# The situation reading in copular sentences with agreement mismatch: a derivational problem

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#### **Abstract**

This squib briefly addresses a problem in the literature on copular sentences with agreement mismatch. There are several proposals that deal with this kind of data, but they do not present a proper solution to the semantic problem of deriving the situation reading that these sentences are associated with. In the first section, we introduce this construction with data from Brazilian Portuguese (BP). We also discuss some distinguishing properties of these sentences which set them apart from copular sentences with regular agreement: (i) agreement mismatch; (ii) interpretation of the subject as a situation and not as an entity; (iii) restriction of the subject to bare nominals and numeral phrases only; and (iv) the predicate is restricted to adjectives that select a situation, and all these adjectives are evaluative. Based on these facts, we consider that these copular sentences deserve a syntactic and semantic treatment that differs from the treatment that is generally proposed for copular sentences with regular agreement. In section two, we review three previous analyses of the topic: Greenberg's (2008) analysis for Modern Hebrew; Josefsson's (2009, 2014) analysis for Swedish; and Rodrigues and Foltran's (2014, 2015) analysis for BP. We show that these analyses resort to a stipulation to account for the situation reading. Finally we suggest that, since these adjectives are evaluative, the situation reading could be derived as an evaluation

Keywords: Copular sentences, Agreement mismatch, Semantics

#### Resumo

Este *squib* trata brevemente de um problema nas análises de cópulas com falta de concordância. Há diversas propostas que lidam com esse tipo de dado, mas elas não oferecem uma solução para a questão semântica de derivar a leitura de situação a que essas sentenças são associadas. Na primeira seção, mostramos o funcionamento dessa construção a partir de dados do Português Brasileiro (PB). Apresentamos propriedades em que essas sentenças se

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distinguem daquelas com concordância regular: (i) a falta de concordância; (ii) a interpretação do sujeito como uma situação e não uma entidade; (iii) a restrição do sujeito a nomes nus e sintagmas numerais; e (iv) a restrição do predicado a adjetivos que selecionam situações e estritamente a adjetivos avaliativos. Sob nosso ponto de vista, essas são razões suficientes para dizer que essas sentenças merecem um tratamento sintático e semântico diferente das análises de cópulas regulares. Na segunda seção, revisamos o que já foi proposto por três diferentes trabalhos: a análise de Greenberg (2008) para o hebraico moderno; a análise de Josefsson (2009, 2014) para o sueco; e a análise de Rodrigues & Foltran's (2014, 2015) para o PB. Mostramos que essas análises recorrem a estipulação para dar conta da leitura de situação. Por fim, sugerimos que, visto que esses adjetivos são avaliativos, a leitura de situação poderia ser derivada como um parâmetro de avaliação do adjetivo.

Palavras-chave: Cópulas, Falta de concordância, Semântica

## 1 Copular sentences with agreement mismatch in Brazilian Portuguese

In Brazilian Portuguese (BP), the predicative adjective of copular sentences usually agrees with the subject in gender and number. A trivial example of this construction is given in (1).

(1) Criança é divertida. child-FEM be-3SG-PRES amusing-FEM 'Kids are fun.'

The sentences we analyze in this paper present a different configuration, since in these constructions the predicative adjective remains unmarked. Specifically, the predicative adjective appears in this construction on its singular, masculine form, independent of the subject's number and gender values (see (2) and (3))

- (2) Criança é divertido. child-FEM be-3SG-PRES amusing-MASC 'Playing with/babysitting kids is amusing.'1
- (3) Panquecas é prático. pancake-FEM.PL be-3SG-PRES easy-MASC 'Making/baking pancakes is easy.'

<sup>&</sup>lt;sup>1</sup>We translate the agreement mismatch sentences with at least two different possibilities of situations (e.g. "playing with", "singing with"). But this situation can only be defined in the context. Another possible translation would be "situations involving kids", but still then there would be a problem, because this sentence does not refer to any situation involving kids, but only to some situation contextually relevant, as will be explained in the following paragraphs.

It has been previously observed that agreement inside the subject is not affected, so attributive adjectives agree in gender and number with the head nominal (RODRIGUES & FOLTRAN, 2015, p. 3).

An important remark should be made about the meaning of these sentences. In sentences with regular agreement, the property denoted by the adjective applies to the entity denoted by the subject, itself, while in sentences with agreement mismatch, the property denoted by the adjective applies to some kind of situation involving the subject. For instance, the sentence in (1) means that kids in general are amusing, that 'amusing' is a property of kids in general — the usual generic interpretation associated with bare nouns. The sentence in (2) is uttered when the speaker wants to convey that only in certain contextually defined situations would it be true that kids are amusing. Sentence (2) is true even if the relevant kids in the context are not considered amusing, but doing something with them is. For example, if (2) is uttered in a context in which babysitting the speaker's sister is the topic of conversation, it is even possible that the sister is considered unpleasant. The situation defined by the interpretation of (2) varies depending on what the conversation is about. Thus, out of the blue, the situation of this sentence is undefined, and its semantic structure provides only a contextually dependent variable. Greenberg (2008, p. 183) has previously referred to this property as a "widening denotation" effect, in the sense that the denotation of the subject has to be taken in a wider way, covering a contextually relevant situation with the subject.

The previous sentences had bare nominals in subject position (singular in (2) and plural in (3)), but it is also possible for numeral phrases to occur in this construction, including cardinalities, as in (4), and fuzzy quantifiers, like *vários* ('several') and *muito* ('many'). Therefore, we can say that this construction is good with weak quantifiers, although strong quantifiers are not acceptable (5a-b).

- (4) Três crianças é divertido. three child-PL be-3SG-PRES amusing-MASC 'Having/taking care of three kids is amusing.'
- (5) a. \*A criança é divertido.

  The-FEM child-FEM be-3SG-PRES amusing-MASC
  - b. \*Todas as crianças é divertido.
    All-FEM.PL the-FEM.PL child-FEM.PL be-3SG-PRES amusing-MASC

Such restrictions are not found in sentences with regular agreement. Neither can the restrictions that operate on the predicate of sentences with agreement mismatch be observed in sentences with regular agreement. Adjectives that can only apply to individuals cannot appear in the unmarked form, as in (6) below, while adjectives that can apply to individuals and situations are fully acceptable, which is the case for *divertido* ('amusing') and *prático* ('easy, practical') in the sentences above (MEZZARI, 2013, p. 93).

(6) \*Criança é medroso. kid-FEM be-3SG-PRES fearful-MASC

A new claim that we are adding to the previous descriptions of these sentences is that the predicate is restricted to evaluative adjectives, also known in the literature as "taste-predicates". This means that the adjectives that occur in this construction do not have a fixed meaning that could be translated into a denotation, because there is no property in adjectives like *divertido*, *bom*, *gostoso* that is shared by all the entities that can be considered 'funny', 'good' or 'tasty', respectively.

From a semantic point view, the puzzle that these data pose is the following: how can these sentences present a different interpretation from sentences with regular agreement? We will examine in the next section how previous analyses have answered this question.

## 2 Previous analyses fail to derive the situation reading

Greenberg (2008) is interested in copular sentences of Modern Hebrew in which the pronominal copular form ze is compatible with agreement mismatch between the subject and the adjective, as presented below in (7). Just like in BP, the regularly inflected counterpart is possible, but there is another pronominal form ( $hu_{\text{MASC}}$  and  $hi_{\text{FEM}}$ ) that does not allow agreement mismatch.

(7) Clila ze mesukan.
diving-FEM z-MASC dangerous-MASC

'Diving is dangerous.' (GREENBERG, 2008, p. 165)

Clearly, the pronoun ze can also occur with masculine subjects, as in (8):

(8) Student ca'ir ze me'anyen.
 student-MASC young-MASC z-MASC interesting-MASC
 'Supervising a young student is interesting.' (GREENBERG, 2008, p. 182)

The author claims that the denotation of the subject in copulas with *ze* is "widened" to some contextually supplied property involving the original denotation and that this results in different truth conditions, since the nonagreeing sentence is true even if young students are not considered interesting (GREENBERG, 2008, p. 166-167).

Her analysis is essentially semantic, as she considers these sentences equative copulas. She assumes that, in sentences with the pronoun *ze*, the post-copular adjective is actually attributive, since it modifies a null nominal expression. If we take a look at her formal analysis, exemplified in (9) (GREENBERG, 2008, p. 186), we can see that the meaning of the sentence is computed as equality between generalized quantifiers.

(9)  $\lambda P.P(\lambda x.\exists y \ (young \ student(y) \land teach(\langle x, y \rangle))) = \lambda P.\exists x \ (interesting(N)) \ (x) \land P(x)$ 

Since we are especially interested in the way the situation reading is derived, it is important to mention that Greenberg sets it as part of the lexical entry of the subject:

As just explained, the originally human denoting subject in [8] is necessarily interpreted as a contextually supplied property  $P_C$ , for example "teaching a young student" (though in other contexts  $P_C$  can also be "kissing", "dressing", "meeting" etc.).  $P_C$  can be taken to be a property of individuals (type  $\langle e, t \rangle$ ), as in [10] [...]. Suppose we take  $P_C$  to be indeed "teaching a young student", then the subject of [8] is interpreted as ["being a teacher of a young student"]. (GREENBERG, 2008, p. 185-186)

The interpretation the author refers to is formalized in (10), where we can see that the denotation of the subject contains an unspecified property  $P_c$  (GREENBERG, 2008, p. 186):

(10) 
$$\lambda x.\exists y \ (young \ student(y)) \land P_{c}(\langle x, y \rangle)$$

Thus, from what we see, we can say that in Greenberg's proposal the situation reading is stipulated, because it is generated as a "contextually supplied property",  $P_c$ , within the subject, and fed before the semantic derivation. The author does not present any special motivation to explain why the widening denotation takes place with these subjects, but not with subjects of other copulas and sentences in general.

It also seems difficult to accept the equative analysis because predicates like these can be coordinated with other predicates that cannot be analyzed as generalized quantifiers, as in (11).

(11) Criança cresce rápido e é divertido. child-FEM grow-3SG-PRES fast-MASC and be-3SG-PRES amusing-MASC 'Kids grow fast and are amusing to have/play with.'

The VP [cresce rápido] establishes a predication relation, taking the subject as an argument, therefore, its semantic type is  $\langle e, t \rangle$ . The fact that coordination is possible only between two members of the same semantic type leads us to conclude that [é divertido] is also a predicate of type  $\langle e, t \rangle$ .

Josefsson (2009, 2014) discusses what she calls "pancake sentences" in Swedish. The agreement mismatch in this case is very similar to the one that occurs in BP, except that the gender marking in Swedish diverges between common and neuter, as exemplified below.

(12) Två älskare är omoraliskt. two lovers-COMMON-PL be-PRES immoral-NEUT 'Having two lovers is immoral.'

(JOSEFSSON, 2014, p. 66)

This author explicitly assumes that the subject of this construction is more complex than it appears, and that it should be analyzed as a Classifier Phrase (CIP) that, in these cases, selects a *v*P (JOSEFSSON, 2014, p. 70). A null light verb is generated in *v*, and it would have a content similar to *have*, *perceive*, *give*, *take*, *do*, *hold*, *put* or it could even remain undetermined (JOSEFSSON, 2009, p. 50).

She justifies her analysis of a CIP on the basis of an equivalent mismatch that is observed when a classifier is omitted in contexts of conventionalized portions. She claims that this structure mirrors sentences like "Senap är gult" (Mustard-(c) is yellow-(n)), which would contain a null classifier with a grinder function, meaning something close to "substance". She does not explain, however, what would be the function of this classifier when it is combined with a verbal element like  $\nu$ P.

It seems more logical to derive the situation reading once we have some sort of clausal element hidden in the subject, but we must take into account that Josefsson pays a high price for this, postulating a null verb. Since even the classifier is also postulated, it is hard to say that this proposal does not overgenerate, creating the possibility that nouns in different positions and different constructions assume the same configuration, predicting the possibility of the situation reading in contexts in which it is not possible.

By positing light verbs, this proposal restrains the possibilities of the situation being contextually determined, and we have seen that what situation is finally interpreted by the sentence is a matter of context. Therefore, specifying which of the light verbs listed by Josefsson should be present in the structure demands contextual information before the sentence is computed. In that case, the stipulation of  $P_{\rm C}$  made by Greenberg (2008) seems more plausible in what concerns the computation of the meaning of these sentences.

Rodrigues and Foltran (2014, 2015) have made significant progress in the analysis of this construction in BP. According to their work, the subjects of copular sentences with agreement

mismatch are Small Nominals, in the sense of Pereltsvaig (2006). This means that the Index features of these nominals are not valued, which is responsible for the lack of agreement, but their Concord features — responsible for internal agreement — are.<sup>2</sup> This analysis is supported by data with internal agreement in the subject, like (13) (RODRIGUES & FOLTRAN, 2015, p. 2).

(13) Crianças peraltas é divertido. child-FEM-PL mischievous-FEM-PL be-3SG-PRES fun-MASC 'Situations involving mischievous children are fun.'

This proposal is consistent with the data we have shown. They manage to explain that only weak quantifiers are possible in this construction because Small Nominals do not project determiners. They can simply be NPs, when they denote a property, or even NumP, when they denote sums of atoms.

However, Rodrigues & Foltran (2015, p. 17) acknowledge the fact that their proposal does not explain the situation reading. Nonetheless, without compromise, they do talk about these nominals as "a predication of situation", having in mind the selection for adjectives that can be applied to both individuals and situations. They also mention some kind of "semantic effect", that would be responsible for making the predicate refer not to individuals, but to situations (RODRIGUES & FOLTRAN, 2014, p. 486). This could be interpreted as some kind of type shifting, which — just like Josefsson's stipulated null light verbs — can overgenerate, since it does not specify under what conditions this operation can occur.

In conclusion, despite the merit of each author in describing some aspects of copular sentences with agreement mismatch, none of the proposals are capable of deriving the situation reading without stipulation. Greenberg (2008) proposes an ad hoc generated property, Josefsson (2009, 2014) proposes an ad hoc verbal element, and Rodrigues & Foltran (2014, 2015) suggest an ad hoc type shifting operation.

<sup>&</sup>lt;sup>2</sup>"Generally speaking, the Concord features are understood as linked to grammatical properties of the noun, and Index features, to the semantic properties, mainly the referentiality. The Concord features are then related to the internal agreement of the phrase which has the noun, and the Index features, to the subject-predicate agreement." (RODRIGUES & FOLTRAN, 2015, p. 10).

### 3 Remarks on deriving the situation reading

In order to properly derive the situation reading, we should track the elements of the sentence that can actually contain some kind of contextually defined property. Based on the observation that this construction is restricted to evaluative adjectives, we believe that these adjectives might offer a way out of the problem.

Following Umbach (2014), we understand that evaluative adjectives get part of their meaning from context dependent criteria, such as comparison class, speaker community, time etc. Adjectives like *divertido*, *bom*, *gostoso* do not have a fixed meaning that could be translated into a denotation because there is no property shared by all the entities that can be considered 'funny', 'good' or 'tasty'. Umbach bases her analysis on a previous observation that the meaning of evaluative adjectives has to be divided into two components:

There is no property shared by good things — a good motor car and a good picture and a good meal have nothing in common apart from being good. So there is no denotational meaning of good. But there is what Hare calls the commending function of good: calling a motor car or a picture or a meal good means commending it. The commending function is called the evaluative meaning component of good. In addition to the evaluative meaning component there is, following Hare, a descriptive meaning component. We will call it quasi-denotational to avoid confusion with the notion of descriptive usage of a proposition. Although there is no property denoted by good there are criteria, relative to comparison class, speaker community, time etc., establishing a standard for something to be called good. The criteria relate to factual properties thereby creating a — highly context-dependent — quasidenotational meaning. This is why value judgments may provide factual information. (UMBACH, 2014, p. 16)

For instance, if we look at an adjective like *divertido* ('amusing'), we would take into consideration some facts to evaluate how amusing kids are, different facts from the ones that could be used to say that "pancakes are amusing". Kids are amusing when they laugh and play, making other people around them comfortable and amused. Pancakes can be amusing when someone has a good time during the process of making them, or eating them — maybe because you always invite friends over when you are making pancakes. In that case, the comparison

class is relevant: the amusement criteria eligible for the class 'kid' is not the same as the criteria eligible for 'pancake'. So that is why the denotation of *divertido* is not fixed, but varies according to the class of comparison, for example.

But even for the class of 'kids', these facts can differ, if one specifies a situation. The facts that one considers in order to judge if kids are amusing to take care of differ from the facts that are relevant to determine if kids are amusing to scare, for example. When you need to take care of them, this would be an amusing situation if kids are nice and play in a way such that everybody can have a great time; when it comes to scaring people, this situation is considered amusing if kids get scared easily, and they are not having a good time, despite the fact that the scaring person is having a good time. Thus, there is a great difference between the characteristics that make something amusing to take care of and the characteristics that make something amusing to take care of most this examples is that the modification of an adjective like *divertido* interferes in its meaning.

We propose that the situation that we observe in sentences with agreement mismatch is a modification of such kind, and it acts as a relevant criterion for the meaning of the adjective. Sentences like (14) show that such a specification of the adjective can be expressed through a verb, motivating the analysis of this situation as part of the meaning of the predicate.

(14) Panqueca é prático de fazer.
pancake-FEM be-3SG-PRES easy-MASC of make-INF
'Pancakes are easy to make'

The prediction of this restrictive criterion is in the meaning of the adjective, since contextual specification is a characteristic proper to evaluative adjectives. The adjective comes from the lexicon with a requirement for specification and, if that requirement is not overtly satisfied, contextual information can satisfy that condition. That is the case for sentences like (2), repeated below as (15). Where no element modifies the adjective, we understand that a property variable is set, and this variable seeks a parameter of evaluation in the context. Then, the pragmatical computation will be responsible for defining the most relevant property, based on the information already provided by the semantics of the sentence.

(15) Criança é divertido. child-FEM be-3SG-PRES amusing-MASC 'Playing with/babysitting kids is amusing.'

These remarks point in the direction of deriving the situation reading through the adjective's context dependent criteria of evaluation, but there is still a lot to deal with before this is proven to be a better solution than what has been previously proposed in the literature. We understand that a proper solution to the meaning of this construction should also explain how the situation reading is related to the properties observed in the data, especially in what concerns the mismatch agreement and the selection of the subject for weak quantifiers.

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