

Licensing Definite Determiners*

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Introduction

The presence of a definite determiner on a direct object will normally cause the VP to be interpreted as terminative or bounded if the verb is eventive. In this paper, I discuss a set of cases in which, despite the presence of a definite determiner on the direct object, the VP can be interpreted as durative. I will call this phenomenon DETERMINER TRANSPARENCY (DT), since, for the purposes of calculating aspect, the determiner acts as though it is not there. One of these constructions is the relative clauses (RC) and (1) and (2) exemplify the phenomenon:

- (1) a. Pedro matou coelhos \surd por muitos anos/ #em duas horas.
Pedro killed rabbits \surd for many years/ #in two hours.
- b. Pedro matou o coelho #por muitos anos/ \surd em uma hora.¹
Pedro killed the rabbit #for many years/ \surd in one hour.
- c. Pedro matou os coelhos #por muitos anos/ \surd em duas horas.
Pedro killed the rabbits #for many years/ \surd in two hours.
- (2) a. Pedro [matou [o coelho que comia suas plantas]] #por 3 anos/ \surd em uma hora.
Pedro killed the rabbit that ate his plants #for 3 years/ \surd in one hour
- b. Pedro[matou [os coelhos que comiam suas plantas]] \surd por 3 anos/ \surd em uma hora
Pedro killed the rabbits that ate his plants \surd for many years/ \surd in one hour

In Brazilian Portuguese, as in English, bare plurals in object position of eventive verbs (1a) force durative readings, as the acceptability of the adverbial *for many years* demonstrates. A definite determiner, on the other hand, will force a terminative reading in (1b) and (1c). In (2a) we have a definite singular modified by a RC and again we have a terminative reading as the adverbial, taken here to be modifying the matrix VP, shows. However, in (2b), a durative reading is possible. The same effects will be found with demonstratives, and with certain types of adjectives, namely, if the nominal head is plural (as shown in (3) and (4)), a durative reading is possible, despite the presence of the definite determiner.

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¹ Hans-Martin Gaertner has pointed out to me that, in certain contexts, (1b) can have a durative reading. For example, imagine a situation in which for many years Pedro received a rabbit for his birthday from his friends. And every year he killed it and made a nice dinner. In this case (1b) is acceptable with a durative reading. In this paper I will not be concerned with the definite dependent reading. Under the durative reading of (1b), the definite has been quantified over.

- (3) a. O Pedro dirigiu aquele filme #por 3 anos²
#Peter directed that movie for 3 years
- b. O Pedro dirigiu aqueles filmes por 3 anos
Peter directed those movies for 3 years/ in two hours
- (4) a. Maria escreveu o artigo errado por 3 anos/? em dois meses.
Maria wrote the wrong article #for years/ ?in two months.
- b. Maria escreveu os artigos errados por 3 anos/? em dois meses.
Maria wrote the wrong books for years/ ?in two months.

Two questions arise: what accounts for the aspectual readings, both the terminative and durative readings with plurals in RCs, demonstratives, and certain adjectives, and the non ambiguity with count singulars? (ii) under what conditions does DT obtain in Portuguese and English?

I will link DT to the ability of the determiner to take something other than the head noun as its complement. The analysis provided will constitute independent motivation for the lack of constituency between the determiner and the head noun and will provide an argument for the idea that the interpretation of aspect depends partially on the internal syntax of complements. In section 1 I outline my assumptions and my proposal for the VP aspect calculus. In section 2 I provide a unified structure for cases of DT and I answer various questions it raises.

1 Basics of VP Aspect Calculus

First, I assume that aspect is compositional: terminative readings are dependent on both verbal and nominal properties. Thus, the minimum necessary to calculate the VP aspect is information about the verb and its object. On this point, there is consensus in the semantics literature (see Verkuyl 1993 and ref. there). A summary of the possibilities of VP aspect interpretation is given in (5), although I will only deal with cases like (5a) and (5b):

- (5) a. the verb is eventive³ and the object has its cardinality specified
write the book, run a mile (Terminative)
- b. the verb is eventive and the object has its cardinality unspecified
write books, write junkmail, run (Durative)
- c. the verb is non-eventive and the object has its cardinality specified
know a language (Durative)
- d. the verb is non-eventive and the object has its cardinality unspecified
know French (Durative)

The summary above shows that durative is the default case, since only if the verb and the object have certain properties a terminative reading will arise.

Note that it is always possible to bound a durative predicate by adding an external boundary, but in order to unbound a terminative predicate we need to force iteration. For example, in *John played the sonata for two years*, we need as many playings of the sonata as will fill the time specified by *for two years*. On the other hand, *John played*

² I will mark with # the stretched readings and the iterative readings of terminative predicates modified by *for x time* adverbials.

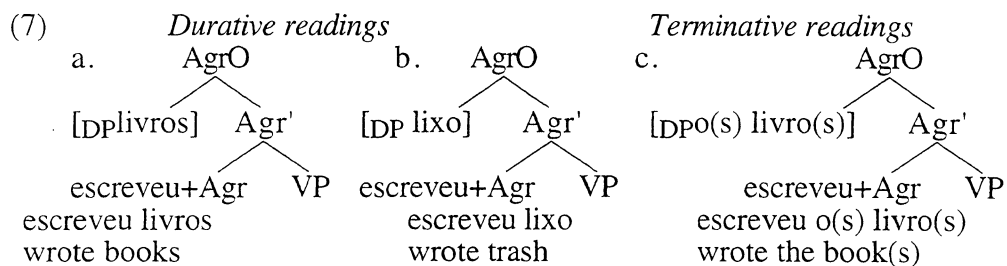
³ I am simplifying slightly here. It is necessary to separate two classes of eventive verbs: those that are sensitive to the cardinality of the object and those that are not sensitive to the cardinality of the object such as *push*, since *John pushed a cart for 3 hours* is perfectly acceptable. I will be only concerned here with the former group. For a semantic account of the distinction between the two groups, see Verkuyl 1993.

sonatas for two hours is bounded by the adverbial and not by the object. In this case, however, iteration is not forced.

The second assumption is that aspect itself is a semantic property, but aspectual interpretations are dependent on syntactic configurations. Based on independent evidence from Finnish, Polish, Czech and Spanish (see Schmitt 1996), I have shown that the syntax provides a position where the verb can 'see' the quantity information of the object. I will assume this position to be universally the checking domain of the verb and object (in Chomsky's 1993 terms, AgrO). Given that terminative aspect is dependent on a quantized object, and this information is only visible in the checking domain of the verb, my proposal is the following:

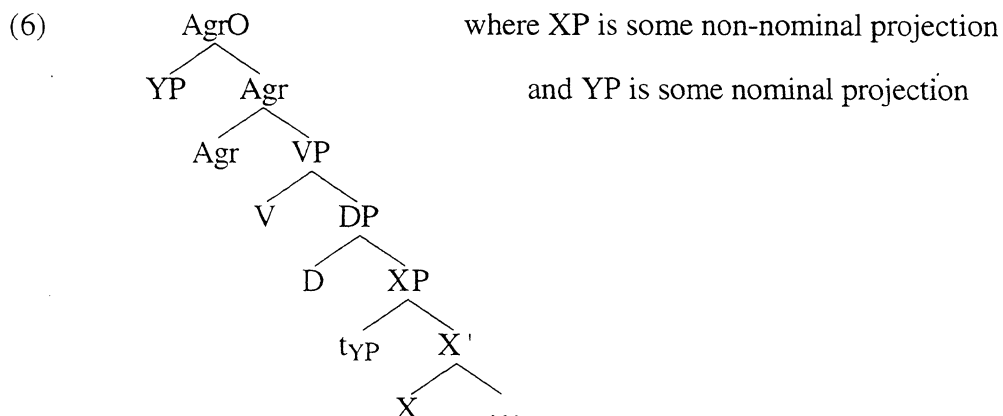
- (6) Interpret VP as terminative (bounded) iff AgrO contains an eventive verb and a nominal element with its quantity specified. Otherwise it is durative.

Basic examples for how (6) works are given in (7).



2 The Syntax of DT

Now we can go back to the cases in (2) to (4). In (2b), for example, a durative reading is possible. If the proposal above is correct, we cannot have a definite determiner at AgrO by the time aspect is calculated. Instead, we interpret (2b) as if we had a bare plural at AgrO. The configuration we need in order for the definite determiner to be invisible for aspect calculus is one in which the DP as a whole does not raise to AgrO but the nominal element inside it does. The nominal element must move to AgrO, otherwise we could not distinguish the plural from the singular cases. The basic structure for determiner transparency (which will be essentially the same for (3) and (4)) is given in (8). The definite determiner takes some XP as its complement and the nominal part of the construction moves through Spec XP to AgrO to check its case.



I will adopt the structure in (8) to account for DT effects and I will answer the following questions: (i) why does only YP and not the whole DP raise to check case?

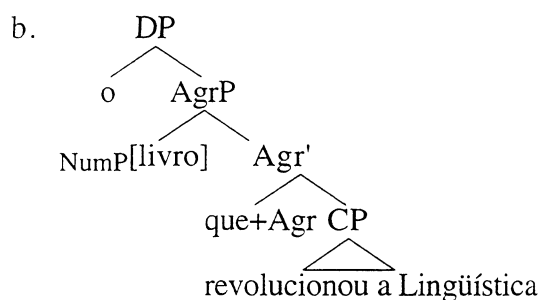
- (ii) what can XP be? (iii) can any kind of modification instantiate the structure above?
 (iv) what is the category of YP, i.e. is it a bare NP, or does it have more structure?

2.1 Why only YP and not the whole DP raises to check case.

The analysis of RCs proposed by Vergnaud (1974, 1985) based on Kuroda (1968) and more recently Kayne (1994) independently motivates a structure in which the determiner takes the CP and not the head noun as its complement. Kayne assumes with Vergnaud that the head of the RC is in fact part of the operator of the RC that raises out of a wh-phrase to its own specifier.

It is a well known fact, however, that the RC operator does not necessarily takes the same case as the head of the RC. I will take that as evidence that the raising analysis is not quite correct but I will accept from Vergnaud and Kayne the arguments for the proposal that it is the CP that is the complement of the definite determiner.⁴ If we are to preserve Kayne's anti-symmetry hypothesis, then we need an Agr projection, the spec of which in which spec the head of the RC is generated, as illustrated in (9).

(9) a. [DP o [AgrP [livro] NumP [Agr' [CP que revolucionou a Linguística]]]]



For the moment I will leave unmotivated the assumption that the head of the restrictive relative is a NumP but will return to it in 4.3. In order to enter a spec-head agreement with the head of the RC, the C will raise to Agr to check features and the complex C+ Agr will then move at LF to D (a movement I will motivate in the next section).

This proposal makes the D part of the extended projection of the C and will allow us to understand why only the NumP raises to check its case and not the whole DP. Clauses do not need to have their Case checked. Thus the extended projection of the RC does not need to move and therefore will not move (although the D may carry the morpho-phonological case from the head noun which will agree with the NumP, but not abstract Case features that are uninterpretable).

The NumP, on the other hand, has Case and needs to check it. Therefore it will raise from the spec of Agr to the spec of AgrO. The net result is that depending on what we have in the head of the RC, a different aspectual reading will obtain, as illustrated in (10). After the covert raising of the NumP⁵ the configurations that obtain are like the ones given in (7) and the aspectual interpretations will follow from (6):

⁴ Reconstruction data also provides evidence against the raising analysis. See Munn 1994 and Schmitt 1996 for discussion.

⁵ One might ask why this movement is not overt. My assumption here is that overt movement to AgrO is triggered by the need to check D properties and not necessarily Case. Thus, NumPs will never move alone in scrambling situations. In subject position, however, we can see the movement of the whole relative clause, since the EPP forces a D element to move to AgrS.

- (10) a. Chomsky [escreveu o livro que revolucionou a Lingüística] # por 3 anos
 [AgrO [NumP (sg) livro]_i [Agr escreveu [vp ... t_i que revolucionou a Lingüística]]]
 'Chomsky wrote the book that revolucionized Linguistics #for 3 years.'
- b. Chomsky [escreveu [os dois livros que revolucionaram a Lingüística]]
 #por 3 anos
 [AgrO [NumP dois livros]_i [Agr escreveu [vp ... os t_i que revolucionaram a...]]]
 Chomsky wrote the two books that revolucionized Linguistics # for three years
- c. Chomsky [escreveu os livros que revolucionaram a Lingüística] por 3 anos
 [AgrO [NumP livros]_i [Agr escreveu [vp ... t_i que revolucionou a Lingüística]]]
 Chomsky wrote the books that revolucionized Linguistics for 3 years
- d. João [escreveu [o lixo que foi ignorado]]por 3 anos
 [AgrO [NumPlixo]_i [Agr escreveu [vp ... que t_i foi ignorado]]]
 João wrote the books that were ignored for 3 years

If NumP is a singular count noun (one book), the result is a terminative reading as exemplified in (10a). If the NumP is a plural with its quantity specified (10b), then the result is terminative. If the NumP is the plural noun (10c) or if the NumP is a mass noun (10d), a durative reading will obtain. The analysis then gives an account for the distinction between definite relatives with plural and with singular count nouns as heads. Only the former have no information about the quantity of the object.

Although I have focused on the durative readings of plural RCs, terminative readings are also possible, since (2b) can be modified by adverbials like *in X time*.

The terminative readings are to be expected if, in some cases, the RC left behind can act as an external boundary allowing terminative readings of the matrix VP, just like certain adverbials can create external boundaries. *For x time* adverbials, for example, provide an external boundary for a VP that is durative.

Since durative readings are the default, we can see that the terminative readings of the matrix VP are derived from the internal properties of the RCs. Verbs and aspectual choices within the RC play an important role. For example, the choice of the perfective in (11a) as opposed to the imperfective in (11b) within the RCs, makes durative readings harder to obtain, although not impossible.

- (11) a. O Pedro [rasgou [os anúncios que a Maria colocou no jornal]] ?por 3 anos
 The Pedro [tore [the ads that the Maria put-perf in the newspaper]] for 3 years
 Pedro tore up the ads that Maria put in the newspaper for three years
- b. O Pedro [rasgou [os anúncios que a Maria colocava no jornal]] por 3 anos
 The Pedro [tore [the ads that the Maria put-IMP in the newspaper]] for 3 years
 Pedro tore up the ads that Maria used put in the newspaper for three years

To treat the terminative readings of plurals with definite RCs as the result of using the RC as an external boundary is not an ad hoc explanation for the facts. It follows from the assumption that durative readings are the default. They can always be externally bounded. If we were to propose that the terminative reading in (11a) is the basic reading, as opposed to the durative readings created by the movement of *anúncios*

'ads' to AgrO, we would encounter a problem. Recall that adding a durational adverbial to a terminative predicate yields an iterative reading, but in (2b) or (11b) this is not the reading we obtain.

In sum: durative readings of RCs with plural heads are the result of the fact that a NumP with no cardinality information raises to AgrO. Terminative readings with the same plurals are the result of using the RC as an external boundary.

2.2 What can be the complement of a definite determiner

First it should be noted that not all nouns can appear as complements of a definite determiner. The examples in (12) illustrate this point and form the core of the arguments for RCs as complements of definite determiners. While a definite with certain idioms is impossible, a definite with a RC is perfectly possible. (a) and (b) give an example from Portuguese and (c) and (d) from English. (13) shows a similar effect with measure phrases.

- (12) a. João fez corpo-mole.
João made body-soft.
'João pretended he was not there to participate in something.'
- b. João fez *o corpo-mole / \surd o corpo-mole que sempre fez
João made the body-soft / the body-soft that he always made
- c. John made headway
- d. John made *the headway / \surd the headway we expected
- (13) a. A Maria pesa quarenta e cinco quilos.
The Maria weighs forty-five kilos.
- b. A Maria pesa *os quarenta e cinco quilos / os quarenta e cinco quilos que a Susana adoraria pesar.
The Maria weighs *the forty-five kilos / the forty-five kilos Susana would love to weigh.

The conclusion we can draw is that not all noun phrases can be complements of definite determiners. The data above also clearly implicate 'referentiality' as a requirement on licensing the definite determiner. Idioms and measure phrases are commonly taken to be non-referential, and consequently, they do not license a definite determiner as the (b) examples show.

We can make sense of the above by adopting Higginbotham's (1985) proposal that definite determiners enter a theta-binding relation with their complements. Nouns have an <R> element that will allow the definite and the noun to enter a theta-binding relation. In Minimalist terms we can implement theta binding as the following: theta binding is in fact the obligatory head-movement of a lexical category to incorporate into a functional head of its extended projection.⁶ Thus in a simple DP as *the book*, *book* will move to D and the theta-binding relation will obtain. We can now distinguish the nouns in (12) and (13) from regular nouns in terms of presence or absence of <R>. In the restrictive RCs we have seen that C is able to license a definite determiner. This makes sense, because RCs have their own reference and therefore are able to provide the referential element that is required to license the definite determiner.

At this point we might ask why the NumP in a simple DP below cannot move leaving the determiner stranded and consequently allow a durative reading. The reason is very simple. If the noun does not raise to D, the D features are left unchecked and the result is uninterpretable since at LF there is a definite determiner that has not been theta

⁶ Thus only theta-marking is in fact a relation between a head and its complement. Theta-binding and theta identification are relations in the checking domain of a head.

bound. More generally it is impossible to move an XP whose head is part of an extended projection without carting together all of the extended projection, because there will be always something left behind unchecked. What I am saying implies that it is the N or the C that license the definite determiner and not the other way around. We can consider definite determiners as a marked option in the grammar. They need to be licensed by something that is "referential".⁷

2.3. The wrong and long adjectives: why not every modification on a DP instantiates DT

Consider the following paradigm:

- (14) a. Maria escreveu o artigo errado por 3 anos/? em dois meses.
 Maria wrote the wrong article #for years/? in two months.
- b. Maria escreveu o artigo errado por 3 anos/? em dois meses.
 Maria wrote the wrong books for years/? in two months.
- (15) a. Maria escreveu o artigo comprido por 3 anos/ em dois meses.
 Mary wrote the long article #for 3 years/ in two months.
- b. Maria escreveu os artigos compridos por 3 anos/ em dois meses.
 Mary wrote the difficult books #for years/ in two years

In (14a), where *book* is singular, a durative reading is unavailable. But in (14b), however, a durative reading is available in spite of the definite determiner. It seems then that the adjective is having an effect similar to the effect found with the RCs in the preceding section. This effect is clearly not a mere product of modification since in (15b), in spite of the modification and the plural, a terminative reading of the predicate is again obligatory⁸. The contrast between (14) and (15) show that not all kinds of modifiers allow for DT effects. To account for the differences between the two classes of adjectives I will again use Higginbotham's (1985) proposal, adapted to minimalism, to formalize the distinction. *Errado* 'wrong' will be a head with an <R> which then theta-bind the D, while *comprido* 'long' will be an AP with no <R>, which will not be able to license a D. That 'wrong' has an <R> seems reasonable, since it is highly dependent on context: *the wrong book* is wrong for a certain circumstance in a way that is not true for *long* or *red*.

Besides the aspectual differences, there are two more differences between *long* and *wrong* and their Portuguese counterparts. First, *errado* and *wrong* must be further away from the noun. It is the right most in Portuguese and the left most in English.

- (16) a. o artigo comprido errado
 the-MASC.SG article-MASC.SG long.MASC.SG wrong.MASC.SG
- b. *o artigo errado comprido
 the-MASC.SG article-MASC.SG wrong.MASC.SG long.MASC.SG

The second difference is that, while *long* can appear in predicative constructions, *wrong* cannot with the intended reading, as in (17a, b) respectively. The only possible reading is that there is something wrong with the article; thus its acceptability with *estar*, the aspectual copula in Portuguese (and Spanish), illustrated in (17c) (see Schmitt 1992; 1996). With the intended meaning the only way *errado* 'wrong' can appear in

⁷ The conditions to license the definite determiner will be refined below.

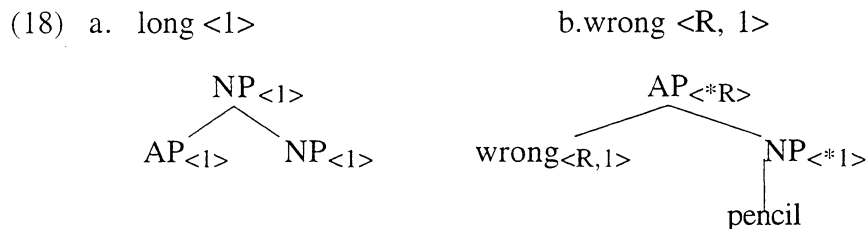
⁸ If the adjective is used with contrastive focus, a durative reading is possible. Matters of focus are outside the scope of this paper, but it is likely that contrastively focused adjectives have a different syntax.

predicative position is if it is preceded by a definite determiner and, in English, a complement *one*, and in Brazilian Portuguese a null complement, as illustrated in (17d).

- (17) a. o artigo é comprido
the article is long
- b. #o artigo é errado
the article is wrong
- c. o artigo está errado
the article is wrong
- d. este artigo é o errado
this article is the wrong (one)

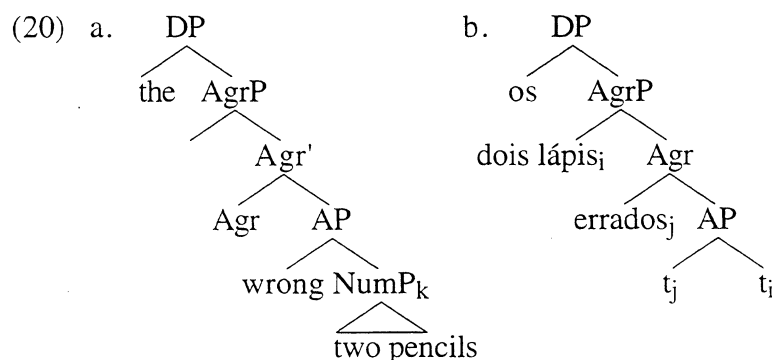
The distinction among the two types of adjectives is on a par with Higginbotham's distinction between theta marking adjectives and adjectives that enter a theta identification with the nouns they modify.

Following Higginbotham (1985), it is possible to say that while *comprido* 'long' is adjoined to NP and enters a theta identification relation with the noun, as illustrated below, *errado* 'wrong' takes the noun as its complement and theta marks it. This will be almost all we need to establish the difference between the two types of adjectives. While the definite determiner is going to be part of the extended projection of the Determiner in (18a), this is not the case in (18b); such a possibility will allow us to obtain, in the second case, but not in the first, a configuration that is similar to the one proposed for relative clauses.



We can safely assume that the complement of *wrong* is a NumP given the following examples from English. For English the full structure of *the wrong two blue pencils* is illustrated in (20a) and for Portuguese is illustrated in (20b) at Spell-Out.

- (19) a. the wrong two journals
b. the wrong three old journals



The only difference is that movement to the specifier of the Agr is overt in Brazilian Portuguese but not in English, so that the right word-order will obtain.

- (21) *as erradas duas revistas/ as duas revistas erradas
the wrong two journals/ the two journals wrong

At LF *wrong* will incorporate into the definite determiner and will enter a theta binding relation with the definite determiner. Now, being part of the extended projection of an adjective, the D+adjective will not need to check Case features. The NumP argument of *wrong* moves to check its case at AgrO. If the NumP is singular or if the NumP is plural with its quantity specified, only terminative readings will obtain. If the NumP is a bare plural or mass noun, the result is a durative predicate. In the latter case, *wrong* can only serve an external bound and force a terminative reading, if used in a contrastive form, in which case a discourse boundary can be provided for the sentence as illustrated below.

- (22) a. O João tocou a sonata errada por 3 anos (only iterative reading)
The João played the wrong sonata for 3 years
- b. O João tocou as sonatas erradas por 3 anos
The João played the wrong sonatas for 3 years
- c. O João tocou as duas sonatas erradas por 3 anos (only iterative reading)
The João played the wrong two sonatas for 3 years
- d. O João tocou a música errada por 3 anos
John played the wrong music for 3 years

Summarizing, the analysis I have presented here for the adjectives like *wrong* as opposed to *difficult*, *long*, etc. distinguishes the two classes of adjectives in terms of their theta properties. While the former theta marks a complement and can license a definite determiner, the latter are just modifiers.

2.4 Demonstratives

Based on the discussion above, we now extend the analysis to demonstratives, as in (23):

- (23) a. O Pedro dirigiu aquele filme #por 3 anos
#Peter directed that movie for 3 years
- b. O Pedro dirigiu aqueles filmes por 3 anos/ em 3 anos
Peter directed those movies for 3 years/ in 3 years
- c. O Pedro dirigiu aqueles dois filmes #por 3 anos/ em dois anos
Peter directed those two movies #for 3 years/ in 2 years.
- d. O Pedro dirigiu aquele lixo por 3 anos/ em 2 anos.
Peter directed that junk for 3 years/ in 2 years.

While (23a) allows only terminative readings, the plural with demonstratives allow durative and terminative readings (23b). Again, if the cardinality of the plural is specified (23c), the only possible reading is a terminative reading. Yet again if the noun is mass, as in (23d), a durative reading will be available.

Since demonstratives show DT effects, then demonstratives must also have an element with an <R>, which will allow the definite determiner to be bound and free the NumP to check Case on its own. There are some reasons to believe that to be the case.

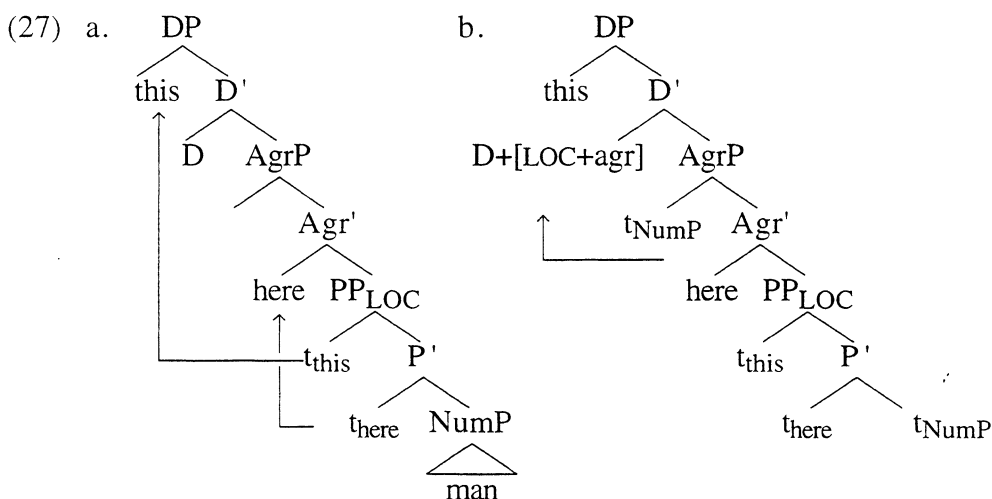
Bennett (1978) argues that when we say *this house*, we are actually saying *the house here* and *that house* is *the house there*. Demonstratives require demonstration, typically a pointing that makes clear which place is intended. However, according to Bennett, only places can actually be demonstrated. *Here* and *there* are then the only true demonstrative pronouns. The noun *house* that accompanies *this house* is not the element that is providing reference for the DP. Rather it is the *here* i.e., the pointing (the demonstratum) that is providing the reference for it. This pointing can be an actual pointing, or it can be made explicit in the discourse by the addition of *here*, as in (24a); and *aqui* in Brazilian Portuguese (24b). Thus in a sense every demonstrative expression has its reference dependent on the context.

- (24) a. This here man (Dialectal)
 b. Esse homem aqui

Also, discourse anaphora will provide a place for the pointing if there is no explicit *here*. Evidence for the complementarity between *here* and discourse anaphora comes from the fact that if *here* is present, discourse anaphora is not possible. This observation, due to Tasmowski-De Ryck 1990 for French is illustrated in (25) for English and Brazilian Portuguese. RCs can also provide the place for the pointing. In its restrictive reading, the RC cannot cooccur with *here* as illustrated in (26).

- (25) a. Once upon a time there was *an ogre* that would only eat.... *...#this here ogre* decided to change his diet
 b. Era uma vez um ogre que só comia *...#esse/este ogre aqui* decidiu mudar de dieta.
- (26) a. ?*This here man we talked about (*restrictive reading)
 b. *?Esse homem aqui que nós encontramos

The complementarity between the locative element and the RC and the similarities in aspectual interpretation, suggest that a structure like (27) is probably correct.



In (27) the locative element can be an overt locative element or a null locative anaphoric pronominal element which I will notate for the discussion as LOC. The NumP *man* is generated as a complement of a locative phrase, which theta-marks it. The demonstrative, which I will take to be a DP (i.e. a pronoun) is generated in the specifier of the LOC head and raises then to check its D features with the D head where it will agree in proximity and phi features with the LOC+Agr complex. The structure at Spell-Out for (24a) is given in (27a) and the LF is given in (27b). The LOC head raises overtly at least to Agr and from there to D to license the D features of the demonstrative. The LOC+Agr enters a spec head agreement relation with the NumP, being able then to

check its phi features. At LF the NumP raises to AgrP to have the agreement features on the LOC+Agr complex checked and from there the NumP moves to AgrO to check case, probably through movement a spec AgrDP position. The structure will allow the demonstrative to agree with LOC in terms of proximity and with the NumP in number. The element that raises to AgrO is the NumP. If it is a count singular or a quantized plural, a terminative reading will arise. If it is a mass noun or a (bare) plural NumP, then the result is durative. The structure proposed captures the intuition that the noun phrase is not the demonstratum, since it is the LOC that raises to D and not the noun phrase. It also maintains the analysis of Szabolcsi (1994) and Uriagereka (1988) among others that demonstratives are modifiers in Spec DP, which would account for the lack of extractability out of Demonstrative phrases. Third it captures the agreement facts of demonstratives in English and Portuguese. Moreover it accounts for the parallel behavior of demonstrative phrases, adjectives like *wrong* and RCs with respect to the aspectual interpretations.

2.5 What is YP

The analysis proposed so far groups together bare plurals⁹ and mass nouns in that both force durative readings in DT contexts or by themselves. Singular count nouns and plurals with specified quantities, on the other hand, force terminative readings in both cases. Since in English both mass nouns and plurals can be seen as names of kinds, it is possible to think that this alone would account for the durative readings in the RC, provided we adopt an analysis for relative clauses in which the determiner is not a constituent with the noun.

Under this reasoning, we might expect that in a language where bare singular count nouns (BSCN) can appear by themselves with a kind-like interpretation, singular count nouns as heads of relatives would also allow durative readings.

Brazilian Portuguese is a place to test this hypothesis since it allows bare plurals and BSCNs in argument positions. Bare plurals and BSCNs can, in general, appear in both subject position and object position. BSCNs, just like bare plurals and mass nouns, allow durative readings of the VP predicate, as illustrated in (28).

- (28) Eu escrevi carta por muitos anos
 I wrote letter for many years
 'I wrote letters for many years'

Now consider again the case of RCs, shown in (29):

- (29) Eu escrevi a carta que o Pedro queria #por muitos anos/ em cinco minutos
 I wrote letter that Pedro wanted for many years/ in five minutes

Why do singular count nouns that are heads of RCs, for example, and bare count nouns in argument positions behave differently, but mass nouns and bare plurals behave alike for matters of aspectual interpretation? I will argue that the lack of durative readings in RCs with singular heads will follow from the fact that singular NumPs are interpreted as quantized. It must therefore be the case that a bare noun in an argument position is not a NumP, and I will devote the rest of the section to show that, in fact, argumental bare nouns are best analyzed as DPs with zero determiners that select for NPs rather than NumPs.

Suppose (for the moment without argument) that bare count nouns are either NPs or DPs without number information, and it is the lack of number that allows them to induce durative readings in argument positions. Now consider the following DP basic structure:

⁹ Bare plural is used here to mean plural heads not specified for quantity.

- (30) a. DP[the NumP[[friends_i+Num] NP [t_i]]]
 b. DP[[friends_i+Num]_j +the NumP[[t_j] NP [t_i]]]

The N head raises to the NumP head (30a) and from there the complex head [friends+Num]_{Num} raises to the definite determiner licensing it. However, because head raising is an adjunction process (see Chomsky 1993) what head-raises to D is not strictly N, but a Number projection. Thus, what is actually licensing the definite determiner is a combination of Number+N. It follows from this that N by itself cannot license a definite determiner. Suppose we generalize this to the other cases discussed above, i.e. C, LOC and *wrong* alone cannot license a definite determiner but must bear number features to do so, and in all of those cases it is a complex of a X+Number that is able to license a definite determiner. In the case of the RC, for example, since the C head itself does not bear number features, it must enter a specifier head agreement with a NumP in order to successfully license the definite determiner. This is mediated by the Agr projection above CP in the RC. Raising the NumP to Spec AgrP activates the Nominal features on the Agr, including Number, and the C+Agr that raises to D is therefore able to license the definite determiner.

Now suppose the head of the RC is an NP. As long as the NP does not have number features, it will not activate those features on the Agr and the C+Agr will not be able to license the definite determiner. The same argument will hold if the head of the RC is a DP with no number features. Note that it does *not* follow from this analysis that the head of every RC must be a NumP. Provided no definite determiner is to be licensed, then, in principle, no problem arises because number features are not required. RCs with BSCNs are perfectly acceptable and force a durative reading on the VP predicate when in complement position.

- (31) Eu comprei caderno que estava em liquidação por muitos anos
 I bought notebook that was on sale for many years

In sum, a bare NP with a RC cannot have an overt determiner because that will create a situation where the C+Agr complex lacks number features and only a C+Agr that has checked features against a NumP can license a definite determiner. We cannot have a DP with no Number features as the head of a RC that has an overt determiner for the same reason. Since bare plurals and bare mass nouns can be heads of definite RCs then they must be NumPs. The fact that their quantity is unspecified will produce durative readings.

I have presented an argument that the heads of definite RCs must be NumPs in order to license the definite determiner. In the rest of the section I will provide evidence for treating bare count nouns as DPs without NumPs in Brazilian Portuguese. The similarities between bare nouns, mass nouns and bare plurals in argument position will follow from the lack of overt quantity information.

In previous work (see Schmitt 1996) I have shown that BSCNs are not quantificational and behave in a par with bare plurals in most cases: i.e. they can acquire existential or generic readings depending on the predicates. The ability of bare nouns and bare plurals to behave as names of kinds was dependent on them being DPs with empty Ds.

BSCNs behave differently from bare plurals with respect to cross sentential anaphora. In such cases, a pronoun in either the singular form or the plural form can be anaphoric to the bare noun. Thus they seem to lack number information. Note that this is impossible if a bare plural or a mass noun are the subject, as illustrated in (32c,d):

- (32) a. Tem criança na sala. E elas estão ouvindo.
 There is child in the room. And they are listening.
 b. Tem criança na sala. E ela está ouvindo.
 There is child in the room. And she is listening.

- c. Tem crianças na sala. E elas estão/ *ela está ouvindo.
There is child in the room. And they are/ *she is listening.
- d. Tem leite no refrigerador. E (ele) vai estragar/ *(eles) vão estragar.
There is milk in the fridge. And it will spoil/ *they will spoil

BCSNs could therefore be simply bare NPs. However, the contrast in interpretation between coordinated objects with and without a definite determiner will provide an argument against treating them as such.

- (33) a. Ele encontrou o amigo e parente no aeroporto.
He met the friend and relative at the airport.
- b. Eu encontrei os amigos e parentes no aeroporto.
I met the friends and relatives at the airport.
- c. Eu encontrei amigo e parente no aeroporto.
I met friend and relative at the airport
'I met friends and relatives at the airport.'

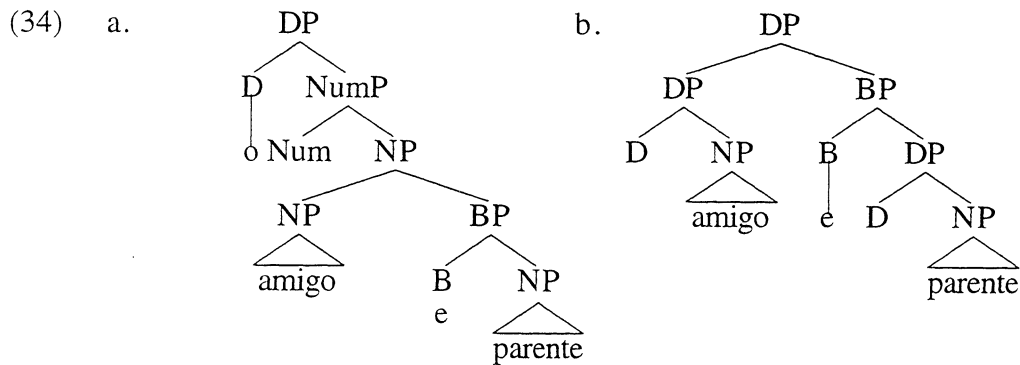
Examples such as (33a) with singular count nouns inside a DP allow an interpretation in which the referent of the NP is the same. *O amigo e parente* in (33a) can be interpreted as meaning the person who was both a friend and a relative. Crucially, this is not possible in the case of bare plurals or mass terms (33b). The fact that conjoined singular count nouns can be interpreted as having identity of reference lends support to the structure of *o amigo e parente* in which NPs are the elements being conjoined.¹⁰

We can now use this fact to show that bare nouns in argument positions are DPs with no NumP rather than simply bare NPs.

Consider (33c). Here it is not necessary that the friend and the relative are the same person. The difference between (33a) and (33c) is the lack of an overt definite determiner.

If bare nouns were simply NPs, we would expect (33c) to force the interpretation where I met those people who were both friends and relatives. Instead we interpret the two noun phrases as names of kinds. This fact provides us with evidence against the hypothesis that bare count are just NPs. However, given that we still interpret (33c) as having one or more friends and one or more relatives at the airport is evidence that we do not have a NumP in those cases. In those cases then we have two DPs being conjoined. The trees below are for (33a) and (33c), respectively:

¹⁰ The fact that the determiner will always agree with the first conjunct follows from the fact that the D governs the first conjunct. I am assuming, that movement out of the first conjunct to license the D in (33a) is possible and does not violate the Coordinate Structure Constraint. See Munn 1993 and this issue for details.



In sum, BCSNs force durative readings because they do not have number information. In definite relative clauses, however, singular count nouns must have number information to license the definite determiner. They will therefore induce terminative readings when they raise to AgrO to get case.

3 Conclusion

In this paper, I have presented a theory of Determiner Transparency that accounts for the aspectual properties of certain types of nominal complements. DT holds whenever an element other than a nominal is the complement of the definite determiner. I showed definite determiners are licensed by a combination of Higginbotham's <R> and Number features, and that elements such as relative clauses, adjectives such as *wrong*, and the locative part of a demonstrative can provide the <R> leaving the nominal element free from the determiner. On the assumption that all nominal elements need Case, the nominal of a DT construction in object position will raise by itself to AgrO. This movement, and the proposal that the VP aspect calculated at AgrO, accounts for the durative readings in DT configurations when the nominal element is a mass noun or unquantized plural.

I have focused on the aspectual implications of determiner transparency configurations, but it should be noted that the same phenomenon arises in secondary predicate configurations:

- (35) a. John painted the car a nice color
 b. *John painted the car the nice color
 c. John painted the car the nice color that his girlfriend liked

Although a regular DP is unacceptable in (35b), a definite with a relative clause is again acceptable. This follows from the fact that in (35c) the NumP [nice color] is free from the definite determiner and can provide the indefinite that seems to be necessary for secondary predication to obtain. Notice that in this case we are not dealing with a distinction between plurals or singulars, so the effect of determiner transparency is more general. In fact in the literature it is common to find footnotes pointing out that a definite otherwise disallowed becomes acceptable if a relative clause is added. If the analysis I am proposing is on the right track, then these sorts of facts may have a much more principled explanation.

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