

What is not there?

Inflectional morphology in ellipsis

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1. Introduction

Some interesting contrasts can be noted in sentences containing VP ellipsis in English, as shown in the examples below (the elided verbs are in square brackets).¹ As can be seen, sometimes complete identity is not required for the licensing of ellipsis, as in (2).

- (1) John will sleep and Mary will too. [sleep]
- (2) John slept and Mary will too. [sleep]
- (3) John will be here and Mary will too. [be here]
- (4) *John was here and Mary will too. [be here]
- (5) *John slept and Mary was too. [sleeping]

The verb *be* seems to be the odd-one-out in these examples, for it requires full identity between the antecedent and the ellipsis for the sentence to be possible. The same contrast can be observed in Brazilian Portuguese.²

- (6) A Maria estudou muito, mas o João não vai. [estudar]
the Maria studied a-lot but the Joao not will study
'Mary studied a lot, but John won't'
- (7) O João vai estar aqui e a Maria também vai. [estar aqui]
the Joao will be here and the Maria also will be here
'John will be here and Mary will too.'
- (8) *O João era famoso e o filho dele também vai. [ser famoso]
the Joao was famous and the son of-his also will be famous
'John was famous and his son will too.'
- (9) *O João esteve aqui e a Maria também vai. [estar aqui]
the Joao was here and the Maria also will be here
'John was here and Mary will too.'
- (10) *O João estudou e a Maria também estava. [estudando]
the Joao studied and the Maria also was studying
'John studied and Mary was too.'

This paper investigates the nature of these contrasts, focusing on the relation between syntax and morphology that can be drawn from them. Other contrasts, involving ellipsis of other categories, will be presented and will lead to the same conclusions.

This paper is based on the theoretical background of the Minimalist Program

¹(1)-(5) were adapted from examples in Lasnik (1999).

² Henceforth, every reference to Portuguese should be understood as Brazilian Portuguese.

(Chomsky 1995, 1999, 2000). I will also show that, in order to account for the data presented in this paper, I have to assume the operation *Agree* (Chomsky 1999, 2000) for the elimination of uninterpretable formal features, rather than *Move F* (Chomsky 1995). I will also show that ellipsis has to be taken as PF deletion instead of LF copying.

2. Ellipsis and anaphoric processes

2.1. Deep and surface anaphora

Hankamer and Sag (1976) classify anaphoric processes in two categories: *deep anaphora* and *surface anaphora*. While the latter is derived transformationally, which means it has syntactic content, the former is generated as an empty position or as an expression that refers to the anaphoric content, such as *do so*. Below are listed four tests to differentiate between these two processes.

2.1.1. Linguistic or pragmatic antecedent?

Surface anaphora requires an overt linguistic antecedent, while deep anaphora allows for a purely pragmatic antecedent. The examples below, by Hankamer and Sag (1976:392), illustrate this difference. The symbol # means that the sentence is incompatible with the given context.

(11) [Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop]
Sag: #It's not clear that you'll be able to.

(12) [same context]
Sag: It's not clear that you will be able to do it.

Let us test examples similar to those in (1) and (2) against this criterion.

(13) a. John will pay the bill, but Mary will not. [pay the bill]
b. John paid the bill, but Mary will not. [pay the bill]

Inserting the sentences with ellipses in a pragmatic context without a linguistic antecedent results in the unacceptable (14) and (15) below.

(14) [observing John paying the bill]
Mary will not.

(15) [after John having paid the bill]
Mary will not.

The impossibility of (14) and (15) without a linguistic antecedent reveals that they are both cases of surface anaphora. (16) and (17), on the other hand, are possible in the same context, showing that they are instances of deep anaphora.

(16) [observing John paying the bill]
Mary will not do so.

(17) [after John having paid the bill]
Mary will not do so.

2.1.2. Missing antecedent

This phenomenon, originally described by Grinder and Postal (1971) and Bresnan (1971), is only possible in surface anaphora. This test determines if a null element can contain an antecedent for a pronoun. In (18) below, Hankamer and Sag (1976:403) show that the ellipsis site can contain the antecedent for the pronoun *it* that follows it, showing that the antecedent was still present in the derivation at the moment pronouns are interpreted. Therefore, the ellipsis in (18) is a case of surface anaphora.³

(18) I've never ridden a camel, but Ivan has ~~ridden a camel~~ and he says *it* stank horribly.

In the case of deep anaphora, Hankamer and Sag (1976) note that there is no moment in the derivation in which the antecedent for the pronoun is present. In (19a) and (20a) below, from Hankamer and Sag (1976:412), the pronoun *it* is licensed by the antecedents *her seat* and *a camel*, respectively. In turn, in the examples with ellipses, (19b) and (20b), nothing serves as an antecedent for *it*, and so the sentences are impossible.

(19) a. He said that one of us had to give up his seat, so Sue volunteered to give up her seat, because it was too narrow for her anyway.
b. *He said that one of us had to give up his seat, so Sue volunteered, because it was too narrow for her anyway.

(20) a. I never managed to ride a camel, but Sue succeeded in riding a camel, and it was the two humped variety.
b. *I never managed to ride a camel, but Sue succeeded, and it was the two humped variety.

2.1.3. Strict syntactic parallelism with the antecedent

Hankamer and Sag (1976:413) show that surface anaphora requires strict identity between the antecedent and the anaphora. The contrast in (21) shows that in the case of surface anaphora, (21a), the form *taken* does not license the form *take* in the ellipsis. On the other hand, (21b) and (21c), as instances of deep anaphora, are possible even though there is no full identity between the antecedent and the ellipsis.

³ Hankamer and Sag (1976:404) show that the pronoun *it* in (18) cannot have gotten *a camel* in the first clause as its antecedent, or the sentence in (i) should be possible as well.

(i) *I've never ridden *a camel* but Ivan says *it* stank horribly.

- (21) The oats had to be taken down to the bin.
 a. *so Bill did.
 b. so Bill did it.
 c. so Bill volunteered.

However, the issue of identity must be further specified as to how strict it must be. Problems concerning this matter in Portuguese are raised in 2.2.

2.1.4. Extraction

Depiante (2000:12) points out that the possibility of extraction is a further criterion to differentiate between deep and surface anaphora. According to her, deep anaphora does not allow for extraction from within it, while surface anaphora does. The test is illustrated in (22a) and (22b) below, cases of surface and deep anaphora respectively.

- (22) a. I know which book Mary read and Peter knows which book Sally did.
 b. *I know which book Mary volunteered to read and Peter knows which article Sally volunteered.

In (22a), the second *which book* was extracted from within the ellipsis site, as shown in (23). For this to be possible, there must be syntactic structure in the ellipsis site, from where to extract *which book*.

- (23) ... and Peter knows [which book]_i Sally did read ~~t_i~~.

In (22b), *which article* should have been extracted from the ellipsis following *Sally volunteered*. The fact that the sentence is unacceptable indicates that there is no syntactic content in the ellipsis site to hold the original place from where *which article* was extracted.

2.2. Identity in surface anaphora in Portuguese

The example in (24) is a case of surface anaphora in Portuguese, according to the criteria presented above.

- (24) A Maria pagou a conta, mas o João não vai. [pagar a conta]
 the Maria paid the bill but the Joao not will pay the bill
 'Mary paid the bill, but John won't.'

First of all, like its correspondent in English in (14) and (15), it does not allow for a pragmatic antecedent. The missing antecedent test also classifies (24) as surface anaphora, according to (25).

(25) a. ?O Pedro nunca paga a conta, mas vai pagar a conta dessa vez
the Pedro never pays the bill but will pay the bill of-this time

porque disse que *e/a* não é abusiva.
because said that it not is abusive

'Peter never pays the bill, but he will this time because he said it is not abusive.'

b. *O Pedro nunca paga a conta, mas vai fazer isso dessa vez
the Pedro never pays the bill but will do it of-this time

porque disse que *e/a* não é abusiva.
because said that it not is abusive

'Peter never pays the bill, but he will do it this time because he said it is not abusive.'

The extraction test also confirms that (24) involves surface anaphora, as shown in the contrast in (26).

(26) a. Eu sei qual das contas a Maria pagou e sei também
I know which of-the bills the Maria paid and know also

qual delas o João não vai.
which of-them the Joao not will

'I know which of the bills Mary paid and I also know which of them John won't.'

b. *Eu sei qual das contas a Maria pagou e sei também
I know which of-the bills the Maria paid and know also

qual delas o João não vai fazer isso.
which of-them the Joao not will do it

'I know which of the bills Mary paid and I also know which of them John won't do it.'

Nevertheless, the anaphor in (24) fails the strict parallelism test, i.e., the form that is in the ellipsis site (*pagar*) is not identical to its antecedent (*pagou*), and still, the sentence is possible. Hankamer and Sag (1976: 395) state that "(...) there is evidence (for certain anaphoric processes) that what appears on the surface as a (null) anaphor must **at some stage** have a representation as a syntactically complex segment identical to the antecedent segment" (no highlight in the original text). They assume that the required identity does not need to be in the part of the derivation that is sent to PF, but it can be at some other point in it. Likewise, in the analyses to be presented in the next section, identity does not need to show in PF. In this paper, I show that indeed there is identity between the two forms in cases like (24), which explains why they are possible.

On the other hand, with the verbs corresponding to *be* in Portuguese, *ser* and *estar*, examples similar to (24) are never possible, as shown in (27).

- (27) *O João era famoso, e o filho dele também vai. [ser famoso]
the Joao was famous and the son of-his also will. be famous
'John was famous and his son will too.'

If the hypothesis that (24) is possible because there is identity between the ellipsis and the antecedent is correct, it is necessary to explain why this hypothesis fails to apply in cases involving the verb *be*.

3. Previous Analyses

3.1. Lasnik (1999)

Chomsky (1995: chap. 3) proposes a lexicalist-minimalist approach to verbal morphology, according to which verbs enter the Numeration entirely inflected and check their time and agreement features against the Agr and T heads. Previous analyses proposed that the items in Infl were morphemes that should be attached to the verbs, which would enter the derivation bare, i.e., without affixes (cf. Chomsky 1957, Chomsky 1981 and Pollock 1989, among others). Lasnik (1999:105) joins these two views and proposes a hybrid approach thus formulated:

- (28) Infl is freely an affix or a set of abstract features.
(29) Affixal Infl must merge with a V, a PF process (distinct from head movement) that requires adjacency.

To account for the difference between the behavior of verbs in English and French (studied by Emonds 1978 and Pollock 1989, among others), Lasnik (1999: 105) proposes (30).

- (30) a. The verbs in French are totally inflected in the lexicon.
b. *Have* and *be* are totally inflected in the lexicon.
c. All other verbs in English are bare in the lexicon.

Therefore, Infl in French must be featural, as in English in the case of *be* and *have*. In constructions with main verbs in English, in turn, Infl must be affixal. According to Lasnik, for the derivation to converge, the combination must always be featural Infl with inflected verbs or affixal Infl with a bare verb. If featural Infl occurs with a bare verb, the features of Infl will not be checked, resulting in a crash, since the phonological component (PF) will not be able to interpret these features. Neither will there be convergence if Infl is affixal and the verb is already inflected, for the inflectional features of the verb will not be checked.

Lasnik looks for evidence in favor of his approach in VP ellipses, which he analyzes as instances of deletion. Assuming that the form of a verb V can only be deleted under identity, Lasnik proposes that the deletion of the partially identical constituents in (31) involves in fact total identity, but at a point in the derivation

previous to the merge of the bare stem to the inflectional affix. The examples in (31) to (34) demonstrate this process.

- (31) a. John slept and Mary will too.
b. John -ED sleep and Mary will ~~sleep~~ too.
- (32) a. John was sleeping and Mary will too.
b. John was -ING sleep and now Mary will ~~sleep~~.
- (33) a. John has slept and now Mary will ~~sleep~~.
b. John has -EN sleep and now Mary will ~~sleep~~.
- (34) a. *Mary won't leave, but John is.
b. *Mary will not leave, but John is -ING ~~leave~~.

(31) shows *sleep* being erased in the elliptic site before the verb *sleep* in the previous clause receives the affix *-ed*. (32) and (33) exemplify the same phenomenon. The impossibility of (34) can be explained by the Stranded Affix Filter, proposed by Lasnik (1981) and transcribed below.

- (35) A morphologically realized affix must be syntactically dependent on a morphologically realized category, in surface structure.

The deletion of *leave* in (34) leaves *-ing* stranded, and therefore the sentence is not possible⁴.

3.2. Oku (1998)

According to Oku (1998), ellipsis must obey some condition of recoverability / identity in LF. This means that the ellipsis site must be reconstructed in LF for it to be interpreted. Based on the covert feature movement of Chomsky (1995), he proposes the principle in (36).

- (36) *Subset Copy Principle*
LF Copy can copy a subset of the features of the antecedent in order to reconstruct the content of the ellipsis site.

Oku's proposal accounts for the facts in (37) and also for the impossibility of the sentence in (38).

- (37) John slept and Mary will too.
John [sleep + past] and Mary will [sleep] too.

⁴ However, the sentence in (i), which also has a stranded affix, is possible.

- (i) a. Mary will leave, and John already has.
b. Mary will leave and John already has EN ~~leave~~.

Lasnik gives no definitive explanation for this fact, attributing it to possible idiosyncratic morphophonological properties of the affix *-en* (cf. Lasnik 1999: 110).

- (38) *Mary won't leave, but John is.
 *Mary won't [leave], but John is [leave + ing].

In (37), *sleep*, which is a subset of [*sleep + past*], is copied from the first clause and reconstructed in LF in the second clause. As for (38), this is not possible because in the second clause it would be necessary to add the affix *-ing*, which is not part of the set in the first clause, made up of only *leave*.

3.3. Problems for both analyses

According to Lasnik (1999:105), the fact that French has featural Infl is related to the inexistence of bare forms in this language, since even the infinitive has an ending. As infinitives in Portuguese are not bare forms either, it would follow from Lasnik's analysis that this language should have featural Infl and have its verbs fully inflected in the lexicon. Another characteristic that classifies Portuguese as having featural Infl is the existence of verb movement in this language. If Infl were affixal, there would be no need for the verb to move.⁵ What follows is that Lasnik's analysis predicts that languages that have featural Infl, like French, should not allow for VP ellipsis. This is true about French, even when there is identity between the elided form and its antecedent, as shown in (39a), from Lightfoot (2002:14).

- (39) a. ?*Jean peut visiter Pierre et Marie peut aussi.
 Jean can visit Pierre and Marie can too
 'John can visit Peter and Mary can too.'
- b. *Jean peut visiter Pierre et Marie visite aussi.
 Jean can visit Pierre and Marie visits too
 'John can visit Peter and Mary visits too.'

However, Portuguese allows for VP ellipsis. Besides, in a sentence like (40), there is no identity between the VP of the first clause and the one that was deleted in the second clause. Thus, according to Lasnik's analysis, (40) should be ungrammatical, but it is not.

- (40) O João dormiu e a Maria também vai. [dormir]
 the Joao slept and the Maria also will sleep
 'John slept and Mary will too.'

⁵ The behavior of verbs in Brazilian Portuguese brings some difficulties as to their study. The position of adverbs, which is usually an important tool to determine if there is verb movement, presents several possibilities, as can be seen in (i) (from Figueiredo Silva 1996: 48), for example, which makes it difficult to determine where these adverbs are in relation to the main verbs.

- (i) a. O João dificilmente lê os jornais.
 a'. O João lê dificilmente os jornais.
 b. O João sempre lê os jornais.
 b'. O João lê sempre os jornais.

Figueiredo Silva (1996) claims that the verbs in Brazilian Portuguese raise to a higher position in the structure in relation to the verbs in English, for example. Being this the usual analysis for French, it would be possible to say conversely that the verbs in Brazilian Portuguese behave like the ones in French in Lasnik's proposal, i.e., they have featural Infl and the verbs are fully inflected in the lexicon.

Oku's proposal presupposes that the infinitive form of the verb is its bare form, which is not so evident, especially in languages like Portuguese, in which there is a suffix for the infinitive (-r) and even an inflected form of infinitive. This suffix would presumably not be present in the bare form of the verb, which means that the Subset Copy Principle is inadequate to account for the example in (40), which is possible in spite of the sets in both clauses being different, as shown in (41).

(41) O João [*dorm-* + past + 3p.sg.] e a Maria também vai [*dorm-* + infinitive]

The reconstructed set, [*dorm-* + infinitive], is not a subset of what should have been copied, i.e., [*dormir* + past + 3p.sg.], which would lead to the wrong prediction that the sentence is ungrammatical.

Oku does not mention agreement, which leaves unexplained examples as the ones in (42), which seemingly contradict the Subset Copy Principle.

(42) a. Ele sempre comprava aqui, mas nós não. [comprávamos]
 He always buy+past+3p.sg. here but we not buy+past+1p.pl.
 'He always used to buy here, but not us.'

b. Eles nunca fariam isso e nem nós. [faríamos]
 They never would-do+3p.pl. this and neither we would-do+1p.pl.
 'They would never do this, and neither would we.'

In these examples, the element reconstructed in LF would have an agreement feature that is not present in the copied subset.

The examples in (42) are also problematic for Lasnik's analysis. If, as in French, Brazilian Portuguese has its verbs inflected in the lexicon, there is no point in the derivation in which there is identity between the realized and the elided verb in these examples, which would render them ungrammatical.

The examples from (43) to (46) below also bring problems to both analyses.

(43) a. Meu irmão fede, mas eu não.
 My brother stinks but I not
 'My brother stinks, but I don't.'

b. *Eu não fedo.
 I not stink
 'I don't stink.'

(44) a. Eu me adequava a qualquer situação antes, mas agora não.
 I me adapted to any situation before but now not
 'I used to adapt to any situation, but not nowadays.'

b. *Eu não me adequo.
 I not me adapt
 'I don't adapt.'

(45) a. Eu abolia muitas regras antes, mas agora não.
 I abolished many rules before but now not
 'I used to abolish many rules, but not nowadays.'

b. *Agora não abolo.
Now not abolish
'Now I don't abolish.'

(46) a. Nós sempre reavemos o que perdemos, mas você não.
we always recuperate the what lose but you not
'We always recuperate what we lose, but you don't.'

b. *Você não reave.
you not recuperate
'You don't recuperate.'

In spite of being considered ill formed in Portuguese, as shown in (43)b)-(46b), the forms *fedo*, *adequo*, *abolo*, and *reave* can appear in ellipses. This is problematic for Oku's analysis, since in (45), for example, the sets [*abol-* + *past* + *1p.sg.*] and [*abol-* + *present* + *1p.sg.*] are different. In Lasnik's analysis, which involves deletion under identity, the forms *fedo*, *adequo*, *abolo*, and *reave* should be in the sentences for later deletion. Nonetheless, as shown in (43) to (46), such forms are not accepted in Portuguese.

The examples in (40) to (46) above are all examples of surface anaphora. First of all, none of them takes a pragmatic antecedent, as the tests in (47) and (48) show for the examples in (40) and (43), respectively. Therefore, they have syntactic content.

(47) [observing Joao sleeping]
A Maria também vai.
the Maria too will
'Mary will too.'

(48) [expressing disgust at a bad smell and pointing to his brother]
Mas eu não.
but I not
'But I don't.'

In short, neither analysis accounts entirely for the existence of some forms in Brazilian Portuguese.

4. The proposal

For Chomsky (1999), uninterpretable formal features enter the derivation non-valued. *Agree* is the operation that takes place between a probe and a goal and sets values to the uninterpretable features of the goal. *Agree* has two functions: set values to uninterpretable features, for PF effects, and eliminate these features in terms of LF. Eliminating uninterpretable features will only be relevant for LF, since only interpretable features, legible to LF, should reach this level. In turn, setting values to these uninterpretable features will only be relevant for PF, more precisely to morphology, since these values can have phonetic or morphological effects.

What happens is that (53a) actually enters the derivation with its verbs forms as in (54).

(54) [_{TP} [T+past] [_{VP} eu[1p.sg.] [_{VP} [abol- + affT + affAgr] muitas regras]]] mas agora
 [_{TP} [T+pres.] não [_{VP} pro[1p.sg.] [_{VP} [abol- + affT + affAgr] muitas regras]]]

A probe-goal relation will be established between T and *affT* in order to eliminate the uninterpretable tense features of the verbs and set the tense value as past for the first conjunct and present for the second one. Furthermore, a probe-goal relation will also be established between the subject *eu* or *pro* and the verb, eliminating uninterpretable agreement features in the verb and setting the agreement values as first person singular. What is sent to PF, then, is two identical verb forms made of the root *abol-* plus tense and agreement affixes. Since there is identity, the VP in the ellipsis site can be deleted. Finally, morphology will turn [*abol-* + past + 1p.sg.] into *abolia*. Since the VP in the ellipsis site has been deleted, there will be no need for morphology to insert any form into [*abol-* + present + 1p.sg.]. This is the expected outcome, because a morphological form correspondent to *abolo*, which is impossible in Portuguese, need not exist. As a result, the sentence in (53a) is possible.

In the next sections, I will present additional evidence for the analysis proposed here. I will also show why the data presented cannot be analyzed in terms of *Move F* or reconstruction in LF.

5. Additional evidence

5.1. Gender and number in adjectives

The hypothesis presented above for the possibility of licensing VP ellipsis when the verb forms of the ellipsis and its antecedent were apparently not identical can also explain why there can be differences in gender in adjectives in the ellipsis and its antecedent, as shown in (55).

(55) O João é bonito e a Maria também é. [bonita]
 the Joao is beautiful+masc and the Maria also is beautiful+fem
 'John is beautiful and Mary is too.'

What licenses the ellipsis in spite of the difference in gender is the fact that the adjective is actually composed of a root (*bonit-*) plus non-valued gender affixes, which receive their masculine or feminine value under *Agree*.

The same is true about number features. Differences in number between the antecedent and the ellipsis site result in acceptable sentences in Portuguese, as shown in (56).

(56) a. Aquele menino é bonito
 that boy is beautiful+masc+sg.

e aqueles rapazes também são. [bonitos]
 and those guys also are beautiful+masc+pl.

'That boy is beautiful and those guys are too.'

As in (55), both forms of the adjective are actually the root *bonit-* plus non-valued gender and number affixes, which get their value through *Agree*.

5.2. Case in parasitic gaps and ATB constructions in Polish⁶

Bondaruk (forthcoming), following Dyla (1984), shows that in parasitic gaps and ATB constructions in Polish, there should be identity of Case in both gaps. (57) has a difference in case that renders both sentences unacceptable.

(57) a.* Komu wysłałeś list *t* zanim spotkałeś *e* na ulicy?
 who you-sent letter DAT before you-met ACC in street
 'Who did you send a letter to before you met in the street?'

b. * Komu najpierw wysłałeś list⁰ a potem spotkałeś *t* na ulicy?
 who first you-sent letter DAT and then you-met ACC in street
 'Who did you first send a letter to and then met in the street?'

The same author shows, however, that there are cases in which parasitic gaps and ATB constructions are acceptable even though there is a difference in Case in the gaps, as shown in (58) and (59).

(58) a. Którą książkę obejrzał *t* nie zabierając *e*?
 which book he-looked-through ACC not taking GEN
 'Which book did he look through without taking?'

b. Którą książkę obejrzał *t* a nie zabrał *t*?
 which book he-looked-through ACC but not took GEN
 'Which book did he look through and didn't take?'

(59) a. Którego artykułu Piotr nie odłożył *t* żeby móc
 which paper Peter not put-away GEN so-as to-be-able
 dokładnie przeanalizować *e*?
 thoroughly to-analyse ACC
 'Which paper did Peter not put away so as to be able to analyse thoroughly?'

⁶ I thank Jairo Nunes (p. c.) for calling my attention to this phenomenon.

- b. Którego artykułu Piotr nie odłożył *t* a dokładnie
 which paper Peter not put-away GEN but thoroughly
 przeanalizował *t*?
 analysed ACC
 'Which paper did Peter not put away but analysed thoroughly?'

Bondaruk points out that this difference in Case is only possible with accusative and genitive of negation. She then proposes that in Polish these two Cases are morphological instantiations of the same abstract Case. As in other Slavic languages, in Polish the object of a verb is accusative if the sentence is affirmative and genitive if the sentence is negative.

Considering, according to Chomsky (1999), that Case features enter the derivation with no value, it is possible to say that the same Case becomes accusative or genitive depending on the sentence being affirmative or negative. Upon entering the derivation, then, the gaps in the sentences (58) and (59) have the same abstract Case, which will get its value through *Agree*. Because there is identity, the parasitic gap and ATB constructions can be licensed.

5.3. Morphological Realization of Some Quantifiers

As pointed out by Uriagereka (1994:4), the existential quantifiers *some* and *any* can be phonological realizations of the same existential quantifier used in different contexts. In order to illustrate his hypothesis, he uses the following instance of ellipsis.

- (60) a. John doesn't have any money, but Bill does.
 b. * John doesn't have any money, but Bill does have any money.

What he shows is that in the ellipsis site, the quantifier cannot be interpreted as *any*, thus it must be interpreted as *some*. This is to him evidence that they are the same quantifier with different realizations.

This hypothesis is compatible with the present analysis if we consider that *any* and *some* enter the derivation as the same non-valued existential quantifier that becomes *any* if the sentence is negative or *some* if it is affirmative. Thus, the elements in the ellipsis site and its antecedent are identical and can therefore license the ellipsis. An outline of the sentence upon entering the derivation is in (61), where QUANT stands for an unvalued quantifier.

- (61) John doesn't have [QUANT] money, but Bill does have [QUANT] money.

5.4. Inherently negative expressions

As Uriagereka (1994:4) also points out, idiomatic expressions are not possible in ellipses corresponding to the cases with *some* and *any* shown in (60). Below is his example involving an idiom.

- (62) a. *John doesn't have a red cent, but Bill does.
 b. * John doesn't have a red cent, but Bill does have a red cent.
 c. *John has a red cent.

The same can be noted in other inherently negative expressions in Portuguese and in English, as in the examples below.

- (63) a. *O João não tem um tostão furado, mas a Maria tem.
 the Joao not has a nickel with-a-hole but the Maria has
 'John doesn't have a red cent, but Mary does.'
 b. *O João tem um tostão furado.
 the Joao has a nickel with-a-hole
 'John has a red cent.'
- (64) a. *Rhett doesn't give a damn, but Scarlett does.
 b. *Scarlett gives a damn.

According to Ladusaw (1980:7), a negative polarity expression is only acceptable if it can be interpreted in a downward entailing context. Downward entailment means that replacing a more general element with a more specific one results in a valid inference. For example, conditional sentences are contexts of downward entailment, as shown in (65) and (66), in which the sentences in b are inferences from the ones in a, and # indicates an invalid inference.

- (65) a. If Mary had eaten a green vegetable, she would be feeling better.
 b. If Mary had eaten spinach, she would be feeling better.
- (66) a. If Mary had eaten spinach, she would be feeling better.
 b. # If Mary had eaten a green vegetable, she would be feeling better.

In (65), replacing a more general element (*a green vegetable*) with a more specific one (*spinach*) results in a valid inference, whereas in (66), the opposite is not true. Therefore, conditional sentences are cases of downward entailment.

The sentences in (62)-(64) are all possible in conditional sentences, as shown in (67)-(69).

- (67) John doesn't have a red cent, but if he did ~~have a red cent~~, he would have helped you.
- (68) O João não tem um tostão furado, mas mesmo que ele
 the Joao not has a nickel with-a-hole but even that he
 tivesse um tostão furado, ele não daria gorjeta.
 had a nickel with-a-hole he not would-give tip
 'John doesn't have a red cent, but even if he did ~~have a red cent~~, he wouldn't tip.'

(69) Rhett doesn't give a damn, but if Scarlett did ~~give a damn~~ he might have stayed.

It is now necessary to explain why a sentence like (60) is possible whereas (62) is not. The contrast is reviewed in (70).

(70) a. John doesn't have any money, but Bill does. [have some money]
b. *John doesn't have a red cent, but Bill does. [have a red cent]

The quantifiers *any* and *some* were shown to be different realizations of the same unvalued quantifier, which gets its affirmative or negative value through *Agree* depending on an affirmative or negative context. Inherently negative expressions, on the other hand, enter the derivation with a fixed value. Thus, they are inherently valued as for their morphological value. Therefore, *Agree* will eliminate their uninterpretable negative feature, but will not assign a negative value to them, because they already have that value. As a result, a sentence like (70b) will never be possible.

5.5. Using *Move F* and reconstruction in LF

In this section I will show that it is not possible to account for the data presented in this paper using a framework that assumes *Move F* (Chomsky 1995) to check uninterpretable formal features. I will also show that an analysis that considers ellipsis as cases of reconstruction in LF does not account for the data either.

5.5.1. *Move F* with PF deletion

In order to explain the possibility of ellipsis involving a different element from its antecedent, it is necessary to assume a non-lexicalist hypothesis, i.e., assume that different verb forms do not enter the derivation already inflected, but as a verbal root plus person and tense affixes. This is because a lexicalist approach would imply that different verb forms enter the derivation already inflected, and thus the antecedent and the ellipsis site are never identical.

In a non-lexicalist approach, both the antecedent and the ellipsis site in (71) contain a root plus affixes.

(71) John slept and Mary will too.

What is different from the *Agree* approach is that in a *Move F* framework, affixes enter the derivation with their values already set, and will be checked at LF. An outline of the sentence before LF is in (72).

(72) [_{TP} John [_{VP} [*sleep*+past.+3psg]]] and [_{IP} Mary [_I will [_{VP} [*sleep*+inf.]]]] too

As can be seen in (72), there is identity only in the root; the affixes are different in the antecedent and in the ellipsis site. Even if the root can be deleted under identity, the infinitive affix would be left stranded, violating the Stranded Affix Filter of Lasnik

(1981).

Therefore, it is not possible to account for the sentence in (71) using a *Move F* framework.

5.5.2. Reconstruction in LF

Aoun and Nunes (2002, footnote 6) point out that any analysis presupposing reconstruction in a *vP*-internal subject framework does not explain how the external argument of *vP* is reconstructed. At the moment reconstruction takes place, a sentence like (71) would look like the outline in (73).

(73) [_{TP} John[3p.sg.]] [_T T[past]] [_{VP} John[3p.sg.]] [_{v'} *sleep*- [_{VP} [_v *sleep*+past+3p.sg.]]]] and
[_{TP} Mary[3p.sg.]] [_{TP} will [_{TP} T[inf.]] [_{VP} Mary[3p.sg.] e]]] too

According to Aoun and Nunes, the external argument of the second conjunct must work as external argument of the reconstructed predicate, and it is not obvious how to connect this external argument to the reconstructed *vP*. The authors assume that what is reconstructed is actually *v'*. Nonetheless, as pointed out to me by Jairo Nunes (p. c.), this does not solve the problem in passive sentences, as in (74).

(74) [_{IP} John [_{I'} was [_{VP} John [_{v'} [_{VP} approved [_{DP} John]]]]]] and Mary was too e

In this case, even if what is reconstructed is only *v'*, the DP *John* is part of *v'*, and the sentence would look like (75) after reconstruction, with *John* in object position.

(75) ... and Mary was [_{v'} [_{VP} approved [_{DP} John]]]

In an analysis involving PF deletion, as the one presented in this paper, this problem does not arise, for the copies resulting from movement are deleted before ellipses are licensed. Therefore, the copies do not interfere with identity.

In short, reconstruction in LF creates a technical problem in its implementation that does not arise in a PF-deletion approach.

6. The verb *to be*

6.1. Lightfoot's (2000) analysis

Lightfoot (2000) adopts Lasnik's (1995, 1999) hybrid approach presented in section 3.1, according to which in modern English the verbs *be* and *have* enter the derivation already inflected and check their features against a featural Infl, while main verbs enter bare and get their inflection from an affixal Infl through affix hopping. Lasnik relates the distinction between affixal and featural verbs to whether there is verb movement or not. Lightfoot (2000:13) disagrees with this criterion, because according to him modal elements are featural and are base generated in I, while *be* moves to this position. (76) shows that *be* may not move when it appears together with a modal.

(76) Kim might still be reading that chapter.

To explain why *be* behaves differently from main verbs, Lightfoot proposes that the forms of *be* are stored atomically in the lexicon in modern English. Evidence for this proposal is the fact that different forms of *be* may select different complements, as shown in (77)-(79).

(77) a. Kim was to go to Paris.
b. *Kim will be to go to Paris.

(78) a. Kim has been to Paris.
b. *Kim was to Paris.

(79) a. I regretted Kim reading that chapter.
b. I regretted that Kim was reading that chapter.
c. *I regretted Kim being reading that chapter.

Lightfoot also shows that until the XVIII century, the forms in (77b), (78b) and (79c) were possible in English, as in the examples reproduced in (80).

(80) a. You will be to visit me in prison with a basket of provisions; ... 1814 Jane Austen, *Mansfield Park*, ed. by J. Lucas, Oxford University Press, 1970: 122.
b. I was this morning to buy silk. 1762 Oliver Goldsmith, *Cit W*: 158 (meaning "I went to...", not "I had to...").
c. Two large wax candles were also set on another table, the ladies being going to cards. 1762 Daniel Defoe, *The Political History of the Devil*, Talboys, Oxford: 1840: 336.
d. ...He being now going to end all with the Queene ... 1661 Samuel Pepys, *Diary* II 129.1 (30 June).
e. One day being discoursing with her upon the extremities they suffered ... 1791 Daniel Defoe, *Robinson Crusoe*, vol. 2: 218.

Lightfoot also shows that ellipses with *be* that are not possible nowadays were at that time, as in the examples below.

(81) a. I wish our opinions were the same. But in time they will [sc. be the same]. 1816 Jane Austen, *Emma*, ed. by R. W. Chapman, London: OUP, 1933: 471)
b. And Lady Middleton, is she angry?
I cannot suppose that she should [sc. be angry]. 1811 Jane Austen, *Sense and Sensibility*, ed. by C. Lamont, London: OUP, 1970: 237.
c. I think, added he, all the Charges attending it, and the Trouble you had, were defray'd by my Attorney: I ordered that they should [sc. be defrayed]. 1740-1 Samuel Richardson, *Pamela*, London: 3rd edition 1741, vol. 2: 129.
d. That bettre loved is noon, ne never schal. c1370 Chaucer, *A Complaint to his Lady*, 80.
'So that no one is better loved, or ever shall [sc. be].'

He concludes that at a time in which the forms of *be* were not listed separately in the lexicon, ellipses with *be* worked the same way as ellipses involving main verbs.

Portuguese also has selection restrictions in relation to different forms of the verbs *ser* and *estar*, as shown in the examples below.

- (82) a. O João estava para sair quando a Maria chegou.
the Joao was to leave when the Maria arrived
'John was about to leave when Mary arrived.'
- b. *O João vai estar para sair quando a Maria chegar.
the Joao will be to leave when the Maria arrives
'John will be about to leave when Mary arrives.'
- (83) a. Era para o João fazer isso.
was for the Joao do it
'John was supposed to do it.'
- b. *Tinha sido para o João fazer isso.
had been for the Joao do it
'John had been supposed to do it.'
- c. *Será para o João fazer isso.
will-be for the Joao do it
'John will be supposed to do it.'

As in English, it is possible to assume for Portuguese as well that the different forms of the verbs *ser* and *estar* are stored atomically in the lexicon.

6.2. Stjepanović's (1997) analysis

Stjepanović (1997) shows that in Serbo-Croatian verbs are taken from the lexicon totally inflected and that full identity is not necessary for ellipsis, much like the instances of ellipsis involving main verbs under analysis in this paper.

However, as in English and Portuguese, the verb *biti* ('be') has a different behavior and demands strict morphological identity, as the examples in (84), from Stjepanović (1997) show.

- (84) a. *Marko je danas ovdje, ali sutra n će biti—ovdje.
Marko is today here, but tomorrow won't be_{inf} here
'Marko is here today, but he won't be here tomorrow.'
- b. Marija je dobar student, ali Petar nije.
Marija is good student, but Petar isn't.
'Marija is a good student, but Petar isn't.'

In (84a), the form *je* does not license the ellipsis with the form *biti*. In (84b), both forms are identical, and so ellipsis is possible.

What differs the behavior of *biti* em Serbo-Croatian from *be*, *ser* and *estar* is

that there are forms of *biti* that follow the regular pattern of conjugation of the language. Just like with main verbs, these regular forms can antecede ellipsis of different forms, as in (85), in which a form of *biti* in the imperfective can antecede the ellipsis of an infinitive form.

- (85) Marko beše jutros ovdje, ali sutra n'će.
Marko was_{imperf.} morning here, but tomorrow won't.
'Marko was here this morning, but tomorrow he won't be here.'

Stjepanović (1987) uses Lasnik's (1995, 1999) proposal in the following way: in cases in which verbs do not move overtly, verbs in Serbo-Croatian are taken bare from the lexicon and their inflectional affixes are introduced in the structure as separate lexical items; in cases in which the verbs move overtly, they are taken from the lexicon inflected. However, to Lasnik it is necessary that there be total identity with the antecedent for an ellipsis to be licensed, and this contradicts the cases of *biti* in the present. Stjepanović then adapts Lasnik's ideas and proposes that in Serbo-Croatian, as in English, finite and non-finite forms, except for *biti*, are introduced bare from lexicon and must merge with affixes that have been introduced independently in the structure. Furthermore, according to her, in ellipsis, differences between inflectional affixes introduced from the lexicon independently of their roots can be ignored, but not the lack of identity in the verbs themselves.

The system based on *Agree* proposed in this paper is compatible with Stjepanović's proposal for ellipsis. The differences that can be ignored in her system are actually cases of non-valued affixes that have identity as far as they are composed of a root plus affixes, as shown in section 4. The cases of *biti* with irregular forms, in turn, are compatible with Lightfoot's analysis, whose hypothesis was that the different forms of *be* are stored atomically in the lexicon. In Serbo-Croatian, when the forms of *biti* are regular, ellipses are possible, as with other main verbs.

6.3. The copula in the *Agree*-based proposal

Like the inherently specified expressions shown in 5.4, the forms of *be*, *ser*, *estar*, and the irregular forms of *biti* enter the derivation inherently specified as to their tense and agreement features. Thus, there is no moment in the derivation in which the forms of *be*, *ser*, *estar*, and irregular *biti* are a root plus non-valued tense and agreement affixes.

Although the tense and agreement features of the copula enter the derivation valued as to their morphology, they have uninterpretable (to LF) tense and agreement features. The operation *Agree*, then, eliminates these features, in case there is a match between probe and goal. This can explain why (86) is unacceptable.

- (86) *She am rich.

In this sentence, the agreement features of the goal *am* (first person singular) are not compatible with the ones in the probe *she* (third person singular). There is no probe-goal match, and therefore *Agree* cannot eliminate the uninterpretable features of *am*, causing an LF crash.

7. Final remarks

In this paper, I have shown that ellipsis reveals a link between morphology and syntax. I have used the operation *Agree* of Chomsky (1999, 2000) to propose an analysis that accounts for cases in which ellipsis is licensed even if there is no full identity between the antecedent and the ellipsis site. I have also shown that the data presented cannot be accounted for with an analysis using *Move F* (Chomsky 1995) or reconstruction in LF. PF deletion, then, was the way used to derive sentences containing ellipses.

Finally, I have shown that the copula, in several languages, has forms that are stored atomically in the lexicon, which causes sentences with ellipses containing the verb *be* to behave differently from ellipses involving main verbs.

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