

## On Bias Vehicle Change

### *Syntactic identity and semantic blocking in ellipsis*

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*Abstract:* This paper focus on the nature of the identity condition in ellipsis. Concretely, I explore a new empirical domain dubbed as *Bias Vehicle Change*, i.e., (im)possible mismatches in the biased dimension of antecedents and ellipsis sites. At first glance, Bias Vehicle Change seems to be allowed for certain particular cases of TP-ellipsis but not for NP-ellipsis, at least in Spanish. Assuming a uniform identity condition, this raises an obvious puzzle. A first alternative, it is to give up with any uniform theory of identity and to resort, instead, to truth-conditional identity for TP-ellipsis (as in Merchant 2001) and to lexical/syntactic identity for NP-ellipsis (as in Chomsky 1965 and much subsequent work). I argue that at least for the cases to be discussed here uniformity can be maintained if the identity condition between antecedents and ellipsis sites is entirely resolved in the syntax by a mechanism of [I(dentity)]-Assignment, which assigns an identity feature to a given syntactic object whenever (some sort of) syntactic identity is respected. The neat effect of syntactic identity at the interfaces is blocking vocabulary insertion at PF and semantic realization at LF. Such a theory, supplemented with a deep anaphor ingredient independently needed, accounts for ellipsis resolution at LF and provides a plausible answer to the puzzle involving Bias Vehicle Change. As a *bonus track*, the theory also provides an answer to well-known arguments against syntactic identity (e.g., inflectional asymmetries and legitimate vehicle change effects). The overall conclusion is that a uniform theory of identity in ellipsis must dispense with truth-conditional requirements at least for E-sites.

*Key words:* LF-realization, Bias Vehicle Change, Ellipsis, Identity Condition, [I]-Assignment, Distributed Morphology

### 1. Weak and strong ineffability in ellipsis

The word *ineffable* or *ineffability* might be subject to different interpretations in the linguistic literature when it comes to explain different (im)possible grammatical combinations. In a strong sense, we can define *grammatical ineffability* as the impossibility of saying a sentence by the conspiracy of syntactic principles or rules. In a weaker sense, ineffability in grammar - and only under some conceptions of the syntax-PF connection - may refer, instead, to the impossibility of realizing a sentence by the conspiracy of PF principles or rules. More generally, we can say:

*Strong ineffability:* If a sentence cannot be said (more technically, the sentence cannot be derived by the principles or rules of grammar). Example: \**Who are you sad [because Mary kissed t]*?

*Weak ineffability:* If a sentence cannot be pronounced in a given particular form. Example from Spanish verbal conjugation: *Amaba* (I love-IMPERF.1 CONJUGATION) vs. \**Amía* (I love-IMPERF.2/3 CONJUGATION)

With reference to ellipsis phenomena, in a broad sense, we can say that strong ineffability was used in the literature as an argument against the identity condition as formulated in its more radical semantic-pragmatic versions (a crucial reference - but not

the unique nor even the more radical one - is, of course, Merchant 2001). According to this approach, *a constituent E can be elided if there is a salient antecedent A such that both A and E are in a mutual entailment relation*.<sup>1</sup> On this account, ellipsis crucially involves the notion of *truth* or, put differently, the identity condition has as a minimum a truth-conditional dimension as a necessary requirement for ellipsis successfully to apply.

The absence of some particular instances of sluicing in preposition stranding environments (Chung 2006, 2013) was used as one of the first arguments against this type of approaches:

- (1)
  - a. They're jealous, but it's unclear of who.
  - b. Joe was murdered, but we don't know by who.
  - c. Last night he was very afraid, but he couldn't tell us of what.
  - d. Mary was flirting, but they wouldn't say with who.
  - e. We're donating our car, but it's unclear to which organization.
  - f. U.N. is transforming itself, but into what is unclear. (*New York Times* 2/28/04)
  - g. She phoned home, but they weren't sure from which city.
- (2)
  - a. \*They're jealous, but it's unclear who(m).
  - b. \*Joe was murdered, but we don't know who(m).
  - c. \*Last night he was very afraid, but he couldn't tell us what.
  - d. \*Mary was flirting, but they wouldn't say who(m).
  - e. \*We're donating our car, but it's unclear which organization.
  - f. \*U.N. is transforming itself, but what is unclear.
  - g. \*She phoned home, but they weren't sure which city.

As it should be clear, mutual entailment would not make the difference between (1) and (2), given that such a condition is satisfied in both cases. However, only the examples in (1) are legitimate ellipses. I take them as *paradigmatic cases of strong ineffability*. Chung's (2006) strategy was supplementing mutual entailment with a lexical identity condition manipulating pre-syntactic numerations (The *No New Morphemes* condition), although the door was left open for a more uniform lexical/syntactic condition.

In turn, although without this particular terminology, weak ineffability was used against radical syntactic approaches to the lexical/syntactic identity condition. Consider a case like the following from Jason Merchant's dissertation (" $< \dots >$ " indicates E-sites):

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<sup>1</sup> This is a simplification of proposals like Merchant's (2001) and others made by the expository sake. In reality, ellipsis depends on additional discourse conditions such as *givenness* and *focus*. A more technical version is formulated as follows (see Merchant 2001, 2004):

- (i) **Ellipsis:** A constituent E can be elided only if E is *e-GIVEN*.
- (ii) ***e-GIVENness*:** E is given iff there is a salient antecedent A such that A entails the existential focus closure (F-closure) of E and E entails the existential focus closure of A, modulo (regular) existential closure.
- (iii) **F-closure:** The F-closure of  $\alpha$  is the result of replacing F-marked parts of  $\alpha$  with  $\exists$ -bound variables.

As we will see in section 3, we also need to specify the size of the E-site, by adding some structural conditions.

- (3) Decorating for holidays is easy if you know how <to decorate for holidays>  
 a. ... \*if you know how decorating for holidays.  
 b. ... if you know how to decorate for holidays.

(3a) cannot be the surface phonological form of the sluice in (3); the correct form has to be (3b). (3a) is then a case of weak ineffability in the aforementioned sense and, as just noticed, was taken as an argument against syntactic identity, since Merchant (2001) and much of the mainstream literature since then. This argument against syntactic identity follows only under some conceptions about the meaning-form connection (in particular, de Saussure's conception). Crucially, if the meaning-form connection of a given word or sentence is the epiphenomenal result of syntactic derivations, then the argument does not hold. This is how Distributed Morphology connects with syntactic identity to answer the weak ineffability argument (see Saab 2003, 2008, and Merchant 2015 for details) and how it does it in the present paper, as I will argue in section 3.

With reference to ellipsis phenomena, then, weak and strong ineffability can be reformulated in the following way:

Strong ineffability: if an elliptical sentence cannot be said (more technically, the sentence cannot be derived by the principles or rules of grammar). In this case, the relevant principle is *identity*.

Weak ineffability: if an elliptical sentence does not have a non-elliptical counterpart in a given particular form.

Arguments coming from strong or weak ineffability have led to different conceptions of the identity condition on ellipsis. Here is a non-exhaustive list of the different approaches that are found in the literature:<sup>2</sup>

Approaches to the identity condition:

- (4) a. Non-lexical / semantic approaches (Merchant 2001, 2004, Barros 2014)  
 b. Lexical / semantic approaches (Chung 2006, AnderBois 2011, 2014)  
 c. Lexical / syntactic approaches (Chomsky 1965, Lasnik 1995, Saab 2003, 2008, Merchant 2015).  
 d. Lexical / syntactic-semantic approaches (Merchant 2013, Chung 2013).  
 e. Non-lexical / syntactic approaches (Thoms 2015).

The theories listed in (4) could be taken as uniform theories of identity in the sense that the particular identity conditions that are proposed in each particular work might be supposed to apply beyond particular elliptical constructions. Of course, this uniformity requirement is only a theoretical *desideratum*. Empirical evidence could call for a dissociate theory of identity. In this paper, I will introduce two empirical generalizations regarding certain instances of TP-ellipsis and NP-ellipsis in Spanish that seem to call for a dissociated theory of identity (section 2). These generalizations involve cases in which there are stylistic differences between particular uses of lexical items in antecedents and E-sites (in particular, coarse and informal language switches). I will call these mismatches *Bias Vehicle Change*. In principle, Spanish fragments (a particular instance of TP-ellipsis) seem to allow for Bias Vehicle Change, whereas Spanish NP-ellipsis does not. As I will argue, putative legitimate instances of Bias

<sup>2</sup> The term *lexical* as I am using it here should be understood as making reference to the content of syntactic terminals regardless of theory of word formation you assume (lexicalist or non-lexicalist).

Vehicle Change are an illusion, when considered from the point of view of certain theory of syntactic identity. In section 3, I will outline the details of such theory, according to which identity applies in the narrow syntax as a way to instruct the interfaces for blocking phonological or semantic exponence. Put differently, surface anaphora in general supposes both “PF-deletion” and “LF-deletion”. In the realizational model of grammar I will assume (Distributed Morphology), this amounts to saying that syntactic ellipsis blocks realization at the interfaces. The system answers well-known arguments coming from weak ineffability effects in the domain of morphosyntactic mismatches. As for the LF side, I will argue that semantic resolution of E-sites is entirely dependent on a contextual restrictor that comes in the form of a syntactic active head. On this view, Bias Vehicle Change of the type to be discussed here -and related expressive mismatches- is entirely ruled out by the formal apparatus and both apparent bias mismatches in TP-ellipsis and impossible bias mismatches in NP-ellipsis are accounted for in terms of strict syntactic identity (section 4). Finally, I show how this system explains in exactly the same way legitimate instances of Vehicle Change related to Principle-C obviation and indexical switches (section 5).

## 2. A Puzzle for uniform identity

### 2.1. Bias Vehicle Change

As is well-known, biased expressions can be detected in different domains through *salva veritate* substitutions. The substitution strategy was indeed used as a test to distinguish syntactic and semantic theories of identity. Yet, the cases to be explored here crucially differ from other arguments based on substitution operations, such as Chung’s paradigm in (1)/(2) or other strong ineffability effects attested in the realm of argument structure and ellipsis (Merchant 2013), for in all these patterns syntactic structures are manipulated in ways that allow for alternative explanations in terms of parallelism in the position of variables (see, for instance, Thoms 2015). In the patterns to be discussed in what follows, instead, the syntactic structures underlying antecedents (As) and ellipsis sites (E-sites or just E) remain unaltered in the relevant sense; i.e., antecedents and E-sites are not distinguished by argument structure, variable binding and other relevant structural properties. Concretely, I explore the nature of coarse/informal language mismatches in ellipsis. This choice is not arbitrary. Other putative cases of purely biased expressions are left out of the ongoing discussion because their truth-conditional contribution is controversial. Thus, derogative slurs, which are potentially good candidates to evaluate the theories of identity under competition, are not considered in this paper, even though arguments have been provided in favor of their purely biased contribution (see Predelli 2013 for an analysis along these lines, and Hom 2008 for a detailed overview and a proposal).

Given that I will focus mainly on two varieties of ellipsis in Spanish, namely, fragments (i.e., a kind of TP-ellipsis) and NP-ellipsis, it is important to make some clarifications about the nature of the identity condition taken in a general sense. First, the notion of *entailment* used in some mainstream approaches to the identity condition can only make reference to one type of semantic object, namely, propositions. On some semantic accounts, this supposes to raise the semantic type of predicate ellipses (NP-ellipses, VP-ellipsis, and some TP-ellipses that are non-propositional objects) to the relevant type under operations such as Focus Closure (Merchant 2001). Alternatively, we just have to assume that the identity condition makes reference to the relevant semantic type, propositions, individuals, properties and so on. For instance, if NPs are of the  $\langle e, t \rangle$  type, we can assume that an NP can be elided only if there is a salient antecedent NP in the discourse such that  $[[NP_A]] = [[NP_E]]$ . It is still crucial to

distinguish such an approach from a lexical-syntactic one according to which NP-ellipsis is legitimate only if  $[NP_A] = [NP_E]$ . This second view is evidently stronger than the semantic identity condition as it does not allow for some sort of mismatches that the semantic condition does. This first question/problem is well-known in the literature and can be simply stated as: is identity in ellipsis semantic or syntactic? (Merchant 2008a). Yet, as far as I know, the problem was not always taken in the proper way. As mentioned, weak ineffability considerations have led some researchers to reject syntactic identity. However, most of the times what is rejected are particular theories of syntactic identity (say, Fiengo & May 1994), not syntactic identity in a broad sense. Moreover, the rejection is made by assuming particular conceptions of how linguistic expressions are built in the syntax. As far as I can tell, these arguments cannot be taken seriously as a challenge for syntactic identity in a broad sense. By *syntactic identity in a broad sense* I understand that the objects to which identity makes reference are syntactic objects (abstract morphemes, Roots, phrases built out of morphemes and Roots and so on). By the same token, we should be careful when considering different approaches to semantic identity. Here, the distinction is the same. We should be able to distinguish particular approaches to semantic identity from semantic identity in a broad sense, where by *semantic identity in a broad sense* I understand that identity makes reference to semantic objects, such as relations, properties, individuals, propositions and so on.

The second problem I would like to introduce is of a more complex nature and is at the heart of truth-conditional approaches to ellipsis. If identity only refers to the semantic type of a given expression, how are other subparts of such an expression calculated for the purposes of identity? The mutual entailment condition, as stated originally by Merchant (2001, 2004), does not care of such subparts as long as mutual entailment is ensured between A and E. Indeed, this conclusion is forced by the way in which Merchant analyzes cases of Vehicle Change (Fiengo & May 1994):

(5) They arrested [Alex]<sub>3</sub>, but he<sub>3</sub> doesn't know why.

According to Merchant, mutual entailment allows for an R-expression to antecede a pronoun as long as they co-refer:

(6) They arrested [**Alex**]<sub>3</sub>, but he<sub>1</sub> doesn't know why <they arrested \*Alex<sub>3</sub>/**him**<sub>3</sub>>.

Other mismatches between indexical expressions are treated on a par with Vehicle Change (see Thoms 2013, 2015). So, mutual entailment ensures indexical switches between E and A like the following:

(7) A. Can you help **me**?  
B. Yes, I can <help **you**>.

The crucial point is that descriptive properties of indexicals or R-expressions do not alter the mutual entailment relation under some variable assignment. If this is on track, then other mismatches should be allowed beyond indexicals and proper names. Consider, for instance, pairs of words opposed only by the bias they express. In Argentinian Spanish, for instance, the “neutral” verb *comer* ‘to eat’ is semantically undistinguishable from the verb *morfar* ‘to eat’. This can be demonstrated by well-known substitution tests: any occurrence of the verb *comer* can be replaced (modulo metalinguistic and sociolinguistic tones) by an occurrence of the verb *morfar* and vice

versa.<sup>3</sup> The predictions for mutual entailment in ellipsis are more or less clear. In principle, register mismatches between A and E should be allowed, in a way such that modeling the following E-sites as indicated should be possible in fragments like the following ones:

- (8) A: Qué **comiste**?  
           what ate.2P.SG.NEUTRAL  
           ‘What did you eat?’  
       B: Una pizza <**morfé**>.  
           a pizza ate.1P.SG.INFORMAL  
           ‘a pizza.’
- (9) A: Qué **morfaste**?  
           what ate.2P.SG.INFORMAL  
       B: Una pizza <**comí**>.  
           a pizza ate.1P.SG.NEUTRAL

Of course, without any discursive clue it would be just impossible to know whether such E-sites are possible or not. Consider in this respect the following discourse:<sup>4</sup>

- (10) A: Qué **morfaste**?  
           what ate.2P.SG.INFORMAL  
       B: Una pizza <?>, pero no tolero cuando  
           a pizza but not tolerate. 1P.SG when  
           hablás tan informalmente.  
           speak.2P.SG so informally  
           ‘A pizza. But I don’t tolerate when you speak informally.’

<sup>3</sup> For the purposes of the ongoing discussion, I will assume the most charitable analysis for a semantic approach to the identity condition on ellipsis. Concretely, I will assume, with Predelli (2013), that the bias of a given expression is part of the meaning of such an expression. In strict sense, then, the meaning of any expression contains two dimensions: (a) a truth-conditional/referential dimension and (b) a non-truth conditional/non-referential dimension, its bias. Thus, for any expression E, where *char* is the kaplanian character of E:

(i) Meaning(E) = <char(E), bias(E)>

Notice that this move cannot lead us to locate the bias of E into the LF of a complex expression, given that the bias has no relevance for the compositional aspects of meaning. In other words, even encoding register and related aspects of words into the meaning (and not, say, in the use of E) the bias of E would not affect truth conditions.

<sup>4</sup> This present test is modeled after Lipták (2016), who discusses a different type of putative mismatch in ellipsis. Here is one of her examples:

(i) A: What are you devouring?  
       B: A pizza, but I am not devouring it.  
       B: # I am devouring a pizza, but I am not devouring it!

At first glance, this example does not parallel (12), as in (i) one is tempted to conclude that whatever verb one postulates within the E-site (e.g., *ate*) it should contribute a different truth-conditional profile than the verb in the antecedent. For this reason, Lipták suggests an antecedent accommodation approach in the line proposed by Thoms’ (2013). In my view, this type of examples does require some type of accommodation, but in principle does not call for any amendment of syntactic identity. In other words, at least for its syntactic side the E-site in (iB) can be derived in the same way as (12), namely, under strict identity (see section 5).

At first sight, the metalinguistic comment introduced by B allows us to reject an E-site modeled as containing the informal counterpart of the verb *to eat*. Notice that a non-elliptical version of (11) is infelicitous here:<sup>5</sup>

- (11) A: Qué **morfaste**?  
           what ate.2P.SG.INFORMAL  
       B: #Una pizza **morfé**, pero no tolero cuando  
           a pizza ate.2P.SG.INFORMAL but not tolerate. 1P.SG when  
           hablás tan informalmente.  
           speak.2P.SG so informally  
       ‘#I ate(INFORMAL) a pizza. But I don’t tolerate when you speak informally.’

The mutual entailment approach apparently provides the right answer to the problem, as the neutral form *comer* could take the informal form *morfar* as antecedent and outputs a legitimate E-site.

- (12) A: Qué [TP **morfaste** *t*]?  
           what ate.2P.SG.INFORMAL  
       B: Una pizza <[TP **comí** *t*]>, pero no tolero  
           a pizza ate.1P.SG.NEUTRAL but not tolerate. 1P.SG  
           cuando hablás tan informalmente.  
           when speak.2P.SG so informally

As advanced in the introduction, I call cases like these, *Bias Vehicle Change*, cases where the change is produced in the particular bias of some lexical expression. For (12), and assuming that short answers are derived as cases of TP ellipsis (Merchant 2004), mutual entailment between A and E should be permitted under Focus Closure (see footnote 1).

- (13) a. F-clo([[A]])=[A] =  $\exists x[g(1) \text{ morfar } x]$  entails  $[[TP_E]] = \exists y[g(1) \text{ comer } y]$   
       b. F-clo([[E]])=[E] =  $\exists y[g(1) \text{ comer } y]$  entails  $[[TP_A]] = \exists x[g(1) \text{ morfar } x]$   
       c. [[A]] entails F-clo([[E]]) and [[E]] entails F-clo([[A]]).

On the basis of the grammaticality of (12), we can state then the following generalization:

Generalization 1:

- (14) Bias Vehicle Change is licensed under TP-ellipsis.

As far as I can tell, examples similar to (12) can be constructed for myriads of pairs of words contrasting only in register. Here is a non-exhaustive list of pairs of verbs from Argentinian Spanish:

- |      |                  |                 |            |
|------|------------------|-----------------|------------|
|      | <i>Neutral</i>   | <i>Informal</i> |            |
| (15) | tomar            | chupar          | ‘to drink’ |
|      | sudar/transpirar | chivar          | ‘to sweat’ |

<sup>5</sup> Unless B makes some air quotations on the biased verb (i.e., *una pizza “morfé”*). As noticed in section 3 (20), this parallelism between ellipsis and quotation is expected under the “LF-deletion” approach I will propose here.

eyacular	acabar	‘to ejaculate/to come’
pagar	garpar	‘to pay’
trabajar	laburar	‘to work’
escapar	rajar	‘to escape’
defecar	cagar	‘to defecate/to shit’
delatar	buchonear	‘to betray’
molestar	joder	‘to bother’

In section 4, I briefly discuss the biased nature of some of these pairs of words and its implications for the theory of ellipsis resolution. In any case, if correct, Generalization 1 will give support for an identity condition established over semantically equivalent propositions. But this cannot be the whole story, as other types of ellipsis don’t seem behave the same way. Consider in this respect Spanish NP-ellipsis. In this language, words like *culo* ‘ass’ and *cola* ‘tail’ when applied to humans refer to the same body part, the difference being, once again, in the biased dimension of each word. Thus, *culo* is coarse language and *cola* is the polite form at least in some dialects (Argentinian Spanish, for instance). Interestingly, both nouns differ in gender: *culo* is masculine, but *cola* is feminine. This allows us to test their behavior in NP-ellipsis contexts. As shown below, bias mismatches are fully ungrammatical in any direction:<sup>6</sup>

- (16) a. El **culo** de Juan es más grande  
the.MASC.SG ass.MASC.SG of J. is more big  
que el <**culo**> de María.  
that the.MASC.SG ass.MASC.SG of M.
- b. La **cola** de Juan es más grande  
the.FEM.SG tail.FEM.SG of J. is more big  
que la <**cola**> de María.  
that the.FEM.SG tail.FEM.SG of M.
- c. \*El **culo** de Juan es más grande  
the.MASC.SG ass.MASC.SG of J. is more big  
que la <**cola**> de María.  
that the.FEM.SG <tail.FEM.SG> of M.
- d. \*La **cola** de Juan es más grande  
the.FEM.SG tail.FEM.SG of J. is more big  
que el <**culo**> de María.  
that the.MASC.SG <ass.MASC.SG> of M.

The same is attested with, for instance, the polite *busto* ‘breast’, which is masculine and singular, and *tetas* ‘boobs’, which is feminine plural. Again, ellipsis is impossible:

<sup>6</sup> The fact that there are gender differences does not have to be confused with the general fact that gender differences are not allowed in NP-ellipsis involving human nouns:

- (i) \*el tío de Juan y la <tía> de Pedro...  
the.MASC uncle of J. and the.FEM aunt of P.  
\*la tía de Juan y el <tío> de Pedro...  
The.FEMaunt of J. and the.MASC uncle of P.

Here, gender mismatches correlate with a semantic difference (a sexual one). In (16), instead, gender is purely grammatical so it should not interfere with semantic identity.



- (17) a. \*El **busto** de María es más prominente  
the breast of M. is more prominent  
que las <**tetas**> de Ana.  
that the boobs of A.  
Intended 'Mary's breast is more prominent than Ana's boobs'
- b. \*las **tetas** de María son más prominentes  
the boobs of M. are more prominent  
que el <**busto**> de Ana.  
that the breast of A.  
Intended 'Mary's boobs are more prominent than Ana's breast'

We arrive then at our second generalization:

Generalization 2:

- (18) Bias Vehicle Change is not licensed under NP-ellipsis.

Before entering into more details, a note of caution should be made. Some strong coarse expressions like *pija* 'dick', which is a feminine noun, seem to tolerate bias mismatches.

- (19) El pene de Juan no es tan grande como la  
the.MASC penis of J. not is so big like the.FEM  
<**pija**> mía.  
dick.FEM mine.FEM  
Intended: 'Juan's penis is not as big as my dick.'

However, this is illusory. It turns out that many coarse words are expressed through fixed elliptical expressions as a way to mitigate coarse language (Hamkamer 1978). These cases may be well analyzed as cases of empty nouns (see Panagiotidis 2002 and Saab (to appear) for an overview) and not as true instances of surface anaphora in Hankamer & Sag's (1976) sense. So, a possible analysis for (19) can be modeled along the lines in (20a) and not (20b):

- (20) a. El pene de Juan no es tan grande como  
the.MASC penis of J. not is so big like  
[NP la N<sub>FEM</sub> mía].  
the.FEM mine.FEM
- b. \* El pene de Juan no es tan grande como  
the.masc penis of J. not is so big like  
[NP la <**pija**> mía].  
the.FEM dick.FEM mine.FEM

Evidence in favor of this claim is that reversing the order in (19) is out:

- (21) \*Mi pija no es tan grande como el  
my dick.FEM not is so big as the.MASC  
<pene> de Juan.  
penis.MASC of J.  
Intended: 'My dick is not as big as John's penis.'

This shows that the possibility of expressing (19) is not given by accommodation, an option that, if possible in some of its many implementations, would weaken my argument here. In effect, if accommodation were the mechanism behind (19), then (21) would also be licensed. Having clarified this point, it seems that we have enough evidence for the Generalization 2 to stand. I do not think that any purely semantic analysis based on LF considerations (i.e., compositional aspects of meaning derived from syntax) can easily account for cases like these. Adding the bias into meaning would not resolve the problem, because the bias is a property of lexical items irrelevant for semantic composition (see footnote 3). But let's make a try.

## 2.2. Semantic and pragmatic alternatives: Settlement and No Telepathy

The impossibility of Bias Vehicle Change in Spanish NP-ellipsis casts doubts on the alternative of extending mutual entailment (or relatives) to this particular elliptical construction. We can of course dissociate the identity condition in one semantic condition for TP-ellipsis and one lexical-syntactic identity condition for NP-ellipsis, after all we already know that different types of ellipsis are subjected to different conditions beyond identity (e.g., correlate/remnant morphosyntactic and informational parallelism conditions, discourse conditions regulating the legitimacy of some types of ellipsis but not others, and the like). This would be compatible with Generalizations 1 and 2, but such a solution would be unappealing under uniformity considerations. Alternatively, we can make an attempt to solve semantic identity for ellipsis in general by adding some non-truth conditional conditions to the theory. Following Predelli (2013), I assume that there are other aspects of use and meaning that guarantees true beyond character. For instance, it is part of the meaning of the expression *fuck* that it guarantees (i.e., it settles) the true of the proposition (Predelli 2013: 83):<sup>7</sup>

(22) I sometimes speak coarsely.

This is because *fuck*, in virtue of its bias, imposes a contextual condition, such that for some context *c*, *fuck* means that the agent of *c* is using a coarse register:

(23)  $c \in CU(\text{fuck})$  only if  $c_a$  is a participant in register coarse in *c*.

[where CU is the class of the context of use]

Let us suppose then that in addition to mutual entailment or other character-oriented semantic conditions ellipsis also imposes the following condition:

### The Settlement Condition (SC):

(24) A constituent *E* can be elided only if there is a salient antecedent *A* such that both *A* and *E* settle the same set of propositions.

Strictly speaking, we can think of the SC as an inclusive condition that allows for the bias (and the use) to trigger entailment relations among propositions (or

<sup>7</sup> For any expression *e* and the class of context *CU*, settlement is defined as follows:

Settlement: an expression *e* settles a sentence *s* iff<sub>def</sub> true<sub>c</sub>(*s*) for all  $c \in CU(e)$ .

[Predelli 2013: 68]

In other words, an expression *e* settles a sentence *s* if *s* is true in any CU in which *e* is used. It is part of the meaning of *fuck*, then, that it settles the truth of (22).

individuals and propositions) in addition to the truth-conditional aspects of meaning. Put differently, the SC is just an enriched mutual entailment condition. We can see now that a simple case of sluicing like *John saw someone but I do not know who* respects the SC by virtue of mutual settlement given that both A and E settle the proposition that there is someone that John saw (or, more properly, the set of alternatives of the form ‘that John saw *x*’, see AnderBois 2011, 2014 and Barros 2013, 2014).<sup>8</sup>

A theory of this type correctly rules out the relevant examples in (16) as violations of the SC, given that E settles (22) but A does not. The same with (17) given that *busto* ‘breast’ does not settle (22) but *tetas* ‘boobs’ does. One could wonder what the conceptual and empirical cost of replacing mutual entailment by the SC is. Evidently, the main problem for SC is empirical: the theory is too strong in connection with the empirical domain relevant to this study, as now we should rule out cases like (12) connected to Generalization 1:

- (25) A: Qué [TP **morfaste** *t*]?  
           what ate.2P.SG.INFORMAL  
       B: Una pizza <[TP **comí** *t*]>, pero no tolero  
           a pizza ate.1P.SG.NEUTRAL but not tolerate. 1P.SG  
           cuando hablas tan informalmente.  
           when speak.2P.SG so informally

Given that the TP in (25A) settles the proposition that the speaker is speaking informally but the elided TP does not, the result should be ungrammatical. A similar problem with the SC can be easily detected in cases like the following (Potts *et al* 2009: 364):

- (26) A: I saw your fucking dog in the park.  
       B: No, you didn’t—you couldn’t have. The poor thing passed away last week.

As noticed by Potts *et al* (2009), the elliptical answer given by B does not commit B to endorse A’s evaluation with respect to the dog at hand. In Predelli’s terms, this means that the elliptical expression in (26B) does not settle that the agent of B is a participant of a coarse language. Thus, (26B) violates the SC. Other cases of differences in register point towards the same direction. Consider the following scenario:

- (27) Boss: Me ayudás?  
           me help.2P.SG  
           ‘Do you help me?’ (informal *you*)  
       Employee: Con qué <**lo/te** ayudo>?  
                   with what **him/you** help.1P.SG

Here, the boss is using an informal second singular form of the verb *ayudar*. We can say then that the expression in (27A) settles the proposition that the participant of *c* is in an informal register. But we cannot conclude the same in the elliptical sentence in (27); indeed, we do not know whether the pronoun in the elliptical site is *lo* (=usted ‘you’, the honorific form of the second person) or *te* (the informal form). So, we cannot

<sup>8</sup> In any case, the SC would require important qualifications, given that in the example at hand A settles the proposition *The speaker is using at least two phonological words* (i.e., *saw* and *someone*), which obviously the E-site does not settle. Therefore, the SC should restrict the set of propositions settled by A and E to some relevant subset.

know on the basis of the information in the E-site whether the relevant proposition is settled (probably not, if the employee is not allowed to use informal register with his boss). So, the SC has to be on the wrong track. Imposing more restrictive conditions as, for instance, that *the E-site must settle a subset of the propositions settled by the antecedent* could resolve Potts *et al*'s cases as well the cases referred by Generalization 1. In effect, given that biased expressions seem to settle more propositions than unbiased ones we predict that  $A_{\text{biased}}-E_{\text{unbiased}}$  mismatches should be allowed in exactly that direction. Yet, this cannot be on track as in the NP-ellipsis cases  $A_{\text{biased}}-E_{\text{unbiased}}$  (*culo-cola*) are ruled out in the same way as the  $A_{\text{unbiased}}-E_{\text{biased}}$  ones (*cola-culo*).

A more pragmatic alternative to handle the pattern at hand would run into the same type of problems. The case in (27) is very illustrative of the fact that there is non-truth conditional information that crucially depends on lexical choices. Let's assume that the choice of remaining silent (i.e., making use of ellipsis) nullifies the bias of whatever expression the silence is replacing. As noticed by Matthew Barros (pers. comm.) this would have obvious consequences for any theory of information recoverability in ellipsis involving the communicative force of non-elliptical expressions regarding bias, metalinguistic uses and register. Thus, in (27B) there is metalinguistic information connected to the fact that the pronoun *usted* (more properly its weak form *lo*) is just the honorific form of the pronoun *vos/te*.<sup>9</sup> By remaining silent, such information is unrecoverable, no matter what your favorite theory of identity is (semantic or syntactic). Put differently, we are not telepaths. Let's assume that the phenomenon under discussion falls under some No Telepathy Condition:

*No Telepathy (NT):*

- (28) Information regarding lexical choices is unrecoverable under ellipsis, without additional discourse clues.

By *lexical choices* I understand some competition among lexical items in the same semantic space (de Saussure's paradigmatic relations), where the selection of such and such lexical item would depend, among other things, on the speaker's attitude towards the content of the speech act. Such choices, arguably, also convey information regarding socio-economic, gender and age information about the speaker. No Telepathy then prevents us from introducing new lexical material in the E-site that would require

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<sup>9</sup> Here is another relevant example pointed out to me by Matthew Barros:

- (i) A: Did Jack talk to Matt?  
 B: Yes, he did <talk to Barros>.  
 A: #Ah, I didn't know he was also called Barros.

Or

- (ii) A: Did Jack talk to Matthew Barros?  
 B: Yes, he did <talk to Matt>.  
 A: #Do not call him Matt.

Both the use of a surname or the informal *Matt* in the E-sites of (i) and (ii) convey information that goes beyond truth-conditional aspects of meaning that can be regarded as meta-linguistics, such as the information that Matthew Barros is also called *Matt* or that Matt is also called *Barros*.

some sort of telepathic activity. Crucially, NT correctly rules out (26) and also standard cases of Vehicle Change like (5)/(6)<sup>10</sup>. Let's consider (5)/(6) first:

(29) They arrested [Alex]<sub>3</sub>, but he<sub>3</sub> doesn't know why <they arrested \*Alex<sub>3</sub>/him<sub>3</sub>>.

One reasonable way to approach (29) under NT is just claiming that the use of the pronoun is simply unavoidable, i.e., there is no lexical choice to make, given that one of the possible choices provided by the paradigmatic space introduces a flagrant violation of Principle-C of Binding Theory (although see Johnson 2012 and section 5 for another approach). In turn, (26), assuming that it is not a case of Vehicle Change (see footnote 9), also obeys NT because there is no new information introduced by some lexical choice. Indeed, (26B) just eliminates one of the lexical items of the antecedent (i.e., *fucking*). This move is justified by the discourse surrounding the E-site in (26B), where we understand that B's attitudes do not endorse A's view about the dog at hand. As for (12), the situation is different: we can guess a lexical choice made in the E-site on the basis of the metalinguistic comment made by B. So, NT seems to be sufficiently flexible as to allow some bias change between A and E and sufficiently constrained as to rule out mismatches in lexical choices.

Thus far, it seems that the NT is a good alternative theory that would account for Bias Vehicle Change. The NT Condition, however, would have to explain strong ineffability effects with coarse mismatches in NP-ellipsis:

- (30) a. El **culo** de Juan es más grande  
the.MASC.SG ass.MASC.SG of J. is more big  
que el <**culo**> de María.  
that the.MASC.SG ass.MASC.SG of M.
- b. La **cola** de Juan es más grande  
the.FEM.SG tail.FEM.SG of J. is more big  
que la <**cola**> de María.  
that the.FEM.SG tail.FEM.SG of M.
- c. \*El **culo** de Juan es más grande  
the.MASC.SG ass.MASC.SG of J. is more big  
que la <**cola**> de María.  
that the.FEM.SG <tail.FEM.SG> of M.
- d. \*La **cola** de Juan es más grande  
the.FEM.SG tail.FEM.SG of J. is more big  
que el <**culo**> de María.  
that the.MASC.SG <ass.MASC.SG> of M.

<sup>10</sup> Notice that, in principle, (26) could be analyzed as a standard case of Vehicle Change, where the E-sites are modeled as *see him*. However, Thoms (2013) provides the following example that seems to rule out such a possibility:

- (i) A: You should *fucking* fire that asshole John!  
B: I know you think I should, but I won't as I like him.

Here, *fucking* is an adverbial modifier and, as such, it would not allow for Vehicle Change. However, I am not convinced that (iB) cannot be modeled as a special case of Vehicle Change, where the E-site is modeled as just *do it*. Whatever the right analysis, this is orthogonal for the main point I am making here. As we will see, cases like (12) can indeed be ruled out as instances of true Vehicle Change.

The question here is why gender information does not suffice to recover the missing information that the speaker has chosen the coarse *culo* or the polite *cola* in the relevant cases. The answer would be that gender information cannot resolve the issue of how to know whether or not in (30c), for instance, we are talking about María's nose (*nariz* 'nose' is feminine in Spanish). Yet, this problem should be avoided by contextual and discursive factors. So, suppose we are walking behind Juan and María and pointing out to Juan's ass I say:

- (31) \*El culo de Juan es grande pero...  
 the.MASC.SG ass.MASC.SG of J. is big but  
 [now pointing out to María's ass]  
 la < cola > de María es más grande.  
 the.FEM.SG tail.FEM.SG of M. is more big

Even when we are no telepaths, we should be able to recover the relevant information in this case, but we cannot. Compare with cases of pragmatic recoverability of empty nouns in general:

- (32) a. [pointing to some toy; the word *toy*, *juguete*, is masculine in Spanish]  
 Yo quiero ese con rueditas.  
 I want this.MASC with wheels  
 'I want that one with wheels.'  
 [pointing to a bike. The word *bike*, *bicicleta*, is feminine in Spanish]  
 b. Cuando era chico, tenía una como  
 when was.1P.SG boy had. 1P.SG one.FEM like  
 esa.  
 that.FEM  
 'When I was a child, I had one like that.'

The contrast between (31) and (32) constitutes a strange state of affair under the NT Condition. It seems that some degree of telepathy should be permitted for (32) but not for (31). In other words, the addressee in (32) is able to guess that the speaker is talking about toys or bikes, but the same guessing capacity is impossible in (31). This is connected with the fact that recoverability conditions are different for surface and deep anaphora in Hankamer & Sag's (1976) terms. As Merchant (2010) has shown, whenever ellipsis (i.e., surface anaphora) and deep anaphora compete ellipsis is always preferred. This is exactly what seems to be happening in (31) where there is a linguistic antecedent for the E-site that blocks pragmatic recoverability. If this is on the right track, there is some basis to conclude that NT is a suspicious condition at least as a recoverability condition for surface anaphora.

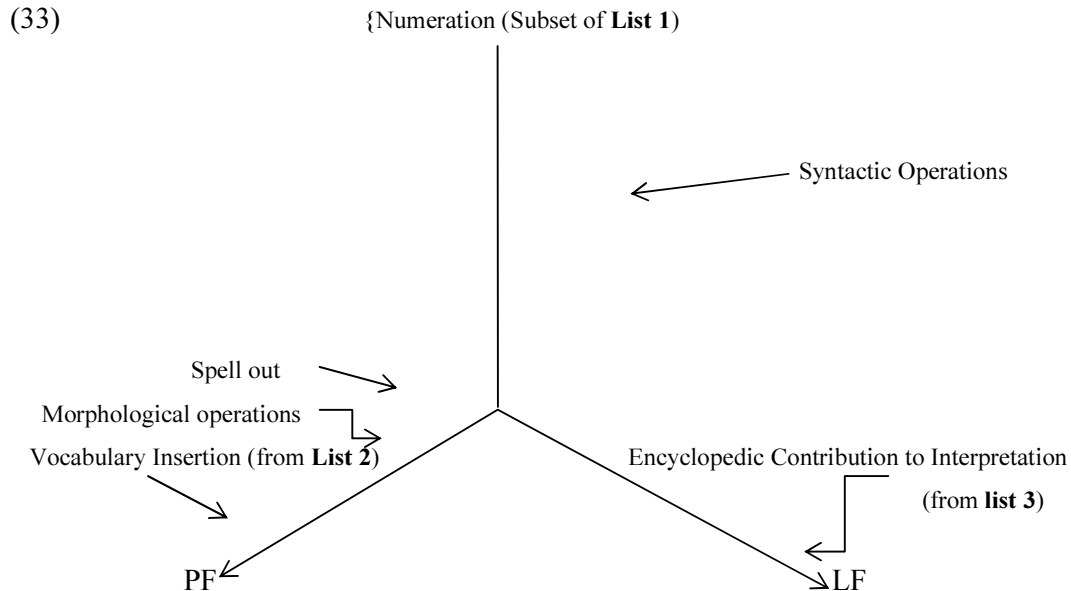
As it stands, the entire paradigm discussed in this section remains as a puzzle for any attempt to formulate a uniform identity condition. Yet, in the following sections I will try to show that Generalization 1 is a spurious observation. I will argue that lexical/syntactic identity (in a way to be made precise) is the right condition for several types of surface anaphora, in particular, for the type of ellipses I am concerned with. The main thesis I defend is that syntactic identity blocks phonological and semantic realization of the E-site (i.e., ellipsis is "PF and LF deletion"). On this account, framed in a realizational model of grammar, an E-site is just a syntactic fossil at the interfaces. The elliptical sentence is semantically resolved by the syntactic presence of a contextual restrictor, whose role in the syntax is precisely deactivating the E-site for realization at

the interfaces. In the next section, I will outline the details of the theory and in section 4 I will show why the puzzle coming from Bias Vehicle Change is illusory.

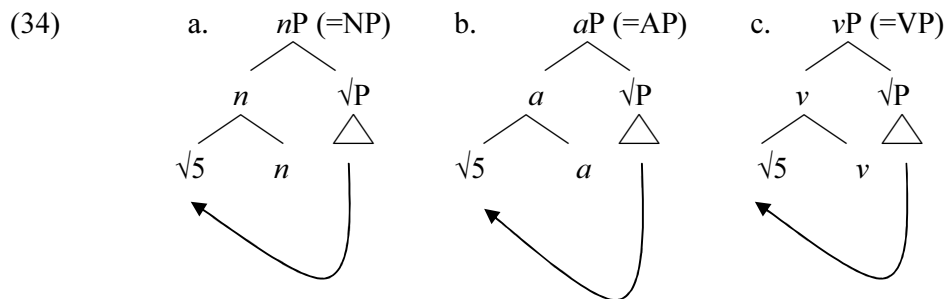
### 3. A theory

#### 3.1. Architectural assumptions and syntactic identity

I will assume the Distributed Morphology framework (cf. Halle & Marantz 1993, 1994 and, in particular, Embick 2000, 2007, Embick & Noyer 2001, Arregi & Nevins 2012, Marantz 2013, and Harley 2014, among many others). The general architecture is the following (from Harley 2014: 228):



A crucial property of this conception of the grammar is separationism, i.e., the fact that meaning-form connections are determined by the syntax in an all-the-way-fashion (Halle & Marantz 1994). Syntax manipulates abstract objects (from List 1) that are supplied with a given phonological form after syntax and through a set of lexical insertion rules (List 2). The primitives that syntax manipulates are Roots and abstract morphemes. Abstract morphemes are features drawn from a Universal Inventory and encode things like [past], [plural] and so on. Roots are represented by an index that is replaced at PF by a phonetic matrix (cf. Chomsky 1995, Embick 2000, Saab 2008, Acquaviva 2008, and Harley 2014, among others). I also assume that Roots are categorized in the syntax via the combination with functional heads: the little *xs* (Embick & Marantz 2008):



The post-syntactic component is not defined only by the lexical insertion rules; otherwise, we would expect a perfect meaning-form connection. As is well-known, the connection is far from perfect; the objects built in the narrow syntax can be altered by a set of post-syntactic operations that move morphemes, delete features, add features and so on. Importantly, features that are purely morphological are not present in the syntax and syntactico-semantic features cannot be inserted after syntax. This working hypothesis is called Feature Disjointness:

Feature Disjointness:

- (35) Features that are phonological, or purely morphological, or arbitrary properties of vocabulary items, are not present in the syntax; syntacticosemantic features are not inserted in morphology. (Embick 2000: 188)

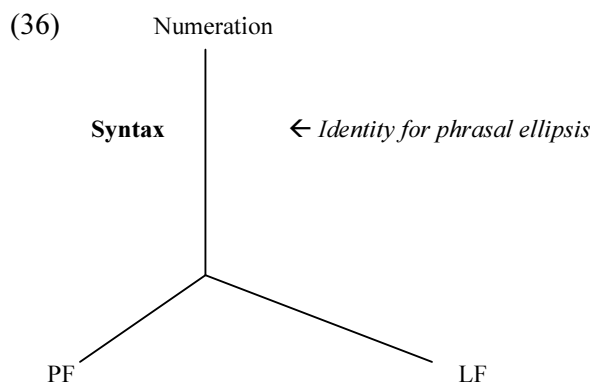
Finally, as for the LF side, the syntax provides an abstract object built out from Roots and abstract morphemes which is interpreted on the basis of the information available in List 3. Let me summarize the information contained in each of the lists in (33):

**List 1:** *Feature bundles*: Syntactic primitives, both interpretable and uninterpretable, functional and contentful.

**List 2:** *Vocabulary Items*: Instructions for pronouncing terminal nodes in context.

**List 3:** *Encyclopedia*: Instructions for interpreting terminal nodes in context.

Taking realizational models for granted, one can conceive of identity in ellipsis as applying in narrow syntax, i.e., identity only affects objects built out from information provided by List 1:



Syntactic identity is formally expressed by the adding of a  $[I(\text{dentity})]$ -feature to the relevant label of a given elliptical phrase. Thus, in a labeled structure like (37), the label  $X$  receives an  $[I]$ -feature if there is a syntactic antecedent formally identical (or non-distinct) to  $XP$  in the syntax. This operation is called  $[I]$ -Assignment:

$[I]$ -Assignment:

- (37)  $\{X^{[I]} \{X, Y\}\}$   $(= [_{XP}^{[I]} X YP])$

Defining  $[I]$ -Assignment in the proposed way provides a first answer to the adduced cases of undergeneration that the syntactic lexical/identity condition on ellipsis



(38) a. I remember meeting him, but I don't remember when <[<sub>TP</sub> I met him]>.  
b. Decorating for holidays is easy, if you know how <[<sub>TP</sub> to decorate for holidays]>.

(39) a. **Ahorrá** plata, no palabras <[<sub>TP</sub> **ahorres** *t*]>.  
**save.IMP** money not words **save.SUBJ**  
 ‘Save money, not words.’  
 (from an Argentine commercial)

b. No **ahorres** plata, pero sí palabras <[<sub>TP</sub> **ahorrá** *t*]>.  
 not **save.SUBJ** money but yes words **save.IMP**  
 ‘Don’t save money. Save words!’

(40) [+subjunctive]  $\rightarrow \emptyset$  / \_\_\_\_ [2pers]]<sub>C</sub> (Harris 1998: 40)

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This rule only applies under a structural condition that requires that the feature affected by deletion is located on C, which is precisely what happens in affirmative imperatives. In effect, clitic position in affirmative imperative sentences (i.e., V-CL ordering, *hacé-lo* ‘do it’ vs. *no lo-hagas* ‘don’t do it’), among other facts (see Laka 1990), shows that there is V-to-C movement in such environments. As discussed at length in Saab (2008), Harris’ morphological analysis plus a strict identity condition on ellipsis applying in the narrow syntax leads to the conclusion that the tolerable mismatches in (39) are illusions: as far as syntax is concerned the verbal form in the antecedent and the elided verb is strictly identical. As shown in (41), identity under ellipsis is trivially satisfied in this case; i.e., the elliptical TP is correctly *[I]*-assigned in the syntax (cf. 39a):

- (41) Ahorrá plata, pero no palabras <[TP<sup>II</sup> **ahorre** *t*]>.   
 save.SUBJ money but not words **save.SUBJ**   
 ‘Save money, but not words.’

Even though in most cases there are clear basis to decide if a given legitimate mismatch should be derived as matter of elliptical size or as a syntax-morphology mismatch, there are however situations where both possibilities might overlap. Indeed, the case in (38b) seems to be, in principle, amenable to both solutions. Tanaka (2011), for instance, has proposed that the alternation between nonfinite *-ing* forms and *to* infinitives in cases like (38b) are explained by the fact that sluicing here deletes a VP and not a TP and, in consequence, the tense node is simply not evaluated for the purposes of the identity condition on ellipsis.<sup>12</sup> A similar analysis has been suggested by Saab (2003) for cases in which a finite form in Spanish can be a suitable antecedent for a nonfinite form or vice versa:

- (42) Recuerdo [FinP [TP haber arreglado el auto]], pero no   
 remember.1P.SG have.INF fixed the car but not   
 recuerdo [FinP cuándo <[TP **arreglé el auto**]]   
 remember.1P.SG when fixed.1P.SG the car   
 ‘I remember having fixed the car, but I do not remember when.’
- (43) [FinP Juan finalmente [TP arregló el auto]] aunque   
 J. finally fixed the car although   
 parecía no saber [FinP cómo <[TP **arreglarlo**]]   
 seemed not know.INF how fix.INF-it   
 ‘John finally fixed the car, although he seemed not to know how.’

In cases like these, we can assume that the syntactic difference between A and E is in the finiteness property that, under reasonable assumptions, is not a property of the tense node by itself but of another higher functional category (labeled FinP in Rizzi 1997, for instance). If this is on track, the tolerable mismatches in (42) and (43) are

<sup>12</sup> As noticed by an anonymous reviewer, Tanaka’s system should explain why a non-elliptical version of (38b) is ruled out:

(i) \*Decorating for holidays is easy if you know how [<sub>VP</sub> decorate for the holidays].

Tanaka acknowledges the problem and proposes that the exponent of the T head (i.e., *to*) is deleted at PF whenever its VP complement is elliptical. This stipulation would be justified by the exceptional behavior of non-finite sluicing with remnant *how*.

derived from the licensing of ellipsis, in the sense that the feature triggering the difference is not part of the elided phrase and, consequently, not computed for identity. The fact that finite and nonfinite forms are also distinguished by the analytical-synthetic distinction is a surface effect that arises because of the way in which PF realizes the abstract syntactic nodes. Both the English mismatches in (38), on the one hand, and the Spanish ones in (42) and (43), on the other, are amenable to an analysis under which this kind of grammatical mismatches follows from the syntax-morphology connection, as well. For instance, it is perfectly conceivable an analysis for Spanish in which the non-finite form arises, not as the result of a syntactically relevant feature, but as the PF reflex of particular syntactic configuration. Abstractly, this should be thought as a case of allomorphy conditioned by syntax. Given that my aim is just illustrating how a radical syntactic approach to grammatical mismatches should proceed, I will try no specific analysis for these cases here. The interested reader is referred to Saab (2008) for a detailed study of weak ineffability in Spanish.

So far, I have introduced some basic notions related to a particular theory of syntactic identity. This theory is syntactic *in a broad sense* (see section 2), because it claims that the primitives that are referred by the identity condition are grammatical primitives (Roots and abstract morphemes) built in the syntax through well-known conditions of phrase structure building. Importantly, there is no claim made here that identity between antecedents and E-sites must be perfect / strict. It is an open question what type of deviations from strict identity would be permitted, if any. If allowed, syntactic identity should be formulated in terms of non-distinctiveness and not perfect identity. That was the way in which Chomsky (1965) formulated the problem. In any case, we have seen that many apparent weak ineffability effects are indeed derived as cases of strict syntactic identity. Of course, this only follows under the separationist thesis; lexicalist models of grammar are indeed forced to some sort of non-distinctiveness for these particular cases. I don't think this is a problem for syntactic identity in a broad sense. Yet, it is crucial to distinguish such examples from other well-known cases that *cannot* be derived in such a way (both in lexicalist and separationist models of grammar). A relevant example is pseudo-slurcing (e.g., *She is married with a rich man, but I do not know how rich <he is>*).<sup>13</sup> The [*I*]-Assignment system does not offer any account of pseudo-slurcing at least as formulated in this paper, as it does not offer any account of many of the elliptical constructions that could in principle falsify the theory. In fact, I will avoid speculations of possible alternatives, as my aim is just pointing to what I think constitutes a real *a priori* problem for syntactic identity (and many semantic identity theories, needless to say).<sup>14</sup> This is a reasonable way to proceed, I think.

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<sup>13</sup> See Barros (2014) for evidence in favor of the pseudo-slurcing nature of this type of examples and further references.

<sup>14</sup> Other adduced problems for syntactic identity simply vanish under separationist assumptions. We have already seen how syntactic identity defined for applying in narrow syntax accounts for some cases of weak ineffability. The [*I*]-Assignment system also derives as cases of strict identity mismatches between traces/copies.

- (i) John was [arrested **John**] and Mary was <arrested **Mary**> too.

As suggested by Chomsky (1995) copies/traces and ellipsis form a natural class of phenomena. In the [*I*]-Assignment system this amount to saying that copies are also *I*-assigned objects. Before ellipsis, A-movement of the internal argument generates the following representation:

- (ii) John was [arrested **John**<sup>[I]</sup>] and Mary was <arrested **Mary**<sup>[I]</sup>> too.

Regarding the main topic of this paper, however, we need to know whether Generalization 1 is in the set of real *a priori* problems or not. As already mentioned, I think it is not, but showing this requires still further theoretical elaboration, especially, connected to *[I]*-Assignment and its LF-effects.

### 3.2. Blocking interface instructions by syntactic ellipsis

The direct effect of *[I]*-Assignment at the PF interface is blocking the Vocabulary Insertion rules that, under normal conditions, would add phonological content to the abstract nodes which are the output of syntax. Vocabulary Insertion Blocking is defined as follows (modified from Saab 2008):

#### VI-Blocking (VIB):

- (44) Vocabulary Insertion does not apply in the domain of  $X^0$ ,  $X^0$  a MW, if  $X^0$ , or some projection of  $X^0$ , is specified with a *[I]*-feature.

#### Associated definitions:

- (i) The domain of  $X^0$ ,  $X^0$  a MWd, is the set of terminal nodes reflexively contained in  $X^0$ .

#### Morphosyntactic word

- (ii) At the input to Morphology, a node  $X^0$  is (by definition) a *morphosyntactic word* (MWd) iff  $X^0$  is the highest segment of an  $X^0$  not contained in another  $X^0$ .

#### Subword

- (iii) A node  $X^0$  is a *subword* (SWd) if  $X^0$  is a terminal node and not an MWd.

[ (i) and (ii) from Embick & Noyer 2001: 574]

Now, inquiry into the role of the *[I]*-feature at the LF interface is crucial when it comes to understand other types of acceptable mismatches in ellipsis, in particular, those coming from Generalization 1 (12), indexical switches (7) and Principle-C obviation effects (5). This requires first making some commitments connected to the syntax-LF interface. In certain versions of DM, abstract morphemes and Roots should be taken as purely syntactic primitives in strict terms, i.e., as syntactic objects deprived of phonological and semantic exponence. In other words, regarding the syntax-LF interface, we also assume “late semantic” insertion. Let’s illustrate this point with what Marantz’s (2013) calls *allosemy*, the phenomenon by virtue of which a given syntactic object (a Root or an abstract morpheme) receives its meaning as a byproduct of the syntactic context in which it occurs. Thus, in Spanish, the Root  $\sqrt{\text{GARR-}}$  is semantically realized as in (45a) or (45b) depending on the category-defining head with which it combines (“ ” = semantic realization/exponence):

#### Garra – agarrar allosemy:

- (45) a. [<sub>n</sub> *n* +  $\sqrt{\text{GARR-}}$ ] ↔ “paw”  
b. [<sub>v</sub> *v* +  $\sqrt{\text{GARR-}}$ ] ↔ “to take”

On this view, it is licit to say that “to paw” and “to take” are the semantic exponents of an abstract syntactic configuration. By *semantic exponence*, we understand

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As argued at length by Saab (2008), when it comes to evaluate identity for the phrases contained in the elliptical VP, the system simply does not allow for *[I]*-Assignment of an already *[I]*-assigned object. In other words, *[I]*-Assignment does not proceed vacuously. *[I]*-Assignment to copies has large theoretical and empirical consequences. In what follows, I will proceed without making any reference to the issue of sloppy identity of copies. I refer to the reader to Saab (2008, 2016) for extensive discussion.

not only the semantic specification of some conceptual domain, but also the realization of some model-theoretic object, as a predicate of entities (45a) or a predicate of events (45b) (see Marantz 2013 and Harley 2014). Let me then suggest that the LF effect of the  $[I]$ -feature is the perfect counterpart of what we see at PF, that is, an  $[I]$ -marked constituent instructs LF for blocking semantic exponence:

Semantic Blocking (SB):

- (46) “Semantic insertion” does not apply in the domain of an  $[I]$ -assigned syntactic object.

Put differently,  $[I]$ -Assignment blocks phonological and semantic realizations; an  $XP^{[I]}$  is simply not realized at the interfaces. We can call this object a *syntactic fossil*. At PF, this is resolved in terms of zero phonological exponence. At LF this means exactly the same:

LF-instruction for  $[I]$ -assigned constituents:

- (47)  $[XP]^{[I]} \leftrightarrow [[XP]] = “\emptyset”$

The question is then how the semantics of a given elliptical sentence is resolved at LF. I contend that the answer follows from the theory of ellipsis licensing. As extensively discussed in Lobeck (1995) and Merchant (2001), any theory of ellipsis must include an explanation of why English, but crucially not Spanish, allows for VP-ellipsis. In Merchant (2001), a particular  $[E(\text{llipsis})]$ -feature is proposed. The role of such a syntactic feature is providing the relevant instructions for interface interpretation. At the same time, the syntactic distribution of the  $[E]$ -feature would account for linguistic variation regarding the size of E-sites across languages. Thus, English, but not Spanish, has VP-ellipsis just because the  $[E]$ -feature is licensed to occur as a property of the T node electing its VP sister for ellipsis:

- (48)  $[_{TP} T_{[E]} <_{VP} \dots V \dots >]$

Following Elbourne (2008), Bentzen *et al* (2013) and Messick *et al* (2016) I assume that this feature does not determine only the size of the E-site but has also the crucial property of determining the antecedent for E, by providing a specific type of contextual restriction. In the specific implementation proposed by Messick *et al* (2016), E is a contextual restrictor (labeled R; see Heim & Kratzer 1998 and Elbourne 2008) that looks for an antecedent of the relevant syntactic and semantic category in the (non)-linguistic environment and, if the searching is successful, then the sister of R is deleted at PF.<sup>15</sup> The syntax of ellipsis then looks like sketched in (49):

- (49)
- 
- ```

      RP
     / \
    R   <XP>
         \
         ... X ...

```

<sup>15</sup> The nature of the identity condition is not discussed in Messick *et al*, who remain agnostic on the matter. Here, I am just supplementing their theory of contextual restriction on ellipsis with a particular theory of syntactic ellipsis.

According to Messick *et al*, R and XP are combined by Predicate Modification, as formulated in (50) (adapted from Heim & Kratzer 1998:65).

Predicate Modification:

- (50) For any type  $\tau \in \{e, \langle e, t \rangle, \langle s, t \rangle, \dots\}$ , if  $\alpha$  is a branching node with daughters  $\beta_{\langle \tau, t \rangle}$ , and  $\gamma_{\langle \tau, t \rangle}$ , then  $[[\alpha]]^g = \lambda f_{\langle \tau, t \rangle} [[\beta]]^g(f) = 1 \ \& \ [[\gamma]]^g(f) = 1$

Given an example like (51a), where VPs are assumed to denote in the  $\langle e, t \rangle$  type for the exposition sake, the underlying syntax for the elliptical sentence should be as in (51b):

- (51) a. John works hard and Peter does too.  
b. John [<sub>VP</sub> works hard] and Peter does [<sub>VP</sub> R <[<sub>VP</sub> work hard]>] too.

The value of R will be that of the antecedent VP:<sup>16</sup>

- (52)  $[[R]] = \lambda x_e. x \text{ works hard}$

And the elliptical VP will have, in turn, the following denotation:

- (53)  $[[VP]] = \lambda x_e. x \text{ works hard}$

By Predicate Modification, then, we will vacuously obtain the meaning in (56):

- (54)  $[[R \ VP]] = \lambda x_e. [[\text{works hard}]](x) = [[\text{works hard}]](x) = 1$

In simple cases like this, the contribution of R is clearly redundant. Yet, as shown in the aforementioned works (Elbourne 2008 and, especially, in Messick *et al* 2015) this view on ellipsis correctly accounts for a set of intricate semantic effects in different domains, which have been resistant to previous conceptions of the identity condition (semantic or syntactic). Just to give an example from Messick *et al*, Barros' (2012) discovery that sluicing (55a) repairs the semantic incongruence observed in (55b) follows directly from this account:

- (55) Juan besó a María y besó a alguien más también,  
Juan kissed ACC María and kissed ACC someone else too  
a. pero no sé a quién.  
but not know.1P.SG ACC who  
b. #pero no sé a quién besó.  
but not know.1P.SG ACC who kissed  
'Juan kissed María and he kissed someone else too, but I don't know who (#he kissed).'

<sup>16</sup> Through this paper I will avoid technical complications regarding, for instance, the semantic nature of subject traces in VP-ellipsis (see also footnote 12 regarding its syntactic nature). So, depending on well-established assumptions about subject movement and the representation of traces, VPs with a subject trace inside should be represented as containing a variable. Given that this issue is orthogonal to the arguments to be developed in this paper, I will keep denotations as simple as possible.

The problem with (55b) is that asserting that Juan kissed María counts as a partial answer to the question denoted in the second conjunct (see Barros 2012 and Saab 2015). Simplifying somewhat, one cannot ask for a partial answer to the question *Who did Juan kissed?* while asserting at the same time that (one knows) Juan kissed María (Romero 1998). This incongruence vanishes in the elliptical sentence in (55a). The puzzle is explained by the presence/absence of contextual restriction. The presence of R in (55a) restricts the set of possible answers denoted by the question expressed by the sluice sentence to the set of individuals  $x$  such that  $x \neq \text{María}$ . This restriction, of course, comes from the *else* modifier in the antecedent CP that R takes as its value. In turn, absence of R in (55b) implies that the set of propositions denoted by the embedded question is unrestricted to the set of individuals including María, which is inconsistent with asserting that the speaker knows that Juan kissed María. I refer to the reader to Messick *et al* (2015) for the specific details of this analysis. My point here is just to show that the presence of R has important empirical support. Adopting then the idea that the [E]-feature is equal to what I will call now  $R_E$  (i.e., a special restrictor head<sup>17</sup>), we can now define [I]-Assignment more precisely in the following way:<sup>18</sup>

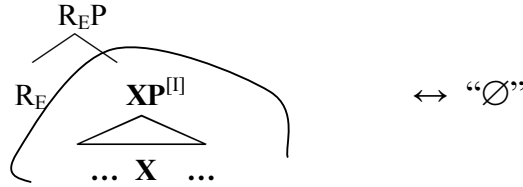
[I]-Assignment:

- (56) For every phrase XP, such that XP is contained in the complement of  $R_E$ , assign a [I]-feature to XP in the syntax if and only if there is an YP identical to XP contained in the antecedent for XP.  
(where the notion of *containment* is reflexive)

Notice now that if SB is correct, we can dispense entirely with any semantic composition rule for the  $R_E$  and the E-site, because the E-site is semantically inert; semantic resolution is entirely dependent on  $R_E(P)$  resolution. Simplifying somewhat the LF effects of [I]-Assignment for a given XP, in what follows the semantic instruction for E-sites will be illustrated in the ways proposed in (57):

LF instruction for realization of  $XP^{[I]}$ :

- (57) a.  $[XP]^{[I]} \leftrightarrow [[XP]] = \text{“}\emptyset\text{”}$  (or just  $[[XP]] = \text{“}\emptyset\text{”}$ )  
b.



### 3.3. The theory at work: some preliminary examples and discussion

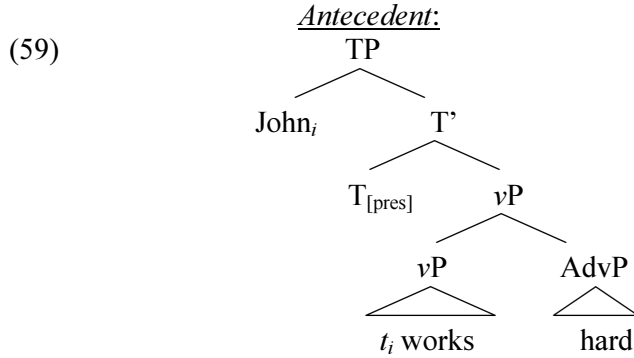
<sup>17</sup> This is just an expository device to make clear that the surface / deep distinction still holds. Messick *et al* suggests that such a distinction would correlate with R's valence, an option briefly discussed in the final section here.

<sup>18</sup> As stated, [I]-Assignment does not make reference to structural isomorphism. An structural condition taking into account parallel syntactic structures could of course be added to the theory in order to rule out "crazy derivations" (Chung 2006). However, as argued in Saab (2008) such additional conditions might be avoided if the [I]-Assignment algorithm proceeds calculating identity step by step from the bottom-up or vice-versa. Thus, taking the algorithm to be bottom-up [I]-Assignment starts at the most embedded phrase, the  $\sqrt{P}$ , and looks for the most embedded phrase in the antecedent in order to check if identity is obeyed.

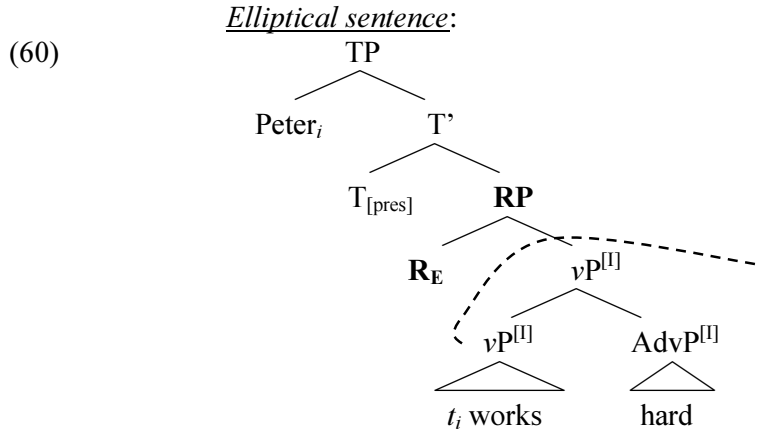
Before discussing how this system would apply to the empirical generalizations introduced in the previous section, let's illustrate the working of the system with some sample examples, starting with (58):

(58) John works hard and Peter does too.

As for the syntactic part of the derivation, we assume the following simplified syntax for the antecedent *vP*:



The syntax of the elliptical sentence is similar except that it also contains the restrictor head  $R_E$  that takes the elliptical *vP* as a complement. Given that in this case there is perfect identity between each of the phrases contained within the complement of  $R$ ,  $[I]$ -Assignment will output a legitimate E-site. This is illustrated as follows:



At PF, Vocabulary Insertion applies to the antecedent in the normal way, but the terminal nodes in the E-site just do not receive their phonological exponence by VIB. I will annotate the final result of  $[I]$ -Assignment as in (61), but this is just an expository device (see Saab 2008 for details of the mechanics of  $[I]$ -Assignment at PF).

(61)  $vP_E \leftrightarrow / \emptyset /$

Turning now our attention to the LF side of the antecedent and the E-site, they are semantically realized as follows (recall: “ ” = semantic realization), where again the “ $\emptyset$ ” notation is an expository convention:



LF instructions: semantic realizations of the antecedent vP and the E-site:

- (62) a. Antecedent  $[[vP_A]] = “\lambda x_e. x \text{ works hard}”$   
 b. E-site  $[[vP_E]] = “\emptyset”$

The details of how “ $\emptyset$ ” is obtained step by step at LF is not relevant here, as the entire E-site is just semantically inert, with no consequences for the LF composition of the whole sentence. All the semantic and pragmatic import of the elliptical part of the sentence relies on  $R_E$ . I propose the following conjecture regarding the semantic realization of the  $R_E$  head:

*Semantic realization of  $R_E$  (conjecture):*

- (63)  $R_E$  must realize a legitimate LF-formula in order to further compose with the non-elliptical part of the structure in which it occurs. Unless semantic and pragmatic well-formedness conditions dictate otherwise,  $R_E$  semantically realizes the denotation of its antecedent.

According to this conjecture,  $R_E$  in (60) is realized as:

- (64)  $[[R_E]] = “\lambda x_e. x \text{ works hard}”$

The result of this combines in the usual way with the subject DP in (60):

- (65)  $[[\lambda x. x \text{ works hard}]] ([[Peter]])$

The conjecture in (63) has two particularities when compared with other maybe related analysis, like LF-copy analyses (for instance, Williams 1977 and Chung *et al* 1995). First, it does not take the semantic realization of the elliptical phrase to be a “copy” of its antecedent. The “LF-copy” effects we observe in many elliptical constructions are just a byproduct of the fact that in the default case  $R_E$  is realized in the same way as its antecedent. However, the semantic realization of  $R_E$  could be manipulated/accommodated whenever semantic and pragmatic conditions are at play. This makes ellipsis resolution more liberal than LF-copy approaches. Second, the conjecture is, in turn, less liberal than Heim & Kratzer’s (1998) particular implementation of E-type pronouns or Elbourne’s (2008) theory of ellipsis. For Heim & Kratzer, for instance, their R just can take the value of some salient function or relation made available in the context of utterance. In other words, R does not necessarily require being resolved on the basis of the semantic denotation of its antecedent, if any. In principle, salient contextual information could be enough for R resolution.<sup>19</sup> I think this particular aspect of the theory of ellipsis is still poorly understood and it is not clear to me whether at least certain controversies could, in reality, be understood as terminology matters. At any rate, the conjecture made in (63) requires further elaboration in order to have an adequate empirical coverage, but I think that there are some well-known empirical observations that give some preliminary support to it. I have already mentioned Barros’ paradigm which suggests that presence of  $R_E$  is unavoidable for independent reasons. Similar phenomena point to the conclusion that, in addition, R must be semantically realized as suggested in (63). Consider Inheritance of Content in sluicing (Chung *et al* 1995, Romero 1998, AnderBois 2011, Barros 2013 and Messick et al 2016, among others):

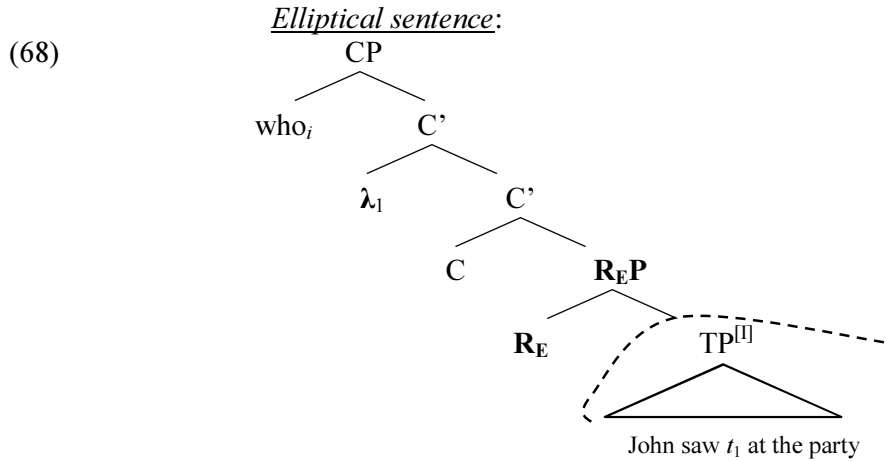
<sup>19</sup> Importantly, for Heim & Kratzer surface anaphora is not resolved by R, but by LF-copy.

(66) John saw some students at the party, but Peter does not know who.

One crucial semantic property of the sluiced sentence is that *who* must be interpreted as restricted to the set of students. This contrasts with the non-elliptical counterpart of the same sentence:

(67) John saw some students at the party, but Peter does not know who John saw at the party.

Here, *who* can, but crucially does not need to, be restricted to the set of students. The sentence is perfectly felicitous if expressing Peter's absolute ignorance regarding the particular role of the people who John saw at the party. Let's assume the following structure for the sluiced sentence in order to see the problem posited by Inheritance of Content:



If the E-site was resolved by the semantic information provided by the sentence in which it occurs, then we would have no semantic differences between the elliptical and non-elliptical sentences, as both would have an unrestricted *wh*-constituent (or minimally restricted to humans). Yet, if E-sites are contextually restricted by  $R_E$  to take the value of some available antecedent, the problem just vanishes. As explained, this is implemented by Messick *et al* by combining the semantic value of  $R_E$  and the E-site through the rule of Predicate Modification. In the present system, however, the elliptical TP is not semantically realized and  $R_E$  just takes the value proposed by Messick *et al*, namely, that of a proposition containing a choice function restricted to the student set:

Semantic realizations of the antecedent  $R_E$  and the E-site:

- (69) a.  $[[R_E]]^g = \text{"}\lambda w. \text{Juan saw } f(\text{student})(w) \text{ at the party"}$   
 b.  $[[TP]]^g = \text{"}\varnothing\text{"}$

Now, the semantic value of  $R_E$  will compose with the non-elliptical material of the sluiced sentence. Crucially, the C head would be read as a set of propositions, whose complement is a proposition existentially quantified over choice functions (see Hagstrom 1998 for details):

(70)  $[[CP_{<st,t>}]]^g = “\lambda p.\exists f.p = [\lambda w.Juan\ saw\ f(student)(w)\ at\ the\ party]”$

What Inheritance of Content shows is that  $R_E$  must take as its default value the semantic value of its linguistic antecedent. However, the conjecture in (63) stipulates that accommodation of  $R_E$  is allowed if necessary. So, in principle we should expect blocking of Inheritance of Content in cases in which the final result would lead to a semantic failure. Thus, in cases of contrastive sluicing Inheritance of Content is simply impossible:

(71) John has four CATS, but I don’t know how many DOGS.

In principle, focus marking on correlates and remnants, a property of contrastive ellipses in general, seems to be the way in which syntax instructs to LF as far as the semantic realization of  $R_E$  is concerned (see Merchant 2001).<sup>20</sup> More pragmatic reasons could, also, lead to particular semantic realization of  $R_E$ . A case at point, recently discussed by Barros & Saab (2016), is the following one, from Chung (2000):

(72) A: I love you<sub>1</sub>.  
B: I does too <love you<sub>2</sub>>.

The indicated E-site cannot be accounted for under any mainstream account of the identity condition on ellipsis. LF-copying the full interpreted  $\lambda$ -formula derived from the antecedent  $vP$  would amount to copying also the variable assignment for the free pronoun in the antecedent, in a way such that the elliptical sentence would end up denoting that the speaker loves herself, a possible reading but not the one indicated in (72). Mutual entailment would run in exactly the same type of problem. On face of it, Barros & Saab propose leaving the identity condition unaltered (in whatever version one assumes) and deriving the meaning of the E-site through a conversational implicature. Adapting this idea into the present framework, we can assume that  $R_E$ , the antecedent and elided  $vPs$  in (72) are realized along the following lines:

(73) a.  $[[vP_A]] = “\lambda x. x\ loves\ g(1)”$   
b.  $[[R_E]] = “\lambda x. x\ loves\ g(1)”$   
c.  $[[vP_E]] = “\emptyset”$

The official content in (75) then is equivalent to the official meaning also predicted by LF-copy or Mutual Entailment. A conversational implicature outputs the implicated meaning that the speaker loves the addressee. These are then the kinds of

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<sup>20</sup> Similar reasoning would extend to other kinds of ellipsis involving focus marking in remnants and correlates. Just to mention an example provided by an anonymous reviewer, consider pseudo-gapping in English.

(i) John will read the PAPER, and Mary will the MAGAZINE <read *t*>.

If the syntax-LF structure of the antecedent clause contributes a variable for the focus-marked correlate as a byproduct of focus movement in the antecedent, then there is no issue as far as  $R_E$  realization is concerned, as there is no issue in general with sloppy identity of copies/traces (see footnote 12). If the correlate does not vacate its base-position inside the antecedent,  $R_E$  must be accommodated in order to be realized as containing a legitimate variable for the focused remnant. As proposed in recent work by Van Craenenbroeck (2013) or Thoms (2015) it could be also the case that accommodation just operates on antecedents and not E-sites. I will not elaborate on this issue any further.

*semantic and pragmatic well-formedness conditions* behind (63) and, no doubts, not the only ones.<sup>21</sup>

In closing this section, I highlight one of the specific predictions of the *[I]*-Assignment that distinguishes it from alternative theories. Recall that Potts *et al* (2009) claim that ellipsis should be restricted in such way as to make reference only to (truth-conditional) content, as expressive mismatches are broadly attested in elliptical constructions:

- (74) A: I saw your fucking dog in the park.  
B: No, you didn't—you couldn't have. The poor thing passed away last week.

Assuming that expressive content is not part of the at-issue content of a given sentence (Potts 2005), data like this can be used as an important argument in favor of mutual entailment approaches and against LF-copy. For mutual entailment to hold in (74B) one must ensure that the propositions generated by Focus Closure mutually entail each other regardless of non-truth conditional aspects of meaning. LF-copy instead produces an E-site as the following one, where the expressive in the antecedent is copied onto the E-site.

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<sup>21</sup> Other well-known cases that would require manipulation of  $R_E$  are binderless sloppy readings, sluicing of the sprouting type and ellipsis containing antecedents. To know for each of these cases when  $R_E$  is manipulated by LF or by pragmatic means, the two options contemplated in (63), is not an easy job. An anonymous reviewer provides two interesting cases that according to him could be problematic for syntactic identity. On my view they are good illustrations of how to proceed once the conjecture in (63) is taken into account under the *[I]*-Assignment system. Both examples suppose some type of modality mismatch:

- (i) I want to return some day, but I don't know when <I will return>.  
# <I want to return>.  
[from Anand & McCloskey, available at ohlone.ucsc.edu/SCEC/ ]
- (ii) A: Can you help me, please?  
B: Why <should I help you>?  
# <can I help you>?

Notice first that the elliptical sentences in (i) and (ii) do not allow deciding between truth-conditional identity and lexical/syntactic identity, when such approaches are taken in a broad sense (see section 2). The reason is that both (i) and (ii) are at first sight problematic for semantic and syntactic identity taken in a broad sense. So, any approach to ellipsis should derive cases like (i) and (ii) through some sort of semantic or pragmatic manipulation. Second, interestingly, *[I]*-Assignment derives indeed each of E-sites as strictly identical to their respective antecedents (notice that in (iv) the indexical features present in A and E are also strictly identical, see section 5):

- (iii) I want to return some day, but I don't know when [  $R_E$  [ $TP^{[I]}$  <I want to return>]]  
[from Anand & McCloskey, available at ohlone.ucsc.edu/SCEC/ ]
- (iv) A: Can you help me, please?  
B: Why [  $R_E$  [ $TP^{[I]}$  <can [addressee] help [speaker]>]]

These are exactly the same type of derivations that I will propose for all the core cases to be discussed in what follows (in particular, putative Bias Vehicle Change in TP-ellipsis, but also expressive mismatches, Principle-C obviation and indexical switches). The difference is that given that  $R_E$  official denotations in (i) and (ii) would produce a semantic/pragmatic clash, accommodation for  $R_E$  is required. In this respect, examples like these can be taken on a par with Chung's examples discussed by Barros & Saab (2016). If a conversational implicature story can generalize to these modal mismatches is something that has to be determined. But at first glance, I do not take them as being in the set of real *a priori* problems for syntactic identity as pseudo-sluicing is (see the discussion in section 3.1). Needless to say, they are not in the set of *a priori* problems for mutual entailment, as pseudo-sluicing is, either.

(75) B: No, you didn't <see my fucking dog>...

Evidently, this elliptical sentence is semantically incompatible with the following up discourse in (74B). The *[I]*-Assignment procedure, however, allows for a similar derivation according to which *see my fucking dog* underlies the E-site in the syntax:<sup>22</sup>

(76) B: No, you didn't [<sub>RP</sub> R<sub>E</sub> [<sub>VP</sub><sup>[I]</sup> see my fucking dog]...

At LF, R<sub>E</sub> gets the denotation of the antecedent vP -its official truth-conditional content- and the E-site is semantically not realized:

*LF realization of R and the E-site:*

(77) B: No, you didn't [<sub>RP</sub> R<sub>E</sub> “ $\lambda x. x$  see  $g(1)$ ” [<sub>VP</sub><sup>[I]</sup> “Ø”

This LF is perfectly felicitous if inserted in the broad utterance made by B. In a sense, we can understand ellipsis as if the E-site were a direct quotation of its antecedent, in which the words in the quotation are simply “deleted” at PF.<sup>23</sup> Semantic blocking, in turn, ensures that non-truth conditional dimensions of meaning (e.g., conventional implicatures) present in the antecedent are not inherited by the elliptical sentence. As we will see in the next section, this is the key to understand the identity puzzle raised in section 2.

#### 4. Deriving the puzzle

Let's see then how the theory of ellipsis derives the pattern of Bias Vehicle Change in Spanish NP-ellipsis, which is obviously the “good case” for lexical-syntactic identity:

- |      |    |                  |                |    |      |               |
|------|----|------------------|----------------|----|------|---------------|
| (78) | a. | El               | <b>culo</b>    | de | Juan | es más grande |
|      |    | the.MASC.SG      | ass.MASC.SG    | of | J.   | is more big   |
|      |    | que el           | <culo>         |    |      | de María.     |
|      |    | that the.MASC.SG | ass.MASC.SG    |    |      | of M.         |
|      | b. | La               | <b>cola</b>    | de | Juan | es más grande |
|      |    | the.FEM.SG       | tail.FEM.SG    | of | J.   | is more big   |
|      |    | que la           | <cola>         |    |      | de María.     |
|      |    | that the.FEM.SG  | tail.FEM.SG    |    |      | of M.         |
|      | c. | *El              | <b>culo</b>    | de | Juan | es más grande |
|      |    | the.MASC.SG      | ass.MASC.SG    | of | J.   | is more big   |
|      |    | que la           | <cola>         |    |      | de María.     |
|      |    | that the.FEM.SG  | <tail.FEM.SG > |    |      | of M.         |
|      | d. | *La              | <b>cola</b>    | de | Juan | es más grande |
|      |    | the.FEM.SG       | tail.FEM.SG    | of | J.   | is more big   |

<sup>22</sup> Notice that the system allows generating such an E-site, but crucially it does not require that.

<sup>23</sup> Interestingly, an explicit air quotation as a counterpart for (74B) produces a similar effect; i.e., the speaker does not commit herself with the expressive content of the quoted material as witnessed by the continuation in (i):

(i) B: No, you didn't see “my fucking dog”... The poor thing passed away last week.

A worth exploring line of research within the present framework should tell us whether quotation in natural language can be conceived of an *overt* manifestation of semantic blocking.

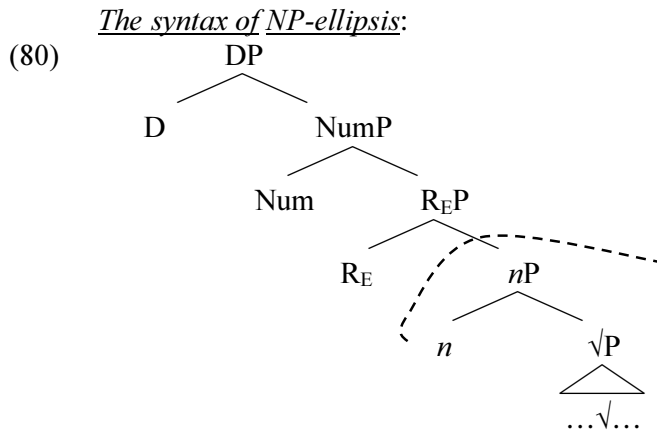
|      |             |                |    |        |
|------|-------------|----------------|----|--------|
| que  | el          | <culo>         | de | María. |
| that | the.MASC.SG | <ass.MASC.SG > | of | M.     |

Recall Generalization 2:

Generalization 2:

- (79) Bias Vehicle Change is not licensed under NP-ellipsis.

Following Saab (2004, 2008, to appear) and Merchant (2014), I assume that Spanish NP-ellipsis is, strictly speaking, ellipsis of the *nP* layer; i.e., it contains the [*n* + Root] complex excluding the Number Phrase domain of the ellipsis domain. The contextual restrictor, *R<sub>E</sub>P*, takes as a sister the category to be elided.



As already explained, introduction of *R<sub>E</sub>P* into a given derivation triggers identification of an appropriate antecedent in the syntactic context. [*I*]-Assignment, repeated below, applies then in the syntax for every phrase contained into the E-site:

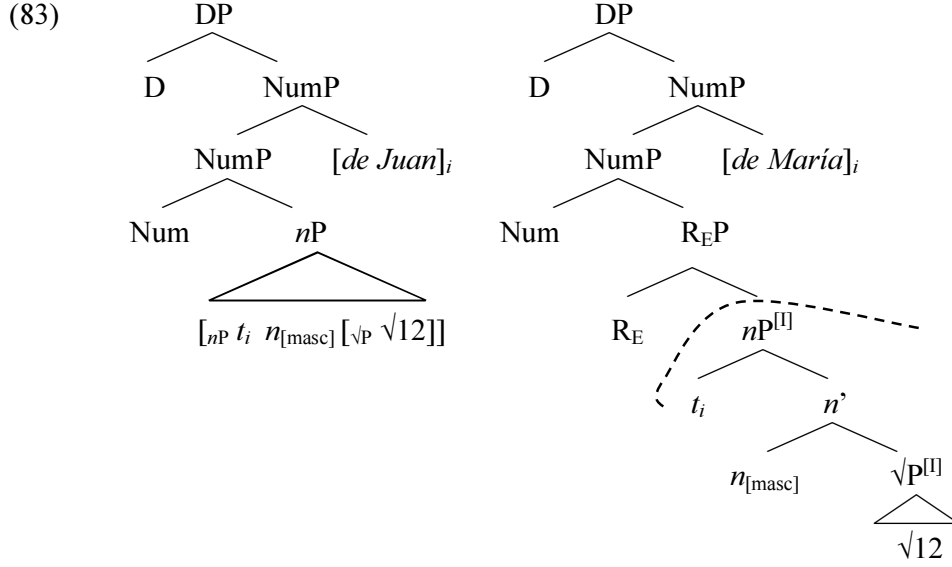
[*I*]-Assignment:

- (81) For every phrase XP, such that XP is contained in the complement of *R<sub>E</sub>*, assign a [*I*]-feature to XP in the syntax if and only if there is an YP identical to XP contained in the antecedent for XP.  
(where the notion of *containment* is reflexive)

Let's take as example (78a):

- (82)
- |             |             |             |      |    |        |        |
|-------------|-------------|-------------|------|----|--------|--------|
| El          | culo        | de          | Juan | es | más    | grande |
| the.MASC.SG | ass.MASC.SG | of          | J.   | is | more   | big    |
| que         | el          | <culo>      |      | de | María. |        |
| that        | the.MASC.SG | ass.MASC.SG |      | of | M.     |        |

In order to have a more explicit syntax for this particular example, I also adopt the idea that the possessive correlate and the possessive remnant vacate the *nP* domain leaving a copy/trace in their base position (Ticio 2003, Saab 2008, and Yoshida *et al* 2012). If the Root for *culo* is syntactically represented by the index 12, we can see that [*I*]-Assignment correctly assigns a [*I*]-feature to each phrase contained in the complement of *R<sub>E</sub>* via syntactic identity with the antecedent *nP*:



As already discussed in the previous section, the neat effect of syntactic identity (i.e., *[I]*-Assignment) is blocking PF and LF realization as stated above:

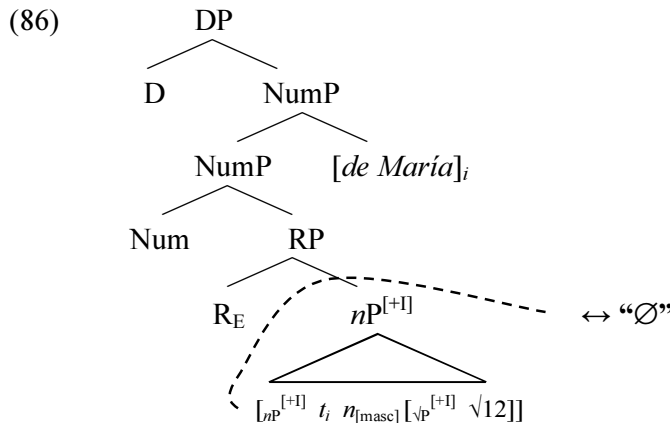
*VI-Blocking (VIB):*

- (84) Vocabulary Insertion does not apply in the domain of  $X^0$ ,  $X^0$  a MW, if  $X^0$ , or some projection of  $X^0$ , is specified with a *[I]* feature.

*Semantic Blocking (SB):*

- (85) “Semantic insertion” does not apply in the domain of an *[I]*-assigned syntactic object.

Concentrating only on the LF side, we can represent the semantic inertness of the E-site as before:



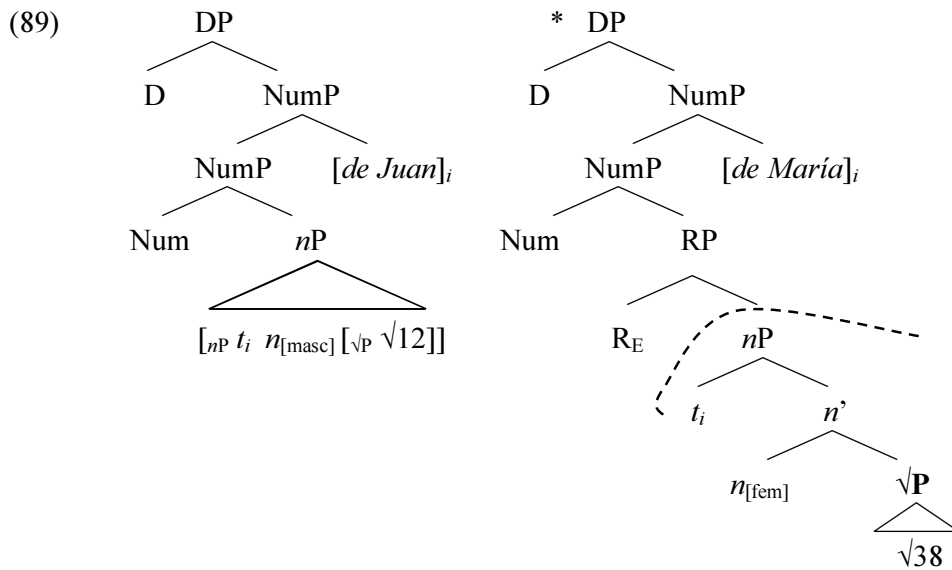
As mentioned,  $R_E$  will be resolved on the basis of the antecedent *nP* previously asserted in the discourse. In this case, we can assume that  $R_E$  will take the value of the semantic realization of the antecedent *nP* along the following lines (*t* = the semantic variables left by the movement of the correlate):

- (87) a.  $[[nP_A]] = “\lambda x.[x \text{ is } t' \text{'s ass}]”$   
 b.  $[[R_E]] = “\lambda x.[x \text{ is } t' \text{'s ass}]”$

Let's turn now to the ungrammatical example in (78c) and assume that  $\sqrt{38}$  is the index for *cola*:

- (88) \*El **culo** de Juan es más grande  
 the.MASC.SG ass.MASC.SG of J. is more big  
 que la <cola> de María.  
 that the.FEM.SG <tail.FEM.SG > of M.

Syntactic identity is flagrantly violated here and  $[I]$ -Assignment cannot derive a legitimate E-site:



The strong ungrammaticality of (78c) follows now as an extreme violation of the identity condition where both the abstract morpheme *n* and the Root in the E-site do not match the features of the corresponding phrases in the antecedent. We derive thus Generalization 2.

This analysis opens the question as to why TP-ellipsis in fragments seems to behave in the opposite way. Recall the analysis sketched in (12B) and its associated (putative true) empirical observation:

- (90) A: Qué  $[_{TP} \text{ morfaste } t]$ ?  
 what ate.2P.SG.INFORMAL  
 B: Una pizza < $[_{TP} \text{ comí } t]$ >, pero no tolero  
 a pizza ate.1P.SG.NEUTRAL but not tolerate.1P.SG  
 cuando hablas tan informalmente.  
 when speak.2P.SG so informally

Generalization 1:

- (91) Bias Vehicle Change is licensed under TP-ellipsis.

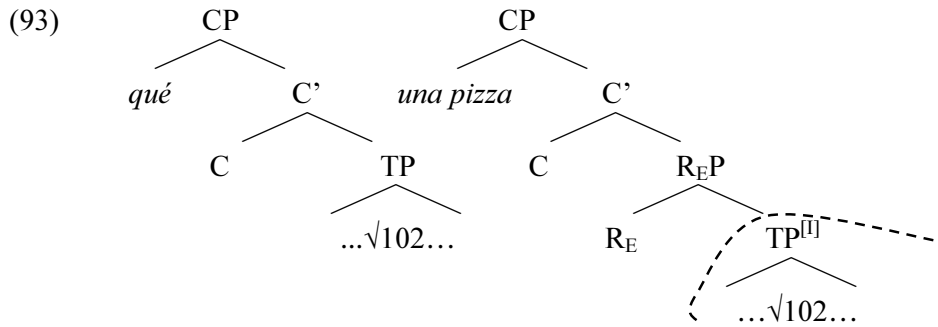


It is clear now that taking for granted that the same identity condition is operative in TP and NP-ellipsis, such an analysis should be regarded as impossible, given that *comer* and *morfar* are the PF realizations of distinct Roots. So, (91) should be regarded as false. Under uniformity considerations, in the best case, we expect (92) to hold:

*Bias Vehicle Change Generalization (Final)*:

- (92) Bias Vehicle change is neither licensed under TP-ellipsis nor NP-ellipsis.

Fortunately, the theory of ellipsis I am defending here gives rise to an alternative analysis for (90) according to which the same Root for *morfar*, say  $\sqrt{102}$ , is generated both in the antecedent and the elided TP. Given that all other syntactic features are identical *in the syntax* (agreement information being supplied at PF), we conclude that both TPs are in this case strictly identical as shown in (93):



The mechanics for the semantic realization of the relevant constituents should be more or less evident:

*Semantic realization of A, E and R<sub>E</sub>*:

- (94) a.  $[[TP_A]] = “\lambda w.g(1) \text{ ate } f(x)(w)”$   
 b.  $[[R_E]] = “\lambda w.g(1) \text{ ate } f(x)(w)”$   
 c.  $[[TP_E]] = “\emptyset”$

The semantic realization of the Root for the informal *morfar*, however, also conveys a non-truth-conditional dimension. In Predelli’s (2013) terms, we can state the bias for this verb as follows:

- (95)  $c \in CU(morfar)$  only if  $c_a$  is a participant in informal register in  $c$ .  
 [where CU is the class of the context of use]

Other alternatives for informal register (a conventional implicature, for instance) would not affect the conclusion, namely, that the bias is not inherited by  $R_E$ . Thus, bias mismatches in TP-ellipsis are just illusory. This analysis obviously resembles one of the possible derivations for (74B) allowed by the  $[I]$ -Assignment system. Recall that (96B) can have the syntax in (97). Given the expressive *fucking* is contained in an E-site, its putative expressive content is left inert because of the semantic exponence of the entire E-site (i.e., “ $\emptyset$ ”).

- (96) A: I saw your fucking dog in the park.

B: No, you didn't—you couldn't have. The poor thing passed away last week.

Syntax:

- (97) B: No, you didn't  $[_{RP} R_E [_{VP} ^I]$  **see my fucking dog...**

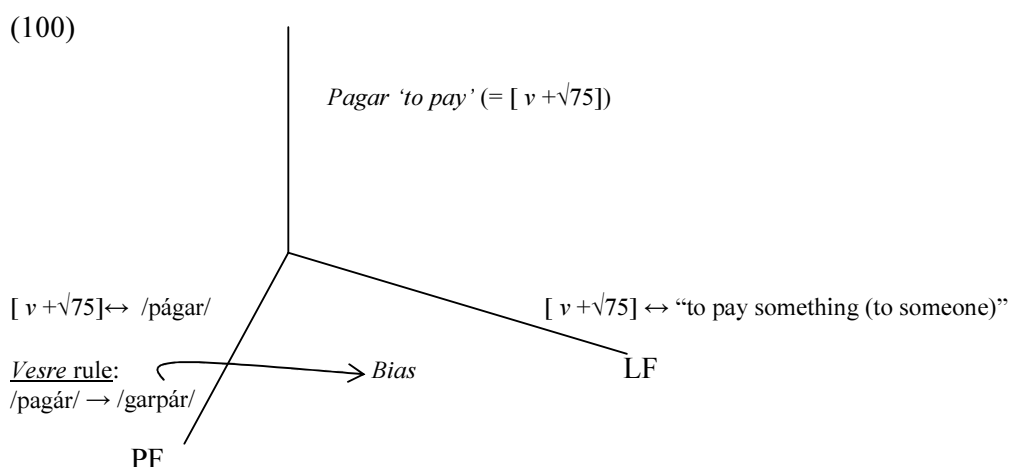
LF realization of  $R_E$  and the  $E$ -site:

- (98) B: No, you didn't  $[_{RP} R_E$  “**λx. see g(1)**”  $[_{VP} ^I]$  “**Ø**”...

The interesting fact about cases like (90B), as analyzed in (93), is that there is no alternative of deriving the pattern as a standard case of Vehicle Change or as null proform contained into de ellipsis site (see footnote 9). In other words, (90B) constitutes robust evidence in favor the hypothesis that ellipsis is resolved on the basis of the at-issue content of a given antecedent. Other typical cases from the list in (15), repeated below, point to the conclusion that, at least in some instances, the bias/conventional implicature of a given word is even not present at LF.

|      | <i>Neutral</i>   | <i>Informal</i> |                        |
|------|------------------|-----------------|------------------------|
| (99) | tomar            | chupar          | ‘to drink’             |
|      | sudar/transpirar | chivar          | ‘to sweat’             |
|      | eyacular         | acabar          | ‘to ejaculate/to come’ |
|      | <b>pagar</b>     | <b>garpar</b>   | ‘to pay’               |
|      | trabajar         | laburar         | ‘to work’              |
|      | escapar          | rajar           | ‘to escape’            |
|      | defecar          | cagar           | ‘to defecate/to shit’  |
|      | delatar          | buchonear       | ‘to betray’            |
|      | molestar         | joder           | ‘to bother’            |
|      | <b>pasarse</b>   | <b>sarparse</b> | ‘to cross the limits’  |

The relevant cases are the so-called *vesre* words like *garpar* and *sarparse* (see Bohrn 2016). *Vesre* speak is an informal way to speak that consist of reversing the syllable structure of a given word. Thus, *pagar* (pa-gar) is converted into a *vesre* word by inverting the two syllables it contains (pa – gar → gar – par). The phenomenon uses to be productive in informal registers in a way such that even not lexicalized *vesre* words are subject to the rule (e.g., *mesa* – *same*). From a DM perspective, the *vesre* speak can only be obtained after syntax (see Bohrn 2016). A rough derivation for the verb *garpar* could be as follows:



If this analysis is on track a parallel example to (90) containing the verb *garpar* in the antecedent should be analyzed as in (101):

- (101) A: Qué [<sub>TP</sub> **garpaste** *t*]? (*garpar* =  $\sqrt{75}$  in the syntax)  
           what   payed.2P.SG.INFORMAL  
       B: Una   pizza <[<sub>TP</sub>    $\sqrt{75}$  *t*]>,       pero   no       tolero       cuando  
           a     pizza                           but   not       tolerate. 1P.SG when  
       hablás    tan    informalmente.  
       speak.2P.SG so    informally

Like in the case of *morfar* ‘to eat’, we also have here the same syntactic Root both in the antecedent and in the E-site. But this syntactic Root simply does not distinguish the biased and the unbiased version of the same grammatical object at the semantic interface. It is only after a process of syllabic inversion applying at PF that we obtain the informal register as a bias for the inverted *phonological* Root. This makes  $R_E$  resolution at LF quite transparent. It is an open issue whether the bias is always resolved at PF at least for pairs of words like those in list (99).

In short, Bias Vehicle Change is not allowed by the formal system proposed in this study. Before closing this section, it is important to note that the generalization in (92), which I think is correct, must not be read as claiming that mismatches in bias are impossible in the general case. The NP-ellipsis examples explored through this paper all involve different Root indexes. As noticed by an anonymous reviewer, bias mismatches of another kind are allowed in Spanish NP-ellipsis. In the reviewer’s dialect, for instance, *crío* ‘child’ can be used to refer both to an actual child and to an adult with an immature/child-like behavior. NP-ellipsis is, yet, perfectly possible (reviewer’s example):

- (102) Aquí   está   mi    crío   de   tres   años. El    <crío> de  
       here   is    my    child   of   three   years   the   child   of  
       cuarenta    está   leyendo    tebeos.  
       forty       is    reading    comic books

The reviewer points out the same for the word *bombón* who denotes a piece of chocolate but it can be also used to refer to a beautiful woman. Bias mismatches are perfectly possible again (reviewer’s example):

- (103) un       bombón                   para   otro   <bombón>  
       a       piece-of-chocolate   for   other   piece-of-chocolate

This situation is predicted by the system proposed here if the syntax generates identical NP structures for A and E. On this view, the biased uses of these words should be conceived of as a kind of deferred interpretation in Nunberg’s (2004) sense. I think that proponents of truth-conditional based identity would conclude the same, i.e., the official content of the two occurrences of *bombón* in (103) should have identical denotations (e.g.,  $[[\text{bombón}]] = \lambda x.x$  is a piece of chocolate), otherwise Mutual Entailment (or relatives) would rule out the relevant examples. Interestingly, in my dialect of Spanish the noun *bombón* ‘piece of chocolate’ contrasts with the feminine

noun *bombona* ‘beautiful woman’, producing the same semantic contrast as (103). Yet, ellipsis is strongly ungrammatical in this case:<sup>24</sup>

- (104) \*un bombón para una <bombona>  
a piece-of-chocolate for a bombón.FEMALE  
que quiero mucho  
that love.1P.SG a-lot  
‘a piece of chocolate for a beautiful woman who I really love’

Again, this is predicted both by syntactic and semantic identity. Syntactic identity just rules out the gender and other syntactic feature mismatches in (104), whereas semantic identity rules out this case as an identity failure in the semantic denotations of the antecedent and the E-site (i.e.,  $[[\text{bombón}]] = \lambda x.x$  is a piece of chocolate  $\neq [[\text{bombona}]] = \lambda x.x$  is a beautiful woman). Both theories (formulated in a broad sense) capture the generalization that bias mismatches produced by metaphoric uses of words should be allowed to the extent that the words involved in the relevant mismatches are syntactically/semantically identical. However, syntactic identity, as argued in this paper, does a better job when it comes to impossible bias mismatches of the *cola/culo* type. In the next section, I show that, as a bonus track, *[I]-Assignment* also derives standard Vehicle Change effects involving Principle-C obviation and indexical switching from a perfect identical syntax.

### 5. Extensions: Legitimate Vehicle Change effects

Recall that Vehicle Change was taken by Merchant (2001) as one of the main arguments in favor of the mutual entailment theory.

- (105) They arrested  $[\text{Alex}]_3$ , but he<sub>3</sub> doesn’t know why <they arrested him<sub>3</sub>>.

As already observed, this solution does not have desirable consequences for the theory of identity in general as it crucially depends on the notion of truth-conditional identity. Various strategies are available for syntactic identity. Indeed, one solution was already proposed by Merchant (2008b), who makes a crucial reconsideration of his previous view on Vehicle Change mainly motivated by the need of reconciling some aspects of the mutual entailment approach with syntactic identity. Following Elbourne (2005), he proposes that *him* in (105) can be derived as an instance of nominal ellipsis. For an example like (105) containing a proper name in the antecedent, the pronoun in the elliptical site contains indeed an instance of the name *Alex* which is deleted by NP-ellipsis (see also Johnson 2012 for a similar account):

- (106) They arrested  $[\text{Alex}]_3$ , though he<sub>3</sub> thought they wouldn’t <arrest  $[\text{DP}[_D \text{ the } i] <[\text{NP Alex}] > >$ >

I find this proposal attractive. Yet, I also think that it requires theoretical motivation. In principle, there is no deep reason why NP-ellipsis would nullify Principle-C effects within an E-site. So, I propose that the E-site just contains the name *Alex* as in (107). Notice that the elliptical VP, as proposed above, is embedded under the contextual restrictor,  $R_E$ :

<sup>24</sup> Importantly, the output is grammatical if the nominal gap is read as a human null construction. On this analysis, the empty noun is just read as ‘female human’.

- (107) They arrested [Alex]<sub>3</sub>, though he<sub>3</sub> thought they wouldn't [<sub>RP</sub> R<sub>E</sub> <[<sub>VP</sub> arrest [<sub>DP</sub> Alex ]<sub>3</sub>>]]

Absence of Principle-C effects is now straightforwardly derived under Semantic Blocking, given that the elliptical VP is semantically nullified at LF:

- (108) [[VP]]<sup>[I]</sup> = “∅”

If Principle-C effects are computed at LF, then Principle-C obviation under ellipsis is explained by Semantic Blocking without further ado, as the name in (107) is not semantically realized at LF. Thus, Merchant's (2008b) solution (or a variant of it) is theoretically motivated. Of course, R<sub>E</sub>(P) has to provide the right denotation for semantically composition within the sentence in which it occurs. This would depend on how our semantics translates syntactic names. If they are translated as assignment functions then the result should be as follows:

*LF-Instruction for the semantic realization of R<sub>E</sub>:*

- (109) [[R<sub>E</sub>]] = “λx<sub>e</sub>. [x arrested g(3)]”

Notice that the proposed analysis is allowed by the formal apparatus. However, the same formal apparatus could remain essentially unaltered if a pronoun is base-generated in the relevant position within the E-site.

- (110) They arrested [Alex]<sub>3</sub>, though he<sub>3</sub> thought they wouldn't [<sub>RP</sub> R<sub>E</sub> [<sub>VP</sub><sup>[+I]</sup> <arrest [<sub>DP</sub> **him**]<sub>3</sub>>]]

This would amount to saying that some elliptical constituents contain proper subsets of their antecedents (for different implementations, Oku 1998, Aoun & Nunes 2004, Saab 2008, and Tanaka 2011, among others). Evidently, such an idea would require further detailed elaboration as in principle it basically allows for replacing any E-site by a proform of the relevant category, nullifying thus the distinction between surface and deep anaphora.<sup>25</sup> One could adduce that such an option would be indeed always available up to syntactic conditions. Thus, a proform replacing the E-site simply would not derive cases in which there is extraction from such an E-site. Given that the system allows for one or another option, then internal structure in the E-site would be postulated when required. I will not elaborate on this any further as the point to be stressed here is that, in any event, (107) is a legitimate E-site.

Crucially, SB gives a direct answer to the indexical switches saw in (7), as well:

- (111) A. Can you help **me**?  
B. Yes, I can <help **you**>.

Syntactic identity is strictly obeyed if the [speaker] feature (or whatever feature encodes first singular person including even a referential index in the syntax) in the antecedent is also present in the E-site *in the syntax*:

- (112) A. Can you [<sub>VP</sub> help [<sub>DP</sub> **speaker**]]?  
B. Yes, I can [<sub>RP</sub> R<sub>E</sub> <[<sub>VP</sub><sup>[I]</sup> help [<sub>DP</sub> **speaker**]]>]

<sup>25</sup> Thanks to an anonymous reviewer for pointing out this problem to me.

Here, the elliptical VP will be correctly *[I]*-assigned with the already well-known consequences; i.e., VIB at PF and SB at LF. Focusing only at the LF side, we will get:

- (113) A. Can you  $[_{VP} \text{ help } [_{DP} \text{ speaker}]]$ ?  
 B. Yes, I can  $[_{RP} R_E <[_{VP}^{[I]} \text{ “}\emptyset\text{”}]>]$

Now,  $R_E$  resolution takes its semantic value from the salient VP antecedent. Assuming some variable assignment for the direct object, the result would be:

- (114) a.  $[[VP_A]] = “\lambda x_e. [x \text{ help } g(8)]”$   
 b.  $[[R_E]] = “\lambda x_e. [x \text{ help } g(8)]”$

$R_{EP}$  will then compose with the dominating TP to output the right semantic denotation for the whole sentence. As with Principle-C obviation, I do not see any principled reason to avoid generating proper subset of the antecedent in the E-site. This is indeed the strategy adopted by Barros & Saab to account for the puzzle raised by Chung (2000) (see section 3.2), although in this case such an assumption would be in the need of additional support, given that in the general case free pronouns are not minimal in Kratzer’s (2009) sense. Semantic blocking under ellipsis, instead, does not commit us with this assumption and leaves the syntax of free pronouns unaltered. At the same time, it provides a unified account for a set of disparate phenomena.

## 6. Conclusions

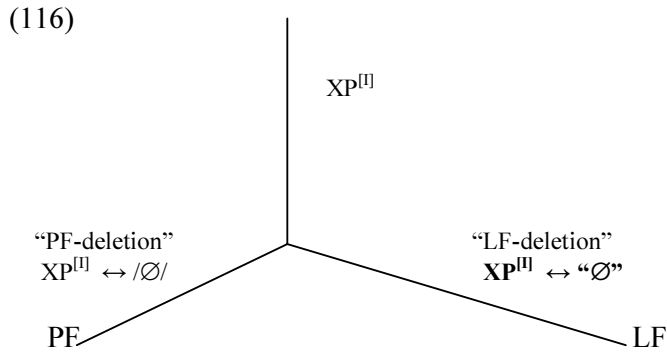
In this essay, I have tried to show that identity in ellipsis does not make reference to truth-conditional requirements between A and E for most cases of ellipsis. My argument was based on considerations of strong ineffability regarding biased expressions, a domain that has been proven as useful for testing alternative theories of identity. If correct, the impossibility of Bias Vehicle Change under ellipsis will give important support for the need of divorcing different meaning dimensions. In consonance with Potts *et al*’s (2009) findings, at least some non-truth conditional aspects of meaning would not be inherited by E-sites.

In addition, I hope to have shown that well-known arguments against syntactic identity (e.g., weak ineffability arguments) do not seem capable to defeat syntactic identity: they only forces to refine our syntax in ways that are indeed being already polished in other domains of the syntax-morphology connection. In other words, I think of weak ineffability arguments not as arguments against the syntactic identity condition on ellipsis, but as direct arguments in favor of the syntax-phonology separationism advocated in the Distributed Morphology framework. The same reasoning extends to legitimate instances of Vehicle Change. I have tried to show that under the *[I]*-Assignment umbrella we can push syntactic identity more than what is conceivable in other syntactic approaches to the identity condition and abandon truth-conditional requirements of any sort when it comes to calculate sameness relations between A and E. At least for the cases explored in this paper, a perfect syntactic identity derivation for each case was proposed. As a way of summarizing, (115) contains the list of cases that I have claimed are derived not only under lexical/syntactic identity but under *perfect* lexical/syntactic identity, as well:

Perfect lexical/syntactic identity:

- (115) a. (Some) weak inflectional and other morphosyntactic mismatches,  
 b. Expressive mismatches,  
 c. Putative examples of Bias Vehicle Change in TP-ellipsis,  
 d. Principle-C obviation effects,  
 e. Indexical switches.

As mentioned in section 3, I do not think that lexical/syntactic identity *must* be perfect or strict. What I contend is that identity is syntactic in a broad sense, i.e., identity only refers to grammatical primitives. Yet, I have shown that by allowing perfect lexical/syntactic identity relations in the cases we have been focused on here we not only make syntactic identity compatible with the data, but provide a better account of competing semantic and syntactic theories. The novelty of the *[I]*-Assignment is that conceives of ellipsis not only as a “PF-deletion” device, but also as an “LF-deletion” device, where by “deletion” we understand blocking realization at the interfaces.



One of course can further inquiry into some of the *why*-questions behind this state of affairs, but in principle taking for granted (i) realizational models of grammar and (ii) the existence of covert contextual restriction in ellipsis, this is a natural state of affairs. I think however that at least some of the many conceivable *why*-questions one can imagine could have some preliminary answers. These are some of the questions that come to mind immediately.

First, one can ask *why* Semantic Blocking for surface anaphora exists in the first place. The intuition here is that in order to become anaphoric a non-anaphoric structure must be able to be semantically resolved by properties of the linguistic context (at least in the case of surface anaphora). Semantic Blocking is precisely an instruction to do that. An *[I]*-assigned object at LF is simply instructed for not being semantically realized by virtue of its internal properties, but by virtue of the semantic properties of its antecedent. This is not the only conceivable answer. The present theory opens some architectural questions regarding how PF interacts with meaning. Beyond post-syntactic biased meanings (see 100), I think it is worth-exploring different alternatives for Root representation and semantic realization. For instance, if Marantz (1995) was right that the semantic realization of Roots depends on phonological realization at PF, then we can make perfect sense of why semantic blocking occurs under ellipsis. Put differently, at least for Roots all meaning dimensions would come after Vocabulary Insertion with the crucial consequence that absence of phonological exponence would also block semantic exponence.

Second, one can also ask about the semantic contribution of lexical/syntactic identity. I have contended that ellipsis is determined mechanically in the syntax.

However, there is an important indirect side effect of lexical/syntactic identity when it comes to ensure the semantic denotation of  $R_E$ , namely, thanks to syntactic identity  $R_E$  finds an antecedent and, as a consequence of this,  $R_E$  will have in *the default case* the same semantics that the E-site would have had if overt.

Third, one can finally ask why we need surface anaphora after all, if  $R_E$  (in a sense, a deep anaphora) does most of the semantic job. The answer is direct:  $R_E$  is an atomic proform and, as such, only allows for a limited set of structured meanings. By allowing *[I]*-Assignment in the syntax we also allows for a wide range of structured ellipses that, otherwise, would be non-derivable. As argued in Messick *et al*, on this view, deep anaphora would be an instance in which R would just take no E-site complement and, as a consequence, with no option to generate remnants with silent structure; i.e., there is no connectivity effects in deep anaphora because there is no structured complements for R in the first place. Of course, these are not the only *why*-questions pending of an explicit answer.

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