a locative phrase, a temporal phrase, a manner phrase and so on, perhaps indefinitely.

Moreover, if we claimed that there is no difference between adjuncts and arguments – or that there is no proper way to distinguish them – we could not handle the ambiguity of cases such as (44) and (46) above (*Ana torceu pelo Neymar* (“Ana cheered for Neymar”) e *Ana telefonou pra Maria* (“Ana telephoned to Maria”)).

We believe, therefore, that the distinction between arguments and adjuncts is essential for understanding how the structures of language work as a whole. Even if, apparently, we do not yet possess extremely reliable tests for seizing the distinction, the search for more and more reliable diagnostics is crucial and should be one of the priorities in linguistic theory.

■ *RESUMO: A distinção entre argumentos e adjuntos verbais é fundamental para alicerçar diferentes teorias linguísticas. Entretanto, ainda que nossa intuição seja segura para analisar os casos mais prototípicos, ela falha no julgamento de algumas relações verbais. Precisamos, pois, de um critério seguro (e não apenas intuitivo) que seja capaz de diferenciar todos os casos de complementação dos de adjunção verbal. Portanto, o objetivo deste trabalho é apresentar e discutir alguns dos principais testes que buscam diferenciar argumentos de adjuntos verbais (JACKENDOFF, 1977; DOWTY, 1982; CAPPELEN; LEPORE, 2005; HAEGEMAN, 2006; KENEDY, 2013; MIOTO; FIGUEIREDO SILVA; LOPES, 2013), especialmente quando temos os papéis temáticos de benefactivo e de locativo – pois são papéis que ocorrem tanto na posição de argumento interno quanto na de adjunto. Vamos apresentar os seguintes testes: (i) opcionalidade do termo, (ii) subcategorização, (iii) s-seleção, (iv) acarretamento e (v) retomada anafórica, e tentar mostrar quais são os problemas que cada um deles enfrenta. Surpreendentemente, a distinção argumento–adjunto parece não encontrar suporte consistente*

e definitivo em nenhum teste proposto pela literatura. O último deles, entretanto, a retomada anafórica, é o único que parece capturar essa distinção, embora diagnostique como transitivos alguns verbos classicamente considerados inergativos (como viajar e telefonar).

- *PALAVRAS-CHAVE: Verbos. Estrutura argumental. Adjunção. Testes Sintáticos. Locativo. Benefactivo.*

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