



Mesmo (Same) and the Structure of Determiner Phrases

Mesmo e a estrutura dos sintagmas determinantes

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Abstract: This paper analyzes the Brazilian Portuguese adjective *mesmo* with anaphoric reading (MOLTMANN, 1993; FERREIRA, 2010). Expanding the functional layer of the determiner phrase (e. g., CINQUE, 2010), this analysis proposes that *mesmo* has “pronominal” properties and that there is a specific position in the functional structure of DP/NP which hosts both possessive pronouns and anaphoric *mesmo*, at least in the end of derivation, and such a position is in fact a host for adjectives with pronominal properties. In the last sections the article (using tools of formal semantics: e. g. HEIM; KRATZER, 1998) presents a semantic definition for anaphoric *mesmo*, arguing that it is a sort of implicit comparative item (CARLSON, 1987), with a “comparison function” as part of its very definition. We propose, taking advantage of insights of the pertinent literature (ALRENGA, 2010; HEIM, 1985; LASERSOHN, 2000; among others), that the semantics of *mesmo* is composed of an assignment function and a function which establishes a contextual equivalence by means of the sharing of relevant properties between the referent or kind introduced by the DP with *mesmo* and an individual or kind mentioned in previous discourse. In the end of the paper, we briefly speculate on the semantics of what is here called “explicit” comparative *mesmo* (that includes a comparative CP after the noun), which, as well as the distributive *mesmo* (CARLSON, 1987, among others), and as this text intends to show in the following pages, is hierarchically lower, in the syntax of DPs, than anaphoric *mesmo*.

Keywords: *Mesmo*; Determiner Phrase; Adjectives; Comparative Semantics.

Resumo: Este trabalho analisa o adjetivo *mesmo* do português brasileiro com a leitura anafórica (MOLTMANN, 1993; FERREIRA, 2010). Expandindo a camada funcional do sintagma determinante (e. g., CINQUE, 2010), esta análise propõe que *mesmo* tem propriedades “pronominais” e que há uma posição específica na estrutura funcional do DP/NP que alberga, pelo menos ao fim da derivação, tanto pronomes possessivos quanto o adjetivo *mesmo* anafórico, e tal posição recebe, de fato, adjetivos com propriedades

pronominais. Nas últimas seções o artigo apresenta (usando ferramentas da semântica formal: por exemplo, HEIM; KRATZER, 1998) uma definição semântica para o *mesmo* anafórico, defendendo que ele é uma espécie de item de comparação implícita (CARLSON, 1987), tendo uma “função de comparação” como parte de sua definição. Propomos, aproveitando *insights* da literatura pertinente (ALRENGA, 2010; HEIM, 1985; LASERSOHN, 2000; entre outros), que a semântica de *mesmo* é composta por uma função de assinalamento e uma função que estabelece uma equivalência contextual por meio de um compartilhamento de propriedades relevantes entre o referente ou tipo introduzido pelo DP que contém *mesmo* e um indivíduo ou tipo mencionado no discurso prévio. Por fim, o artigo especula sobre a semântica do que aqui é chamado *mesmo* “explicitamente” comparativo (que inclui um CP comparativo após o nome), que, assim como o *mesmo* distributivo (CARLSON, 1987, entre outros), e como este texto deseja mostrar nas páginas a seguir, é mais baixo hierarquicamente, na sintaxe do DP, que o *mesmo* anafórico.

Palavras-chave: *Mesmo*; Sintagma Determinante; Adjetivos; Semântica de Comparativos.

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1 Introduction

The word *mesmo* in (Brazilian) Portuguese is a modifier of nouns and verbs. In nominal environment, it occurs in two orders inside the DP: between the article (or demonstrative determiner) and the noun, with mandatory agreement (at least in gender in all varieties of Brazilian Portuguese), as in (1a); or after the noun, where agreement is not mandatory (at least in my variety of Brazilian Portuguese), as in (1b).

(1) a. O mesmo homem entrou na sala.
The mesmo.masc.sg man entered in.the room
“The same man got into the room”.

b. As moças (mesmo/mesmas) entraram na sala¹.
The girls (mesmo.masc.sg./mesmas.fem.pl) entered in.the room
“The girls themselves got into the room”.

¹ In fact, the post-nominal *mesmo* takes the entire DP, as we showed in another work (LEMLE; MEDEIROS, 2014). Therefore, it is not just a matter of order between constituents.

In this paper I will investigate the pre-nominal occurrence of *mesmo* with the **anaphoric reading** (thus dubbed, as far as I can recall, by MOLTSMANN, 1993, but the term is also used by others, particularly FERREIRA, 2010 for Brazilian Portuguese *mesmo*) – that is, I am excluding from this paper’s discussion both its postnominal occurrence, whose semantic contribution is completely different (as can be seen from (1b) above), as well as the ‘internal’ reading² of prenominal *mesmo*, which we see in (2) below, where there is a glass of juice that is somehow shared (distributed between events of tasting, according to CARLSON, 1987) by the two individuals that constitute the subject of the sentence³:

- (2) Pedro e Ana provaram do mesmo copo de suco⁴
 Pedro and Ana tasted from.the mesmo.masc.sg glass of juice
 “Pedro and Ana tasted the same glass of juice”.

When anaphoric, as in (1a) above, *mesmo* is used when the discursive environment provides an entity (or kind) which is equal or very similar (in some relevant dimension(s)) to the referent of the DP that contains *mesmo*. Typically, this entity provided by discourse is the topic of conversation. For example, in (3), the first sentence introduces a

² Or ‘dependent’ reading, or ‘distributive’ reading, which occupies most of the literature on equivalent items in other languages, such as *same* and *different* in English; e. g., Carlson (1987), Moltmann (1993), Barker (2007), Beck (2000), for German, among others.

³ I’m also excluding from this paper the “pronominal” use of *mesmo*, which is encountered in marginal kinds of discourse such as: “O homem fugiu para a mata, mas, após algumas buscas, o mesmo foi capturado pela polícia” (the man ran away to the woods, but, after a few hours, the same (man) was captured by the police). Possibly we have here the root *mesm-* categorized as a noun or a pronoun, if we adopt a Distributed Morphology approach (HALLE; MARANTZ, 1993; MARANTZ, 1997), for example. I think most of what will be discussed about the semantics of *mesmo* (section 3) can be applied in this case; and its syntactic behavior will be, I think, similar to that of pronouns.

⁴ I will not deal with the quantifier reading, as we see in (i) below; as for the (explicit) comparative reading, in (ii), I will deal with it in an exploratory way at the end of this paper. Note that in example (2) *mesmo* can also have the anaphoric reading, depending on the context.

(i) *Todo aluno encontrou o mesmo problema na prova.*

“*Every student found the same problem in the test.*” (ii) *Os mesmos homens que tinham assaltado o banco foram vistos numa festa com o prefeito.*

“*The same men who had robbed the bank were seen in a party with the mayor.*”

man who remains the topic of conversation, and the referent of the DP *o mesmo homem* (the same man), in such a context, is the same as this man.

- (3) Alguns dias atrás um vizinho comum viu um homem espionando a casa do Cláudio. Segundo ele, o cara não era muito sutil. Ontem o **mesmo homem** tentou invadir o terreno do Cláudio pulando o muro.
 “A few days ago a common neighbor saw a man spying on Claudio’s house. He told us the guy was not discrete. Yesterday the **same man** tried to break into Claudio’s property by jumping over the wall”.

But the use of *o/a(s) mesmo/a(s) NP(s)* is also acceptable in contexts like the one below, in which *a amiga* (the friend.fem) is not the discursive topic, but is previously mentioned:

- (4) Pedro veio me visitar com uma amiga ontem à noite. Ele parecia meio cansado e falava de maneira atabalhoada. A **mesma amiga** depois me procurou sozinha para explicar a situação.
 “Pedro came to visit me with a friend last night. He looked a little tired and spoke in a confused way. The **same friend** later came to me alone to explain what was going on”.

In other words, anaphoric *mesmo* is a modifier within a constituent that typically ‘refers’ to the discursive topic or to a previously mentioned or presupposed individual in the discourse.

This property has, of course, some relation to the fact that indefinite determiners or quantifiers, such as *um* (a), *algum* (some), *todo* (every) etc., are prohibited in the presence of anaphoric *mesmo*⁵. The examples below show it.

⁵ The definite article or the demonstrative determiners, all sharing the definite feature, are the true licensors of anaphoric *mesmo*. Thus, a high quantifier, like *todos* (plural “all”), that takes a definite DP, is licensed with anaphoric *mesmo*: *todos os/esses/aqueles mesmos bandidos invadiram a mansão* (“all the/those/these same bandits broke into the mansion”).

- (5) *todo/*algum/*um⁶/*cada/* nenhum mesmo homem pulou o muro.
Every/some /a /each /no same man jumped the wall

Since the DPs containing anaphoric *mesmo* makes, in some way, reference to an individual previously mentioned in the discourse, quantifiers like *todo* (every) or *cada* (each) should not head them; likewise, *algum* (some) or *um* (a), which are usually associated to the

⁶ The indefinite article is indisputably licensed when pre-nominal *mesmo* has a distributive reading, as in (i) below:

- (i) Maria e Paulo assistiram a um mesmo filme.
Maria and Paulo watched to a same movie
“Maria and Paulo watched the same movie”.

Note that in (i) the DP which includes *mesmo* does not refer to a discourse topic or any previously mentioned individual.

It is relevant to say that the NP dependent or distributive reading of *mesmo* has important differences when compared to the ‘external’, or discourse-oriented, or anaphoric reading. For example, in distributive reading, presuppositions of the affirmative form are not preserved in interrogative or negative forms (BARKER, 2007), as can be seen from the examples below:

- (ii) Provei uma/a mesma bebida nas duas festas. (It presupposes the existence of a drink).

I tasted a /the same drink in.the two parties
“I tasted the same drink in the two parties”.

- (iii) Não provei uma/a mesma bebida nas duas festas. (It doesn’t keep the presupposition).

Not found a/the same drink in.the two parties
“I did not taste the same drink in the two readings”.

- (iv) Você provou uma/a mesma bebida nas duas festas? (It doesn’t keep the presupposition).

You tasted a/the same drink in.the two parties
“Did you tasted the same drink in the two parties?”

Anaphoric reading, on the other hand, preserves the presupposition of existence. For example, the following negative sentence keeps the presupposition of existence which a positive version of the sentence would have in this context: “Tinha um homem esquisito de barba que eu vi na feira e que eu achei que ia encontrar de novo lá nos outros dias. Mas o mesmo homem não apareceu de novo por aquelas bandas” (There was a weird bearded man who I saw in the fair and who I believed I would see there again in the following days. But the same man did not appear again in the neighborhood). A positive version compatible with the context could be this one: “E (de fato) o mesmo homem apareceu de novo por aquelas bandas” (and (in fact) the same man appeared again in the neighborhood).

introduction of new information in the discourse (i. e., non-presupposed elements), will not co-occur with anaphoric *mesmo* as well.

Syntactically, anaphoric *mesmo* selects an NP, being one of the most external (if not the most external) among modifiers. Typical adjectives are closer to the noun than *mesmo*. Thus, in (6a) below, *mesmo* takes the constituent *carro amarelo* (yellow car) (the discursive antecedent has to be a yellow car), not just the NP *carro* (car), excluding the adjective *amarelo* (yellow). Note, also, that the adjective may come before the noun, and, yet, it cannot precede *mesmo* (cf. (6b)). Anaphoric *mesmo* is also higher than numerals⁷; and possessive pronouns also occupy a higher position, above other modifiers, such as adjectives, prepositional phrases and relative clauses, and numerals (cf. (6d)). Possessives seem to compete with anaphoric *mesmo* as to their position in the structure of the DP-NP: when they, possessives and *mesmo*, precede the noun, they never co-occur; and possessive pronouns also occupy a higher position, above other modifiers, such as adjectives, prepositional phrases and relative clauses, and numerals (cf. (6d)).

- (6) a. Ontem eu vi um carro amarelo na rua. Hoje, o **mesmo carro amarelo** estava na garagem aqui do prédio.
 “Yesterday I saw a yellow car on the street. Today **the same yellow car** was in our building’s garage”.
- b. Nós encontramos as mesmas boas/*boas mesmas intenções naquela instituição.
 We found **the same good/*good same intentions** in that institution.
- c. Os mesmos dois/??dois mesmos homens bem vestidos foram vistos tomando sorvete no centro comercial.
 The same two/*two same well-dressed men were seen eating ice cream at the mall.

⁷ Possessive and *mesmo* very marginally co-occur, as in the example below (taken from https://motorola-global-portal-pt.custhelp.com/app/answers/detail/a_id/68867/~1/motorola-titanium-direct-talk, accessed on 05/13/2020). In this case, the possessive is higher than *mesmo*, and the article is not present. Note, however, that the reading here is not the one we are dealing with in this article: there is no channel nor code – nor even kinds of channels and codes – that are discursive topics (although the fragment talks about channels and codes in general). I will discuss this point in the next section. Chamadas de rádio conduzidas por Caminho-2 fora da rede e usando canais e códigos abertos. Nestas ligações, alguém usando *seu mesmo* canal e código pode ouvir sua conversa. “Radio calls conducted by Path-2 outside the network and using channels and open codes. On these calls, someone using **your same** channel and code can hear your conversation”.

d. Ontem, vi um amigo meu do tempo da escola sentado sozinho num banco de praça no centro da cidade. Tinha um olhar estranho, atormentado, mas não consegui falar com ele. Infelizmente, hoje encontrei **o mesmo amigo da turma do ginásio/*o mesmo meu amigo da turma do ginásio/*o meu mesmo amigo da turma do ginásio/?o mesmo amigo meu da turma do ginásio/esse mesmo amigo meu da turma do ginásio** deitado numa calçada em frente a um prédio comercial perto da praça, todo sujo. Aproximei-me dele para entender o que ocorria e ajudá-lo.

“Yesterday, I saw a friend of mine from school time seated on a park bench in the city center. He had a strange, tormented look, but I couldn’t speak to him. Unfortunately, today I found **the same friend from school/*the same my friend from school/*my same friend from school/?the same friend (of) mine from school/that same friend (of) mine from school** lying on a sidewalk in front of a commercial building near the park, all dirty. I got close to him to understand what was going on and help him”.

Whatever the exact position filled by prenominal *mesmo* in the DP-NP structure, from a grammatical and morphological point of view, the word behaves as an adjective, as it agrees in gender and number with the noun that follows it and has a superlative form⁸ (although it cannot be directly modified by intensifiers or other adverbs). The examples below illustrate this:

- (7) a. *A mesmo menina comeu aquela torta.
The same.masc girl ate that pie
- b. *O mesmos rapaz cantou na festa.
The same.pl boy sang in.the party
- c. A mesmíssima ópera foi exibida no nosso teatro.
The same.sup opera was exhibited in.the our theater
- d. A mais bela moça ganhou o concurso.
The more beautiful girl won the contest

⁸ The superlative form of *mesmo* seems to indicate a maximum degree of property sharing (or a maximum degree of ‘identity’, although identity should not have a scale) between compared elements, in this case, an element previously mentioned in the speech and the referent of the DP that contains *mesmo*. See discussion in section 3.

- e. *O mais/menos mesmo rapaz cantou na festa.
The more/less same boy sang in.the party
- f. *O muito mesmo rapaz cantou na festa.
The much same boy sang in.the party

As well as typical adjectives, *mesmo* never precedes pronouns in Nominative Case (or in any Case whatsoever), as we can see from (8). Neither does it precede proper names (unless the proper name does not refer to a specific individual, but denotes a set of individuals who have such a name, the only acceptable interpretation for (8b) below).

- (8) a. Pedro notou que uma moça tinha feito sinais para o porteiro na entrada do museu. **Mesma ela (a mesma moça)* depois conseguiu furar a fila e entrar na frente de todo mundo.
“Pedro noticed that a girl had signaled the doorman at the entrance to the museum. ***Same she** (the same girl) later managed to disrespect the line and get in the museum before everyone”.
- b. #O mesmo João entrou na sala enquanto almoçávamos.
“The same John got into the living room while we had lunch”

Another interesting fact about the position of *mesmo* in the DP-NP structure is that pre-nominal *mesmo* can be ambiguous between distributive and anaphoric readings. But the adjective *diferente* (different), which can also have a distributive or internal reading, has only this reading when in pre-nominal position, and is ambiguous when post-nominal⁹. The following examples show it:

- (9) a. Pedro e Maria dormem na mesma cama.
Pedro and Maria sleep in.the same bed
“Pedro and Maria sleep in the same bed” (that is, the bed is shared by both – distributive reading –, or there is a bed which was mentioned in discourse and *the same bed* refers to it: for example, the kind of bed that is also slept in by a friend of Pedro’s, which is talked about in the context).

⁹ Maybe prenominal *diferente* (different) does not have a distributive reading at all, but means something like ‘various’. The distributive effect in cases like (9c) is due to the plurality of the subject. Thanks to Filipe Kobayashi for calling my attention to this point.

b. Pedro e Maria dormem em camas diferentes

Pedro and Maria sleep in beds different.pl

“Pedro and Maria sleep in different beds” (that is, Pedro sleeps in one bed and Maria sleeps in another one – the distributive reading –, or they both sleep in beds which are different from contextually referred to beds).

c. Pedro e Maria dormem em diferentes camas

Pedro and Maria sleep in different.pl beds

“Pedro and Maria sleep in different beds” (the only allowed reading is the distributive one).

Such property is discussed by Cinque (2010), among others: in a hierarchy of adjectives in the DP, the highest occurrence of *diferente* (different) is discourse-oriented, while the closest to the noun is dependent on a constituent inside the sentence. This is particularly noticeable when we have two post-nominal occurrences of *diferente* (different). The following example, though a little marginal in terms of acceptability, shows us that, while the first occurrence of the adjective tells us that the two hats are different from each other, the second tells us that both are different from others which we can compare with in the context.

(10) ?Alan e Zé compraram chapéus diferentes diferentes numa loja aqui perto.

Alan and Zé bought hats different.pl different.pl in.a store here close
 “Alan and Zé bought different different hats at a store nearby”.

In the example, the first occurrence of *diferente* (different), closer to the noun *chapéus* (hats), has a distributive (or dependent) reading, since it says that the hat bought by Alan is different from the hat bought by Zé. The second occurrence, further away from the noun *chapéu*, has an external reading, discourse-oriented, as it tells us that the two hats are different from expected or typical hats.

Would the same happen to *mesmo*? Consider the context (11) below. In spite of the fact that there are contextual conditions for two occurrences of *mesmo*, the relevant sentence with the two occurrences of *mesmo* remains very degraded. Although the double occurrence of *mesmo* is degraded, which requires explanation (some kind of restriction on more than one prenominal high adjective), we will see later that the distributive *mesmo* is lower, or more internal, in the structure of the DP than the anaphoric *mesmo*, and this favors Cinque (2010)’s proposal for the structure of the DP-NP.

- (11) A Maria e o Pedro dividiam um apartamento, mas dormiam em colchões no chão, pois estavam sem dinheiro para comprar camas de solteiro. Eles não suportavam mais aqueles colchões no chão. Um dia eles viram um vizinho se livrando de uma cama de casal que não lhe servia mais. Apesar de velha, estava em bom estado, e seria de graça... **Acabou que a ?*mesma mesma cama foi dividida pelos dois por um tempo**, apesar do desconforto que sentiam com a situação.
 “Maria and Pedro shared an apartment, but slept on mattresses on the floor, as they had no money to buy single beds. They couldn’t stand those mattresses on the floor anymore. One day they saw a neighbor getting rid of a double bed that no longer served him. Despite being old, it was in good condition, and it would be free... So, in the end of the day, **the same same bed** was shared by both of them for a while, despite the discomfort they felt with the situation.

Unlike *diferente* (different), the adjective *mesmo* does not have such a “freedom” of positioning, and will not be found in a postnominal position preserving the meanings that we are discussing at this point of this paper: postnominal *mesmo* is a sort of focus marker that does not necessarily even express gender agreement, mandatory for adjectives in any variety of Portuguese¹⁰.

Some authors argue that items corresponding to prenominal *mesmo* in other languages are comparative forms of adjectives (CARLSON, 1987; BECK, 2000; OXFORD, 2010; among others). In English, for example, *same NP* can be followed by an *as*-clause, which is found in other types of comparative structures that express identity or equivalence. This can be seen in (12a) below. Carlson (1987) speaks of an ‘implicit comparison’ (our anaphoric reading) when there is no comparative clause inside the noun phrase that contains *same*.

- (12) a. He is the *same* man *as* I saw in front of the church.
 b. Ele é o mesmo homem que eu vi na frente da igreja.
 He is the mesmo man that I saw in.the front of.the church
 “He is the *same* man *as/that* I saw in front of the church”.

¹⁰ For instance: *elas mesmas/mesmo dormiram no chão*.
 They.fem mesm.fem.pl/mesmo slept in.the floor
 “They themselves slept on the floor”.

In Portuguese, *mesmo NP* can also be accompanied by a clause (cf. (12b)) that, supposedly, introduces a parameter for comparison. It is not so obvious, as it is in English (or German; BECK, 2000), that we have a comparative structure (with possible extraposition of the corresponding term of comparison) in Portuguese, because the conjunction that heads the sentence is the same for both comparison structures and relative clauses of all kinds. However, based on what shall be discussed in due time (section 3.2), I will assume sentences like (12b) as involving comparative structures, and I will tentatively approach *mesmo* in such structures at the end of this article.

From the point of view of meaning, I will argue that, in order for anaphoric *mesmo* to be properly used, it is necessary that the DP containing *mesmo* in (13a) refers to an entity which is equivalent (in some sense to be defined) or identical to the discourse topic or other individual previously mentioned or presupposed.

- (13) a. O mesmo homem entrou no cinema usando um boné.
 The mesmo man entered in.the cinema using a cap
 “The same man got into the cinema wearing a cap”.
 The man x so that x is equivalent to y, where y is provided by the context C, got into the cinema wearing a cap
- b. A vizinha de um amigo meu disse que Pedro viu esse mesmo amigo usando um boné no cinema.
 The neighbor of a friend mine said that Pedro saw this mesmo friend using a cap in.the cinema
 A friend of mine’s neighbor said Pedro saw this same friend wearing a cap in the cinema”.

That is, (13a) will be true if and only if the only contextually relevant individual who is a man is equivalent to a man (that is, shares all the contextually relevant properties with this man so that this makes them to count as one individual in the context) previously mentioned in discourse and got into the cinema wearing a cap. Following the reasoning developed above, the sentence (13b) will have as one of its interpretations the following: it will be true if and only if there is an individual y, who is my friend, such that the only contextually relevant individual x who is a neighbor of y said that Pedro saw z, who is my friend and equivalent to the individual y, wearing a cap at the cinema.

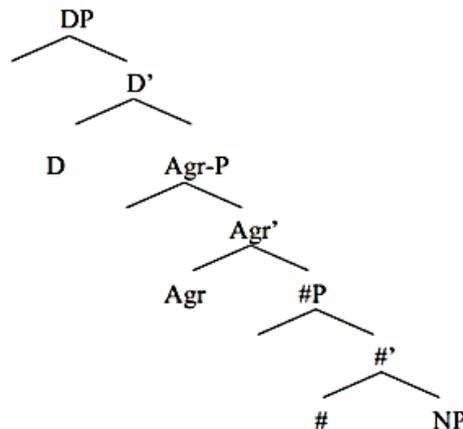
In this paper, I will discuss two important things. The first is the relationship of the word *mesmo* with the structure of the determiner

phrase, showing that its syntactic behavior offers something interesting for the study and unveiling of this structure. The second is the meaning of *mesmo*. I will propose a description (and partial formalization) of this word's anaphoric meaning in the syntactic position we are considering, arguing that the extension of *mesmo* is dependent on referents given by the context. The paper has the following organization. In section 2 below, I discuss the syntactic structure of DP (following, to a large extent, among others, SCHOORLEMMER, 1998; BRITO, 2007; CINQUE, 2010 and BRITO; LOPES, 2016) and present a proposal for the place of the adjective *mesmo* in such a structure, taking into account that prenominal possessive pronouns and anaphoric *mesmo* are mutually exclusive. In section 3 I propose a minimal semantics for *mesmo* in the syntactic position shared with the possessives and discuss a possible application of (at least part of) this semantic definition in cases where *mesmo* is involved in an explicit comparison.

2 Of the syntactic structure of DP and *mesmo*

There is a varied literature which explores, as it was done for the left periphery of the sentence (e. g., RIZZI, 1997; BOCCI; RIZZI, 2017) and for the periphery of the VP (BELLETTI, 2004), a 'cartography' of the determiner phrases (e. g., BORER, 2005; CINQUE, 2010; BRITO; LOPES, 2016 for Portuguese; among many others). Some studies in Portuguese and other languages (e.g., MIGUEL, 2002; CARDINALETTI, 1998) propose the following (minimal) structure for determiner phrases:

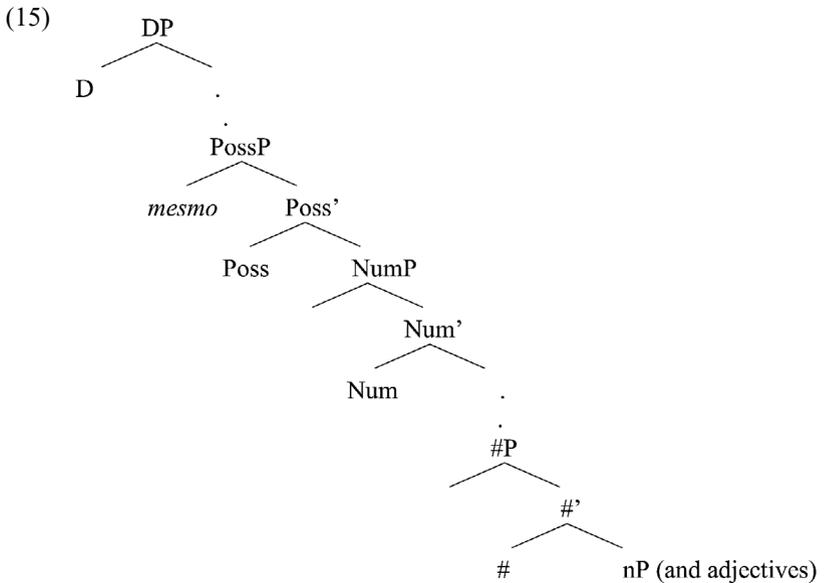
(14)



Both in European and Brazilian Portuguese, and in other languages as well, many authors (e. g., SCHOORMELER, 1998) argue that possessive pronouns, at least those which do not express arguments of the noun head they merge to, are adjectives base-generated in the specifier of a *Poss* (Possessive) head of the NP extended projection, and, for some of these scholars, such possessive adjectives are further moved to the specifier of the Agr phrase (e. g., BRITO, 2007; BRITO; LOPES, 2016). The other (lexical) adjectives belong to lower layers of the NP extended projection structure, distributed in a universal hierarchy of adjectives (cf. CINQUE, 2010).

It seems clear, taking into account the behavior of anaphoric *mesmo* depicted in the previous section, that it must be positioned above numerals and other adjectives, and occupy the same (final) position as the pronominal possessives; in addition, anaphoric *mesmo* must be below the definite determiners (articles and demonstratives); it must also, as we have already seen, be blocked when the indefinite article or quantifiers such as *algum* (some), *cada* (each), *todo* (every), *nenhum* (no) etc., head the DP. Further, anaphoric *mesmo* is licensed only within a DP which expresses shared properties with the referent of the discourse topic – or with an individual previously mentioned or presupposed.

For several reasons (cf. HALLE; MARANTZ, 1994; CHOMSKY, 1995; among others), I will assume there is no agreement head as part of DP-NP structure. I will therefore propose that pronominal possessive pronouns are generated or moved to the specifier position of a head that I will, for now, call *Poss*, as previous literature does. Thus, the anaphoric adjective *mesmo* should occupy, at the end of the derivation at least, the position shown in the tree below, since it disputes this position with pronominal possessives.



The question the reader could be asking herself at this moment is: what do the anaphoric adjective *mesmo* and pre-nominal possessives have in common in order for them to supposedly occupy the same position in (15)?

However, let us postpone the answer for this question to the next section, in which I will address the meaning of anaphoric *mesmo*. For now, it is important to draw attention to the following facts. The first is that the co-occurrence of anaphoric *mesmo* with the notion of possession or other relationships conveyed by possessive pronouns is not prohibited¹¹. In the following examples, we have relations that could

¹¹ Janayna Carvalho pointed out to me (p. c.) that in some contexts the possessive keeps on being precluded or makes the construction really bad. For instance, in (16a), if I exchange “daquela moça” (of that girl) for “meu” (mine), the sentence becomes degraded (*?o mesmo chapéu meu foi esquecido na varanda – “the same hat of mine was left in the balcony”). However, postposing possessive pronouns always degrades definite DPs, hosting it the adjective *mesmo* or not: *?o chapéu meu/seu/nosso/teu foi esquecido na varanda (the hat of mine was left in the balcony). Note further that the sentence becomes less degraded when we substitute the definite article for a demonstrative: ??esse mesmo chapéu meu foi esquecido na varanda (this same hat of mine was left in the balcony). For now, I have nothing to say about this order constraint.

be (or are) expressed by possessives in determiner phrases containing anaphoric *mesmo*.

- (16) a. ?O mesmo chapéu daquela moça foi esquecido na varanda.
 The mesmo hat of.that girl was forgotten in.the balcony
 “The same hat of that girl was left in the balcony”.
- b. O mesmo amigo da Maria disse que ela estava bem.
 The mesmo friend of.the Maria said that she was well
 “The same friend of Maria said she was well”.
- c. Tem um amigo meu que fere nossos ouvidos cantando. Mas esse mesmo amigo meu toca berimbau muito bem.
 Has a friend mine that hurts our ears singing. But this mesmo friend mine plays berimbau very well
 “There is a friend of mine who hurts our ears when he’s singing. But this same friend of mine plays berimbau very well”.

Now let us compare these examples with those in (17) below, in which the relevant DPs include anaphoric *mesmo* and prenominal possessives. They are all ungrammatical or very degraded.

- (17) a. *O mesmo seu chapéu/??O seu mesmo chapéu foi esquecido na varanda.
 The mesmo your hat/ the your mesmo hat was forgotten in.the balcony
 “The same hat of yours was left in the balcony”.
- b. *O mesmo nosso carro/?*O nosso mesmo carro ainda está na garagem.
 The mesmo our car/ the our mesmo car stil is in.the garage
 “The same car of ours is still in the garage”.
- c. Tem um amigo meu que fere nossos ouvidos cantando. Mas *esse mesmo meu amigo/*esse meu mesmo amigo toca berimbau muito bem.
 Has a friend mine that hurts our ears singing. But this mesmo my friend/this my mesmo friend plays berimbau very well
 “There is a friend of mine who hurts our ears when he’s singing. But this same friend of mine plays berimbau very well”.

Another important property of DPs containing anaphoric *mesmo* is related to the binding theory. While possessives can be bound within their binding domain, the prenominal adjective *mesmo* does not change

the DP (which is referential) so as to allow it to be bound in any domain. The following examples illustrate this¹².

- (18) a. [Maria e Joana]_i chamaram [as suas_{ij} amigas] para a festa.
 Maria and Joana called the their friend.fem.pl to the party
 Maria and Joana called their friends to the party”.
- b. [Maria e Joana]_i viram [as mesmas moças]_{ij/*i} no espelho.
 Maria and Joana saw the mesmas girls in.the mirror
 “Maria and Joana saw the same girls un the mirror”

The binding differences between possessive pronouns and *mesmo* are related to the different semantic definitions of the two (kinds of) items, which shall be discussed in more detail in the next section. However, we can explain such differences at this very moment, based on some intuition about the meanings of *mesmo* and possessives. The adjective *mesmo*, in fact, simply establishes a sort of identification of the DP that hosts it, which is a R-expression, with a referent in discourse (or in the sentence). It is not like a possessive, which is a pronoun that takes a referent in discourse (or in the sentence) and establishes a pragmatically defined relation, that is never identity, of this referent with the R-expression denoted by the DP which hosts it. Once the adjective *mesmo* is just a way through which a R-expression gets a previously mentioned referent in discourse, it is the whole DP that counts for binding principles; and, since the DP that hosts *mesmo* is a R-expression, then Principle C is the only relevant binding principle in this case.

The examples in (16) show that the fact that *mesmo* and pronominal possessive pronouns do not co-occur within the DPs cannot be explained by some semantic incompatibility between the two. The explanation must therefore be syntactic. The examples in (18) show that

¹² It is interesting to note, however, that *mesmo* after pronouns forces the binding of the pronoun obeying principle A, as we see below, in (i) below.

[Maria e Joana]_i viram [elas mesmas]_{ij/*i} no espelho.

Maria and Joana saw they mesmas in.the mirror

“Maria and Joana saw themselves in the mirror”.

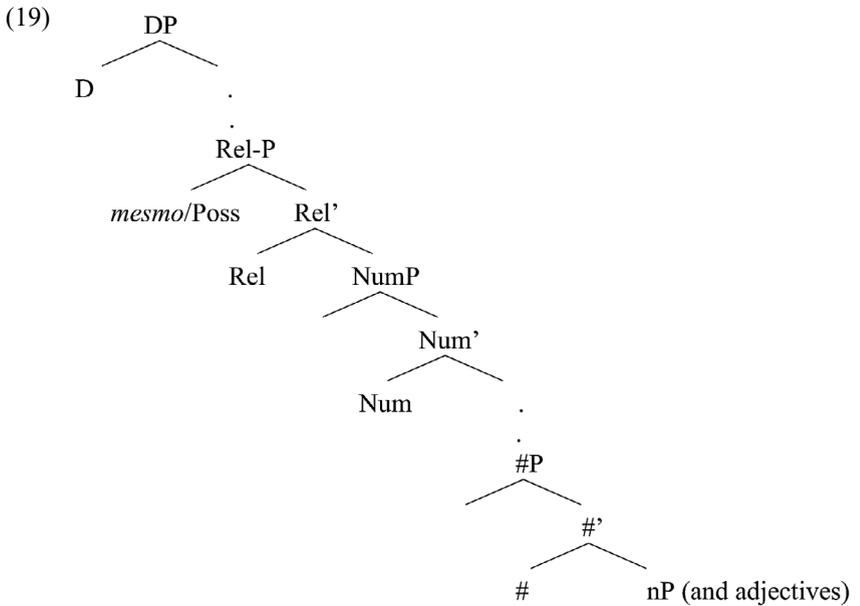
prenominal *mesmo* and possessives are different in terms of binding properties^{13, 14}.

According to this approach, the characteristic shared by possessives and anaphoric *mesmo* is the fact that they are adjectives with pronominal properties. We could then think that the position they occupy is a position (not necessarily the only one) for noun modifiers with an “incomplete” extension, which take part of their extension from other constituents outside the DP, present in the sentence or in the previous discourse.

As the position of anaphoric *mesmo* and pronominal possessives is, as it seems, the same in the syntactic structure, and *mesmo* is not a possessive, I propose, assuming a structure similar to that of (19), that the head label *Poss* in (15) should be changed. Therefore, the DP-NP structure would have a node whose function is *relating* the reference of the DP which includes a “pronominal adjective” and other entities expressed in the sentence or in the discourse, referents external to that DP. I will use the label *Rel* (relational) for this head. Thus, *Poss* is replaced by *Rel*, as the (final) position filled by pronominal possessives or anaphoric *mesmo* at least in the structure of DPs.

¹³ One of the reviewers asks why a sentence like “o professor do amigo [da Maria e da Joana]i disse que viu [as mesmas moças]i no shopping” (Mary and Jane’s friend’s teacher said he saw the same girls in the mall) is, with such coindexing properties, agrammatical, if “as mesmas moças” obeys Principle C. For me, however, though marginal, it is not really ungrammatical; and gets more acceptable if we substitute the definite article by a demonstrative: “o professor do amigo [da Maria e da Joana]i disse que viu [essas mesmas moças]i no shopping” (Mary and Jane’s friend’s teacher said he saw these same girls in the mall).

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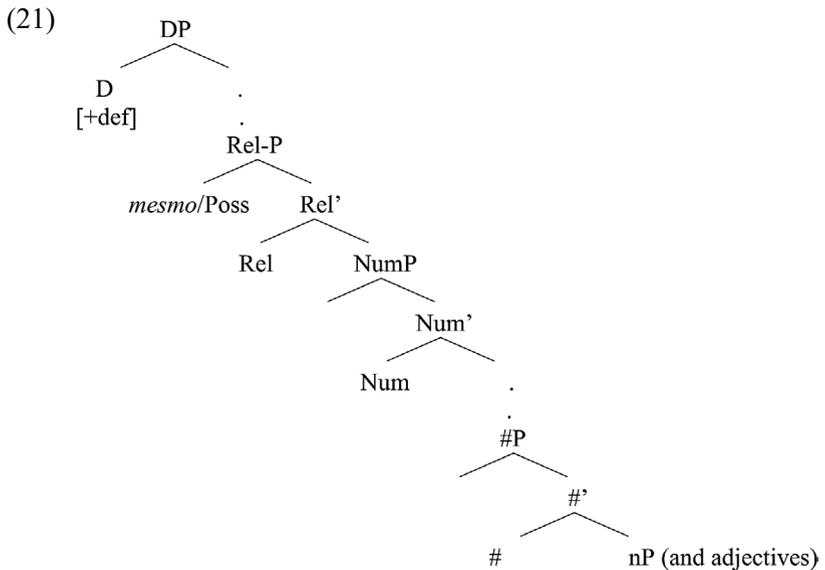
It is important to note that elements in the specifier position of *Rel* resist a combination with the indefinite article. The possessives in the Portuguese variety spoken by the author may even co-occur with this article, but they must appear after the noun, as we see in (20) below¹⁵. In a similar way, anaphoric *mesmo*, which, according to the proposal developed here, occupies the same position as the one of pre-nominal possessives, does not co-occur with the indefinite article.

- (20) a. Encontrei um amigo meu na pracinha ontem.
 Met a friend mine in.the park yesterday
 “I met a friend of mine at the park yesterday”.

¹⁵ In Portuguese, possessives also occur without articles or demonstratives, as we can see in the sentence “encontrei meu chapéu na mesa” (I found my hat on the table). As I said earlier, possessives are not obliged to occupy the [Spec, RelP] position in order to be licensed inside the DP or to attain their pronominal properties. However, it may be the case that, in such an example, there is in fact a *Rel* head, but the possessive moves from [Spec, RelP] to a higher position, like the [Spec, DP], and this move obliterates the phonological expression of the article. Such a proposal, however, needs further investigation, in another work.

- b. ?*Encontrei um meu amigo na pracinha ontem.
Met a my friend in.the park yesterday
- c. ?*Encontrei um mesmo amigo na pracinha ontem.
Met a mesmo friend in.the park yesterday
- d. #Encontrei um amigo mesmo na pracinha ontem.
Met a friend mesmo in.the park yesterday
“I really met a friend at the park yesterday”.

Such facts suggest, at least at first glance, that one can think of *Rel* as a head licensed only in the environment of definite determiners. The syntactic tree below represents the idea. Definite determiners, such as the definite article and the demonstratives *esse* (this), *aquele* (that), etc., are the only ones that co-occur with anaphoric *mesmo* and pre-nominal possessive pronouns (in my variety of Portuguese¹⁶).



¹⁶ It can be the case that there is, in fact, a *Poss* head, lower than the indefinite determiner *d* head (cf. CINQUE, 2010), where non-argumental possessives are generated, and this would explain the existence of varieties of Portuguese that accept an indefinite article preceding a pronominal possessive. Perhaps even in more restrictive varieties, such as the one being analyzed in this article, such possessives are generated in that position and obligatorily moved to the specifier of *Rel*. This particular question requires further investigation, which will be conducted in due time.

Thus, sentence (1a), repeated as (22) below, will have the (simplified) structure given by (23) in the sequence:

- (22) O mesmo homem entrou na sala.
 “The same man got into the room”.
- (23) [_{IP} [_{DP} o [_{RelP} mesmo [_{Rel}’ *Rel* [_{NP} homem]]]]] [_I’ entrou na sala]

As I said above, the specifier of *Rel* will not be the only position to host the adjective *mesmo*. The examples on note 7 show us that with the distributive reading the pronominal adjective *mesmo* is also licensed in the context of an indefinite article, which, supposedly, does not license *Rel*. For Cinque (2010), among others, the indefinite article occupies a lower position in the DP-NP template than the definite article and the demonstrative determiners. We will discuss this shortly. In addition, there are cases like the one in (24), where the reading of *mesmo* is not distributive (and hardly anaphoric either), but the pronominal possessive pronoun coexists with it, which suggests that in this example the pronominal adjective *mesmo* occupies a lower position in the architecture of DP.

- (24) Seus amigos e familiares podem te ligar de forma gratuita pelo WhatsApp para *o seu mesmo número do Brasil*¹⁷.
 “Your friends and family can call you for free via WhatsApp to your same telephone number in Brazil”.

Although my judgments are not very sure regarding the acceptability of examples such as (24), it seems to me that the licensing (for me marginal) of *mesmo* in (24) is crucially dependent on the presence of the modifier PP (which could be, in fact, a comparative expression). Without such a modifier, the DP would be much more degraded. (In (24) phrases like *para o seu número* (to the.masc your number) or *para o seu número do Brasil* (to the.masc your number from Brazil) would sound perfect to me, but when the word *mesmo* occurs, the prepositional phrase is needed in order for the sentence to be acceptable.)

The discussion above shows that there are positions for the adjective *mesmo* lower than that occupied by anaphoric *mesmo*. Such

¹⁷ From <https://americachip.com/como-usar-o-whatsapp-no-exterior>; accessed on 05/31/2020. Notice, further, that in this example the ellipsis of the NP following the adjective *mesmo* is not allowed, which shows that it is not anaphoric at all.

positions in the syntactic tree host the distributive *mesmo* and perhaps what I am calling the “explicit” comparative *mesmo* (CARLSON, 1986; MOLTSMANN, 1993), which includes a term of comparison usually manifested by a clause similar to a relative clause. In the example in (24), I believe the PP *do Brasil* is introducing a comparison term (the number your friends and family can call is the same as your number in Brazil – even if you are outside the country).

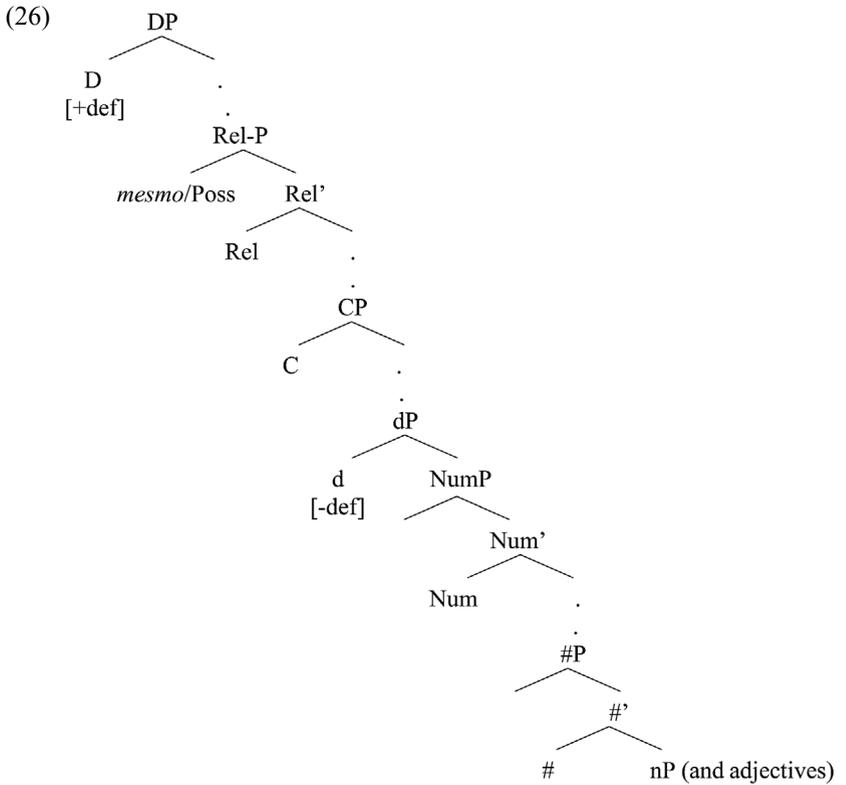
And since we are talking about (explicit) comparative *mesmo*, it should also be noted that, unlike the anaphoric version of the adjective, the word is allowed to be in the c-command domain of the indefinite article, even though such occurrences are quite restricted or marginal (for me at least). We therefore have more evidence that comparative *mesmo* is lower than anaphoric *mesmo*.

(25) a. Daquele grupo ali, a Maria fez amizade com ?uma mesma pessoa que eu, mas eu não sei quem.

From.that group there the Maria made friendship with a mesma person that I, but I not know who

“From that group out there, Maria became friends with the same person as me, but I don’t know whom”.

Taking into account what was discussed so far and that the indefinite determiners are lower than definite determiners in the DP structure, as part of the relevant literature claims (e. g., CINQUE, 2009; KAYNE, 1994; 2006), we might say that head *Rel* occupies a position between that of indefinite determiners and maybe lower quantifiers and that of definite determiners. Thus, anaphoric *mesmo* and pronominal possessive pronouns (in the variety of Portuguese analyzed here) will not be preceded by an indefinite article precisely because they occupy the specifier of *Rel*, at the end of the derivation at least. The following structure, partially based on Cinque (2008; 2010), illustrates the proposal argued for in this paper:



In the tree above, *d* will be the head occupied by the indefinite determiner, which, in Cinque’s proposal (2008; 2010), is placed below the head to which the restrictive finite relative clauses are attached. For Cinque and other authors (for example, KAYNE, 2004), the *Num* and *d* heads collapse, but I will keep them separate, at least in this paper, as the co-occurrence of the indefinite plural article and numerals are allowed in Portuguese. We see in the syntactic tree that anaphoric *mesmo* will occupy (at the end of the derivation, at least) a position above numerals and the indefinite article, which partially explains its exclusive occurrence with the definite article; following the reasoning so far, comparative and distributive *mesmo* would occupy a position below *d*, which explains their occasional appearance in indefinite DPs.

3 On the meaning of *mesmo* (and of possessive pronouns)

Let me begin this section by proposing a semantic definition for anaphoric *mesmo*. As I said earlier, anaphoric *mesmo* – the one hosted in the specifier position of the *Rel* head – will have such an extension that it will include a sort of ‘pronoun’ – that is, part of its extension will be provided by the extension of other constituent(s) in the sentence (subject to certain constraints) or, more commonly, from the previous discourse. As it will be proposed below, in (27), *y*, the ‘anaphoric’ part of the definition of *mesmo*, will take its reference from the (discursive or sentential) context, constrained by Principle C of Binding Theory.

But how can we relate the reference of *y* with other elements in the definition of *mesmo*? Let us suppose that this definition also includes a function, which I will call *contextually equivalent to*, that relates an entity *x*, which belongs to the set defined by the common noun preceded by *mesmo*, with an entity *y* taken from the context, which also belongs to this set. Let us now define *contextually equivalent to* the following way: *it is a function which relates two entities or kinds, x and y, and says that, if x is contextually equivalent to y in context C, then x and y share a minimum set of contextually relevant properties which makes x and y count as just one entity or kind in the context.*

- (27) $[[mesmo_{Rel}]^{[y \rightarrow i]} := \lambda f_{\langle e, t \rangle} . \lambda x. f^{[y \rightarrow i]}(x) = 1 \ \& \ Z^{[y \rightarrow i]}(x, y) = 1$
 where $Z(x, y)$ is a relation such that *x* is contextually equivalent to *y* in context *C* and *i* is an individual (or kind) previously mentioned in discourse.

Such a proposal bares some resemblances to Alrenga (2010)’s, Nunberg (1984)’s and especially more classical analyses, such as Heim (1985)’s, for English *same*, but differs from them in important ways. Contrary to Nunberg (1984), I assume entities in the model, not just properties. Contrary to Alrenga (2010), I argue that *mesmo* sets a comparison between entities, though through the sharing of properties. And contrary to Heim, I specify what kind of equivalence relation exists between a discourse referent and the possible referent of the DP which includes *mesmo*. Alrenga (2010) and Lasersohn (2000) discuss the difficulties of Nunberg (1984)’s approach, and I will not repeat their arguments against this analysis here. Alrenga (2010)’s proposal, which assumes that the English *same* relates sets of properties, not entities, does not provide adequate means of dealing with the anaphoric adjective *mesmo*, which must make reference to an entity or kind mentioned in

previous discourse. That is why I am not adopting his analysis in this paper, although I recognize that some problems Alrenga points out for the traditional approaches which assume that adjective *same* compares entities are pertinent and hard to circumvent. A completely different course of analysis is espoused by Lasersohn (2000), who adopts the concept of *halo* (LASERSOHN, 1999). This approach, however, implies that, when the entities compared do not share all the properties, the assertion with *same* is false – because they are not effectively *the same* (as pointed out by Lasersohn himself) –, though possibly pragmatically felicitous given the context, because one of the entities compared is located inside the other entity’s *halo*¹⁸, and that makes the assertion felicitous depending on the discourse. I believe it is problematic and anti-intuitive that most (almost all, perhaps) of the assertions involving *same* be false, though felicitous in context, and therefore I will not adopt this solution here.

Let us now see how (27) applies in a concrete example. In context (3) above, the referent of the DP *o mesmo homem* (the same man) must be contextually equivalent to the entity who a neighbor of the speaker told her was spying on Cláudio’s house (and not being discrete). In this example, the set of properties shared between the man seen by the neighbor and the one who broke into the house is such that they must be taken as one and the same entity.

Then, why am I not assuming that $x = y$ in (27) (as in, e. g., HEIM, 1985, among others)? It depends on how we interpret the relation “=” above. If we interpret this relation as the sharing of just contextually relevant properties (including the properties defined by the common noun preceded by *mesmo*), we could use “=” in our formulation (27); however, if it means the sharing of all properties by the two compared entities (except for the property of being referred to by different linguistic expressions), how could we deal with sentences like (28) below, for which there cannot be a strict identity between x and y ?

- (28) a. Eu tive a mesma doença, mas bastante diferente.
 I had the mesma illness but enough different
 “I had the same illness, but very different”

¹⁸ Roughly speaking, the *halo* is a set of entities that are “near” an entity which they are compared to in terms of the number of shared properties.

- b. Eu não tive exatamente a mesma doença.
 I not had exactly the mesma illness
 “I did not have exactly the same illness”.

As can be seen, in sentences like (28), the speaker is not talking about strict identity of entities or maybe even kinds. In order to understand this point, let us imagine a plausible situation for (28a) in which the speaker is in fact telling the hearer that she was infected with the same (kind of) virus that caused the illness mentioned in previous discourse, but did not have all the same symptoms (perhaps no same symptom at all). So, in this example, a relevant property (maybe the only one, apart from both being illnesses) shared by the two states of illness which are being compared is that they were caused by a virus *V*. And that, apart from the fact that the compared entities are *illnesses*, is sufficient for the speaker (and the hearer) to consider them to be equivalent – the *same*. The fact that the virus *V* was the cause of both illnesses is true, in spite of their differences. So, in order to avoid misunderstandings, I prefer to use the expression *contextually equivalent to* in the formulation (27) rather than using the symbol¹⁹ “=”.

An advantage of thinking of anaphoric *mesmo* as a function which expresses a *minimum contextually equivalence* between two entities in a given context is that it is possible to intensify that equivalence in that context. The grammar allows this to be expressed in two manners. On the one hand, it is permitted to combine some sorts of adverbs and quantifiers with the DP which includes *mesmo*, such as *exatamente* (exactly), *quase* (almost), etc. On the other hand, *mesmo* has a superlative form, *mesmíssimo* (same.sup).

- (29) a. Exatamente a mesma peça foi encenada no teatro da nossa cidade.
 Exactly the mesmo play was performed in.the theater of.the our city
 “Exactly the same play was performed at the theater of our city”.
- b. A mesmíssima peça foi encenada no teatro da nossa cidade.
 The mesmo.sup play was performed in.the theater of.the our city
 “The very same play was performed at the theater of our city”.

¹⁹ In fact, the adjective *igual* (“equal”, “identical”) behaves the same way in normal language, typically focusing on contextually relevant properties in order to establish the comparison.

- c. Nós assistimos a quase a mesma peça ontem.
 We watched to almost the mesma play yesterday
 “We watched almost the same play yesterday”.

Maybe, in (29a) the adverb *exatamente* widens the set of assumed shared contextually relevant properties so that, for the speaker, there is no relevant distinction between the play she watched and the play she is taking as comparison (a play provided by the context, which is not in fact an entity, which endures, but an event which can happen again). It seems, in fact, that there is a minimal set of shared properties which makes the two plays to count as one for the speakers, and the adverb asserts that there are more shared properties than the minimum assumed (the play was performed the same way, with the same actors, the same scenario, the acting was very similar...). The superlative morpheme in (29b) has approximately the same semantic function. The adverb *quase* (almost) in (29c) says that the minimum set of shared contextually relevant properties was not ‘achieved’ by the comparison relation the speaker is trying to settle, and *x* and *y* are in fact not ‘the same’, even though we may suppose that they share the maximal proper subset of the agreed minimum set of shared properties which would make the comparison defined by *mesmo* true.

To end this section, I would like to discuss two problems pointed out by Nunberg (1984) and Lasersohn (2000) for *same* in English, but which must be faced by anyone who is trying to analyze *mesmo* in Portuguese as well. One of them is related to the following example, inspired in a similar example discussed in Nunberg (1984):

- (30) Comprei um Ford Ka zero na semana passada. Ontem, um primo meu, que tirou recentemente a carteira de motorista, pediu para dar uma volta com meu carro novo na vizinhança. Eu deixei. Infelizmente, ele bateu no **#mesmo carro** numa esquina a duas quadras daqui. Amassou a porta toda do carona...
 “I bought a brand-new Ford Ka last week. Yesterday a cousin of mine, who recently took out his driver’s license, asked to take a ride with my new car in the neighborhood. I let him drive my car. Unfortunately, he hit the **#same car** on a corner two blocks from here. He smoothed the entire passenger door...”

Any speaker knows that the DP *o mesmo carro* (the same car) cannot mean “the same kind or model of car”. But why is that in this

context? The answer to this problem is the following. The situation described in (30) is such that *a car hits another car*; and the subject of the verb *bater* (hit) must be interpreted as an entity, not a kind: so, if a car *bate em* (hits) another, the car which is the subject of the verb is never interpreted as a kind. When the referent of the DP *o mesmo carro* (the same car) is compared with the car that hits it, and that cannot be a kind of car, but an individual car, the minimum for the Z function must be the set of properties which characterizes entities, not kinds, and therefore the two expressions with the word *car* will refer to entities which must count as the same individual car. But there is no way a car could hit itself, whatever the quality of the driver. Thus, the expression *o mesmo carro* is odd in such a context, once no other (kind of) car is provided for it to take as reference. Notice that even if I use *o mesmo tipo de carro* (“the same kind of car”), instead of *o mesmo carro* (the same car), I would have the same problem. Last but not least, I think it is relevant to say that I tried to find in the internet the following sequences “um/esse/aquele/meu... tipo de carro bateu” (a/this/that/my... kind of car hit), but I found none. That suggests the verb *bater* indeed does not select kinds (of cars) as subjects.

The second problem I would like to discuss was pointed out by Lasersohn (2000) as a difficulty for Nunberg (1984)’s analysis. I will provide a very similar example in Portuguese, which illustrate what is in question here:

- (31) Possuo uma TV Samsung 42”. Meu vizinho possui a mesma TV.
 “I own a TV Samsung 42”. My neighbor owns the same TV”.

Roughly speaking, for Nunberg (1984), the model has no entities, just properties, and what characterizes entities are the properties which are true for them in the model. Two entities are the *same* if the model is such that there are no properties which distinguish them. In this case, (31) is a problem, for there is clearly a property, which must pertain to the model (the property *is owned by X*), but distinguishes the two entities compared – and they keep on being *the same*.

The analysis argued for in this paper (as well as the *halo* analysis by Lasersohn) does not face such a difficulty, for it considers entities in the model, and the model does not exclude properties. So, although the Z function does not include the *is owned by X* property, it continues to be part of the model, and there is no problem at all in saying (31), maintaining the two TVs as the same.

3.1 Possessives

Another important question that must be addressed in this section is: what do possessive pronouns and anaphoric *mesmo* have in common so that both occupy the same syntactic position inside the DP-NP structure? Let us suppose that possessive pronouns have two typical semantic definitions, one in which they are arguments of nouns, as is the case of (32a), and another in which they simply encode various, pragmatically defined, kinds of relations, as we see in (32b). The definitions proposed in (33a) and (33b) would correspond, respectively, to the examples in (32a) and (32b). They are similar to some definitions we find in the literature (cf. BARKER, 2011, among others), where the predicate *Z* in (33b) is a relation pragmatically settled.

(32) a. O seu amigo não está bem de saúde.
The your friend not is well of health
“Your friend is not in good health”.

b. Eu estou tomando o seu suco.
I am taking the your juice
“I’m drinking your juice”.

(33) a. $[[\text{seu}]]^{[y \rightarrow \text{hearer}]} := \lambda f_{\langle e, \langle e, t \rangle \rangle} \lambda x. f^{[y \rightarrow \text{hearer}]}(x, y) = 1$

b. $[[\text{seu}]]^{[y \rightarrow \text{hearer}]} := \lambda f_{\langle e, t \rangle} \lambda x. f^{[y \rightarrow \text{hearer}]}(x) = 1 \ \& \ Z^{[y \rightarrow \text{hearer}]}(x, y) = 1$

In (33) *hearer* in the assignment indicates a specific referent in the situation; that is, it means that we are stating that the variable *y* will have a value, ‘hearer’, and so it will refer to a specific entity, the person who the speaker is talking to. Note that the possessive pronoun in (33b) has a semantic definition similar to that given in (27) for anaphoric *mesmo*, since it has an anaphoric element *y* which is related to the variable *x* by means of a function coordinated with the function defined by the common noun which follows *mesmo*. The difference lies in the functions which relate *x* and *y* in possessives and anaphoric *mesmo*.

Suppose, finally, that the fact that possessives have this “pronominal” element as part of their definition makes them, as it happens with anaphoric *mesmo*, compatible with the *Rel* head, and licenses them in the position of specifier of *Rel* – even if the occupation of this position by a possessive in the structure is not mandatory as it is for anaphoric *mesmo*. As we said earlier, this head, close to the DP border, hosts syntactic elements that can be related to the constituents outside the DPs which include them.

Thus, since they are elements with pronominal properties within the DP, and since they can take entities outside the sentence or their DPs as their antecedents, I propose here that they compete for the same syntactic position, [Spec, RelP], a position that precisely encodes such anaphoric relations with elements both within the sentence (but outside the DP) and outside it. As anaphoric *mesmo* must occupy such a position to be able to take external referents, and this is the position occupied by pronominal possessives in the variety of Portuguese spoken by the author, anaphoric *mesmo* and pronominal possessives cannot co-occur inside the same DP²⁰.

Many interesting questions about the syntactic and semantic behavior of possessives need clarification. For example, would possessives receive a different (from (33)) semantic definition if they occupy a different position inside the DP structure? And what is the relation between (anaphoric) *mesmo* and the possessives in other positions, conveying possible other interpretations? There is a literature on different readings of possessives in different syntactic positions, but this discussion is complex and outside the scope of this paper.

3.2 *Mesmo* in ‘explicit’ comparatives

So far, we claimed that anaphoric *mesmo* sets a kind of ‘implicit comparison’ (cf. CARLSON, 1987). Now it is worth asking if when there is an explicit term of comparison, such as a clause, we can keep something of the definition given in (27) for the word we are studying here. In other words: would the comparative *mesmo* have a semantic definition equal or close to the one of anaphoric *mesmo*? What follows is exploratory, but I will argue that we could have a close definition – different from the semantic definition of the distributive *mesmo*, whatever it is (for important discussion on distributive *same* in English, see, among others, BARKER, 2007 and CARLSON, 1987).

To begin with, it is important to show some evidence that typically the clauses which come after the noun in what I am calling here explicit comparative are not simple relative clauses with a restrictive semantic

²⁰ The quantifier *cada* (“each”) does not typically precede pronominal possessives (although it co-occurs with postnominal possessives). As we saw above, *cada* does not co-occur with pronominal anaphoric *mesmo* as well. Would the quantifier occupy the [spec, Rel] position proposed here? I don’t think so. Note that the same can be said about other (lower) quantifiers, such as *algum* (some), *nenhum* (no), etc. So, I believe that the spec, Rel position is higher than that of all these quantifiers, and that is why *cada*, as well as other quantifiers such as *algum*, cannot co-occur with pronominal possessives (in my variety of Portuguese).

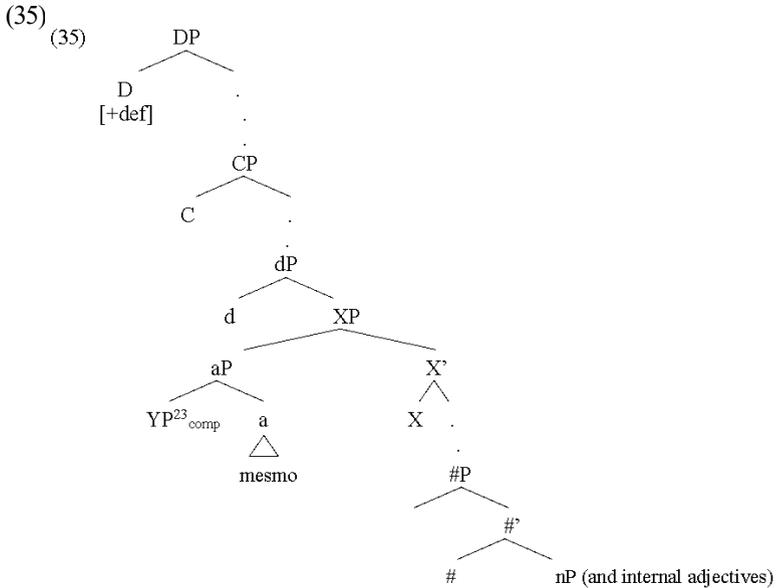
function, but a sort of term of comparison. The examples below suggest that the clauses that follow the nouns *livro* (book) and *sorvete* (ice cream) are real extraposed comparative clauses, because they are subject to the same sort of ellipses as comparatives in general (which is not allowed in simple relatives):

- (34) a. Pedro procurava o mesmo livro que eu (procurava).
 Pedro searched the mesmo book that I (searched)
 “Pedro looked for the same book as me”.
 Pedro procurava o livro que eu *(procurava).
 Pedro searched the book that I *(searched)
 “Pedro looked for the book that I looked for”
 Pedro gosta mais de sorvete do que eu (gosto).
 Pedro likes more of ice-cream of that I (like)
 “Pedro likes ice cream more than me”.
 Pedro é mais dedicado do que eu (sou)
 Pedro is more dedicated of that I (am)
 “Pedro is more dedicated than me”

The important point of the above paragraph is that, syntactically and semantically, many of such clauses behave like comparative clauses, like the ones we find in other comparative structures, as we can see comparing (34d) to (34a) and (34a) to (34b).

Now, let us suppose that the comparative clause is inserted in a projection of the adjective phrase headed by *mesmo* (e.g., EMBICK, 2007; among others), as we see in the diagram below. Suppose, further, that comparative structures are below the head *d*, which introduces the indefinite article (see CINQUE, 2010, among others)²¹.

²¹ In the tree below, there must be an extraposition operation in order to generate the right sequence of constituents, which is *mesmo*-nP-YP. However, I will not discuss this hard issue in this paper.



Let us also suppose that when *mesmo* belongs to such a configuration, it has the following semantic definition, very close to (27) above, with the exception that the adjective loses its pronominal character (the assignment function).

(36) $[[\text{mesmo}_{\text{comp}}]] := \lambda f_{\langle e,t \rangle} . \lambda y . \lambda x . f(x) = 1 \ \& \ Z(x,y) = 1$
 where $Z(x,y)$ is a relation such that x is contextually equivalent to y in context C .

Let's look at an example:

- (37) O mesmo homem que não era muito sutil invadiu o terreno.
 The mesmo man that not was very subtle invaded the land
 "The same man who was not very discrete broke into the land".

Here, the comparative clause, *que não era muito sutil* (who was not very discrete), would have the following extension:

(38) $[[YP]] = \lambda g_{\langle \langle \langle e,t \rangle, \langle e, \langle e,t \rangle \rangle \rangle, \langle \langle e,t \rangle, \langle e,t \rangle \rangle \rangle} . \lambda f_{\langle e,t \rangle} . \lambda x . \exists y . g(x,y) = 1 \ \& \ y \text{ was not very discrete.}$

Simple functional application has the desired consequence. Thus, the aP syntactic node will have as its extension the following:

- (39) $[[aP]] = [\lambda g_{\langle\langle e,t\rangle,\langle e,t\rangle\rangle,\langle\langle e,t\rangle,\langle e,t\rangle\rangle}.\lambda f_{\langle e,t\rangle}.\lambda x. \exists y. g(x,y) = 1 \ \& \ y \text{ was not very discrete}]([\lambda f_{\langle e,t\rangle}.\lambda x.f(x) = 1 \ \& \ Z(x,y) = 1]) = \lambda f_{\langle e,t\rangle}.\lambda x. \exists y.f(x) = 1 \ \& \ Z(x,y) = 1 \ \& \ y \text{ was not very discrete.}$

When we combine aP with the noun *homem* (man) – or, in the tree, when we merge aP with X' –, which is a function compatible with the domain of the resulting function in (38), we will have the function in (40). The function in (40) will later be taken by the definite determiner, and such a constituent will be a generalized quantifier, as desired. Taking as reference the tree in (34), the formulation below provides the extension of the XP node.

- (40) $[[XP]] = [\lambda f_{\langle e,t\rangle}.\lambda x. \exists y.y \text{ was not very discrete} \ \& \ f(x) = 1 \ \& \ Z(x,y) = 1]([\lambda x.x \text{ is a man}]) = \lambda x. \exists y.y \text{ was not very discrete} \ \& \ x \text{ is man} \ \& \ Z(x,y) = 1.$

An important point of the proposal that I am entertaining here, and which may not have been sufficiently clear from the discussion so far, is that part of the extension of the items is established by its syntactic environment. That is, depending on where the item is, the semantic function it conveys will be of a semantic type or other, even though they preserve a common nucleus. As we could see above, when *mesmo* occupies the position of specifier of *RelP*, its extension is a function of the type $\langle\langle e,t\rangle,\langle e,t\rangle\rangle$, and will include a pronominal part; on the other hand, when it is in the context of a comparative clause, it will be a function of type $\langle\langle e,t\rangle,\langle e,\langle e,t\rangle\rangle\rangle$.

It is possible, considering the definition given in (36), that other sorts of syntactic constituents occupy the position of specifier of aP in (35). We could, therefore, have other adjectives, prepositional phrases, among other things, occupying that position. Perhaps that is indeed the case, and would account for sentences such as the one presented below, where the term of comparison seems to be established by the prepositional phrase *do Pedro* (of Pedro).

- (41) Eu comprei o mesmo telefone do Pedro.
I bought the mesmo telephone of.the Pedro
“I bought the same (kind of) telephone as that of Pedro”.

Here, the PP *do Pedro* would occupy the specifier of the comparative aP headed by *mesmo* and would be a function, in that context of comparison, compatible with the domain of the function provided for *mesmo* in (36). But a more in-depth investigation of all the issues raised

in this subsection need further reflection; particularly, this proposal for explicit comparatives must be confronted with other approaches, such as Alrenga (2010)'s, among others. This, however, will be left for future work.

Conclusions

In this work I discussed semantic and syntactic properties of the word *mesmo* in (Brazilian) Portuguese, when it has an anaphoric function. I tried to explain their position in the structure of the DP and its non-co-occurrence with the pre-nominal possessives – which means, according to the proposal, that they occupy the same (final) position in the DP. I then defended the existence of a position within the DP that is occupied by “pronominal adjectives” – and that anaphoric *mesmo* is a type of pronominal adjective, just like possessive pronouns.

In the sequence, I proposed a semantic definition for anaphoric *mesmo* which, in some respects, is similar to the (simplified) definition of possessives and includes a pronominal part. Compositionally, we arrive at the desired result: that the DP (which is necessarily definite) that includes *mesmo* refers to an entity that is the topic of the discourse or to an entity that was mentioned in the previous discourse. Finally, I make an incipient attempt to explore the reasoning developed for the semantic definition of anaphoric *mesmo* in situations where there is an explicit term of comparison, as we see in the examples (36) and (40) of the previous section.

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