On the syntax of adversative coordination*

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Abstract

A series of studies have distinguished two types of *but*, namely, corrective and counterexpectational. The difference between these two types has been considered largely semantic/pragmatic. This article shows that the semantic difference also translates into a different syntax for each type of *but*. More precisely, corrective *but* always requires clause-level coordination, with apparent counterexamples being derived through ellipsis within the second conjunct. On the other hand, counterexpectational *but* is not restricted in this way, and offers the possibility of coordination of both clausal and subclausal constituents. From this difference, it is possible to derive a number of syntactic asymmetries between corrective and counterexpectational *but*.

1 Introduction

This article examines the syntax of the adversative conjunction *but*, especially in its usage as coordinator of (apparently) subclausal constituents. Although the literature on the syntax of *but* is relatively small,[1] enough has been written to differentiate two competing proposals. On the one hand, Sag et al. (1985), Bianchi and Zamparelli (2004), and (implicitly) Merchant (2004b) argue that *but* can only coordinate clauses.[2] Under this analysis, apparent cases of *but* coordination of subclausal constituents must be reanalyzed as clausal coordination plus ellipsis within the second conjunct (1b). I'll be assuming an analysis of ellipsis along the lines of Merchant (2001,

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[1] Most of the previous studies on *but* focus on its semantic and pragmatic aspects. See, e.g., Lakoff (1971); Grice (1975); Anscombe and Ducrot (1977); Barwise and Cooper (1981); Horn (1989); Blackmore (1989, 2000); von Fintel (1994); Umbach (2005); and references. Since this is an article about the syntax of *but*, I will not say anything about its semantics and pragmatics beyond the brief remarks in section 2, and instead refer readers to the works just cited. Similarly, I won't tackle non-conjunctive uses of *but*, such as its use as an exceptive marker (e.g., the final sentence of the acknowledgements footnote), for which see Reinhart (1991); or as a synonym for *only* (e.g., "He is but a man").

[2] The argumentation in this article doesn't depend on assigning a specific definition of "clause". I'll treat clauses as CPs whenever some left-peripheral position is required, and IPs otherwise.

2004a) and related work –that is, in terms of movement of the remnant of ellipsis to the left periphery plus PF deletion of IP. I follow the convention of indicating ellipsis with strikethrough.

(1) a. Amanda ate three apples but one banana

b. [Amanda ate three apples] but [[one banana] [$_{IP}$ ~~Amanda ate~~ *t*]]

On the other hand, Barwise and Cooper (1981) claim that genuine DP-level *but* coordination is possible, subject only to certain semantic restrictions.[3] No ellipsis is necessary under this approach (2b).

(2) a. Amanda ate three apples but one banana

b. Amanda ate [$_{DP}$ three apples] but [$_{DP}$ one banana]

This article shows that both analyses are correct: adversative coordination is compatible with an analysis in terms of clausal coordination plus optional ellipsis (1b) as well as with one in terms of small coordination without ellipsis (2b). However, and very importantly, the choice between (1b) and (2b) is *not* random –rather, it is determined by the specific semantic/pragmatic relation between the two conjuncts. The semantic literature has shown that adversative coordination comes in two flavours, which have been traditionally called *corrective* and *contrastive* –although, given that these two terms are somewhat similar and therefore prone to confusion, I will relabel *contrastive* to *counterexpectational*. Corrective *but*, corresponding to *sino* in Spanish, results in the denial of the proposition expressed in the first conjunct.

(3) a. Amanda didn't eat one apple but (rather) three bananas

b. Amanda no comió una manzana sino tres plátanos
Amanda not ate an apple but three bananas

On the other hand, contrastive *but* (*pero* in Spanish) does not deny the proposition of the first conjunct. Rather, it simply compares two states of affairs, introducing the implicature that the second conjunct is unexpected given the first conjunct (4).

(4) a. The girl is tall but no good at basketball

b. La chica es alta pero desastrosa jugando al baloncesto
the girl is tall but disastrous playing to.the basketball

We will see that the semantic/pragmatic difference between corrective and counterexpectational *but* also has a reflection in syntax. Specifically, I defend the hypothesis that corrective *but* (*sino*) always requires clause-level coordination, with an optional subsequent step of ellipsis. On the other hand, counterexpectational *but* can directly coordinate subclausal constituents (DPs, bare adjectives, etc) without resorting to ellipsis. We will see in the following sections that, from this asymmetry, it is possible to derive a number of syntactic between the two types of *but* coordination –some of them unnoticed so far, to the best of my knowledge. On a larger scale, we will also see that the data discussed here support the hypothesis that fragmentary sentences have a full (albeit silent) clause structure (Morgan 1973; Merchant 2004a; and related literature), thus

[3]Specifically, Barwise and Cooper argue that *but* requires that one conjunct be upward entailing and the other downward entailing (in contrast with *and*, which they argue requires both conjuncts to be entailing in the same direction). However, as one reviewer points out, this generalization is not as clear-cut as Barwise and Cooper claim it is. For instance, in (1a) above, both conjuncts are upward entailing, yet the example is perfectly well-formed.

countering recent claims to the contrary (Culicover and Jackendoff 2005; Stainton 2006; Nykiel and Sag 2009; and references).

The article is organized as follows: in section 2, I elaborate a bit more on the semantic differences between counterexpectational and corrective *but*. In section 3, I provide six arguments that show that corrective *but* requires clausal coordination. After an intermediate summary in section 4, section 5 applies the same arguments to counterexpectational *but* to show that it allows coordination of a wider range of categories. Finally, section 6 summarizes the empirical results, and section 7 offers a justification of why such an asymmetry should exist.

2 Two types of adversative coordination

In this section, I introduce some notable characteristics of the two types of *but*, as a preparation for the syntactic analysis to come. This section is not meant to be an exhaustive review of their properties, and readers interested in the issues discussed here are instead referred to the references in footnote 1.

2.1 Corrective *but* requires denial

One of the most notable characteristics of corrective *but* (*sino* in Spanish) is that the first conjunct necessarily contains negation. Horn (1989, 363ff) argues at length that what we observe here is not a regular negation, but rather a *metalinguistic* negation, which he in turn defines as "a device for objecting to a previous utterance on any grounds whatever, including the conventional or conversational implicata it potentially induces, its morphology, its style or register, or its phonetic realization". This amounts to saying that corrective *but* (*sino*) is used whenever we want to deny the proposition expressed by the first conjunct. The second conjunct expresses a closely related, although true, proposition. It is the combination of the denial of the first conjunct plus the assertion of the second that creates the corrective reading.

Horn (1989, 397ff) also points out various differences between metalinguistic and regular negation, concluding that they should be treated as separate phenomena. For instance, metalinguistic negation cannot be incorporated into the morphology of a word in the clause, which explains the ungrammaticality of (5a). Bosque (1980, 137) observes the same restriction for Spanish *sino* (5b). Only a morphologically independent, sentential negation licenses corrective *but* (6).[4]

(5) a. * This is improbable, but merely possible.
b. * Esto es improbable, sino meramente posible.
this is improbable but merely possible

(6) a. This is not probable, but merely possible
b. Esto no es probable, sino meramente posible
this is not probable but merely possible

Similarly, both Horn (1989) and van der Wouden (1997, 69) note that metalinguistic negation cannot license negative polarity items.[5] As expected, clauses containing English corrective *but* and Spanish *sino* do not license NPIs either. Note that both examples in (7) are grammatical if the NPI *ever*/*nunca* is removed.

[4]Based on this restriction, Bosque (1980) suggests that *sino* is a negative polarity item. This conclusion, however, is falsified by the data in (7) below, which show that the negation required to license *sino* cannot license NPIs.

[5]Thanks to Hilke Reckman (p.c.) for pointing this out to me.

(7) a. I haven't (*ever) been to Mexico but to Canada.

b. No he estado (*nunca) en México sino en Canadá
not have been ever in Mexico but in Canada

2.2 Counterexpectational *but* introduces an implicature

In opposition to corrective *but*, counterexpectational *but* (*pero*) does not entail the denial of the first conjunct. Rather, it simply gives rise to the implicature that the second conjunct is somewhat unexpected given the first conjunct. Lakoff (1971) paraphrases this implicature as "p (and therefore $\neg q$), but (actually) q" (see also Grice 1975 and related work). As an illustration, consider the contrast below: (8a) is infelicitous because taxi drivers tend to have driving licenses, so there is no sense in which the proposition expressed by the second conjunct can be understood as unexpected. On the other hand, (8b) is more acceptable simply because it is not normally expected of taxi drivers to hold truck driving licenses.

(8) a. # Randy is a taxi driver but he has a driving license.

b. Randy is a taxi driver but he has a truck driving license.

This property will affect the argumentation in section 5 slightly, in that the examples there will have to be constructed in such a way that they satisfy the counterexpectationality requirement. Counterexpectational *but* also differs from corrective *but* in the way it interacts with negation. As (8b) also shows, counterexpectational *but* does not require the presence of a sentential negation within the first conjunct. This is fully expected, as no denial of the first conjunct is required in these cases. Furthermore, whenever such negation is present, it can license NPIs unproblematically (9), suggesting that it is just a regular negation, and not metalinguistic negation.

(9) a. I haven't ever been to Mexico, but I have been to Canada.

b. No he estado nunca en México, pero he estado en Canadá.
not have been ever in Mexico but have been in Canada

2.3 The proposal

The thesis defended in this article is that the difference between corrective and counterexpectational *but* goes beyond denial, counterexpectationality, and other semantic/pragmatic aspects. Specifically, I will show that each type of *but* imposes different restrictions on the syntax of their conjuncts, namely:

(10) *The syntax of adversative coordination*

a. Corrective *but* (*sino*) always requires its conjuncts to be full clauses.

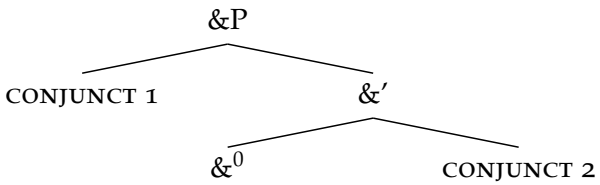
b. Counterexpectational *but* (*pero*) allows its conjuncts to be smaller than clauses.

Two points merit further ellaboration: first, note that the use of the words *requires* and *allows* is not accidental. The claim here is that corrective *but* cannot coordinate anything other than clause-level categories. In contrast, counterexpectational *but* is not restricted in this way, and can coordinate constituents of any category, as long as the usual constraints on unlike category coordination are respected (see Sag et al. 1985 and Munn 1993 for discussion). This means that counterexpectational *but* can coordinate DPs, but also adjectives, VPs, adverbs... and, crucially, also full clauses. Now, if we allow counterexpectational *but* to coordinate full clauses, then we

open up the possibility of ellipsis applying to second conjunct, in the same way that I argue happens with corrective *but* coordination. We will see in section 5 that this prediction is correct: when in an environment that independently forces clause-level coordination (and, importantly, only in such an environment), counterexpectational *but* starts exhibiting the same signs of ellipsis that are observed in corrective *but*. I take this behaviour as strong evidence that the generalization in (10) is correct.

Second, (10) reduces all the syntactic differences between the two types of *but* to the size of the conjuncts. It says nothing about the way in which the conjuncts combine with the coordinator. The strongest way to interpret this conclusion is to say that both counterexpectational and corrective *but* combine with their conjuncts in the same way. Here, I will be assuming the asymmetric syntax for coordination defended in Munn (1993), Progovac (1998a,b), and related works, where the coordinator is a head that takes the first conjunct as its specifier and the second as its complement.[6] Graphically (and labelling the coordinator "&" for simplicity):

(11) *An asymmetric syntax for coordination*



The larger claim embodied here (and also implicit in Munn 1993) is that (11) is the only possible syntax for all coordinators (*and*, *or*, corrective *but*, counterexpectational *but*). This hypothesis entails that all syntactic asymmetries between coordinators stem not from the syntax of the coordinate structure as a whole, but rather from the internal syntax of their conjuncts. As just mentioned, this is something that follows from (10), which makes reference exclusively to the category of the conjuncts.

3 Corrective *but* requires clausal coordination

3.1 Scope of negation

The most obvious indication that corrective *but* requires a full clausal structure in its second conjunct comes from examples like the following.

(12) a. Gabriel didn't drink beer but champagne
b. Gabriel no bebió cerveza sino champán
Gabriel not drank beer but champagne

In both the English and Spanish versions of (12), the scope of negation is restricted to the first conjunct only –i.e., they mean $[(\neg p) \wedge q]$. Compare these examples with minimal pairs where the coordinator is *and* (13), where a $[\neg(p \wedge q)]$ reading is possible.[7]

[6]Strictly speaking, Munn (1993) proposes that the coordinator plus the second conjunct form a maximal projection (in his terms, a Boolean Phrase, or BP), which then right-adjoins to the first conjunct. Under this analysis, the category of the whole coordinate structure is whatever the category of the first conjunct is. In spite of this difference (which is not relevant for the purposes of this article), the constituency relations created by Munn's analysis are the same we observe in (11).

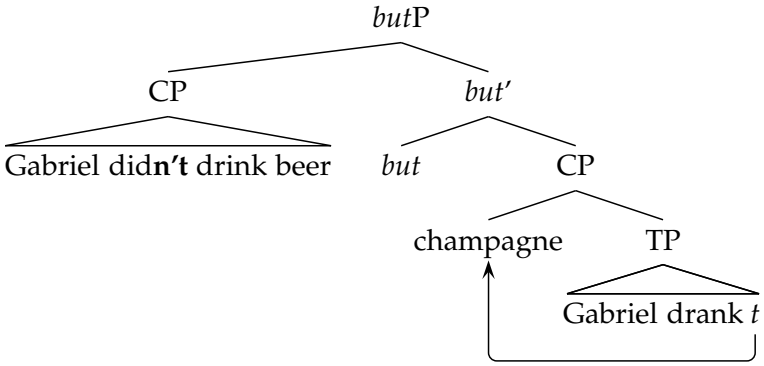
[7]In reality, the examples in (13) are ambiguous between the $[\neg p \wedge \neg q]$ and the $[\neg(p \wedge q)]$ readings. As one reviewer notes, the former reading can be forced by using the coordinator *nor* –see Repp 2005 and Wurmbrand 2008

(13) a. Gabriel didn't drink beer and champagne

b. Gabriel no bebió cerveza y champán
Gabriel not drank beer and champagne

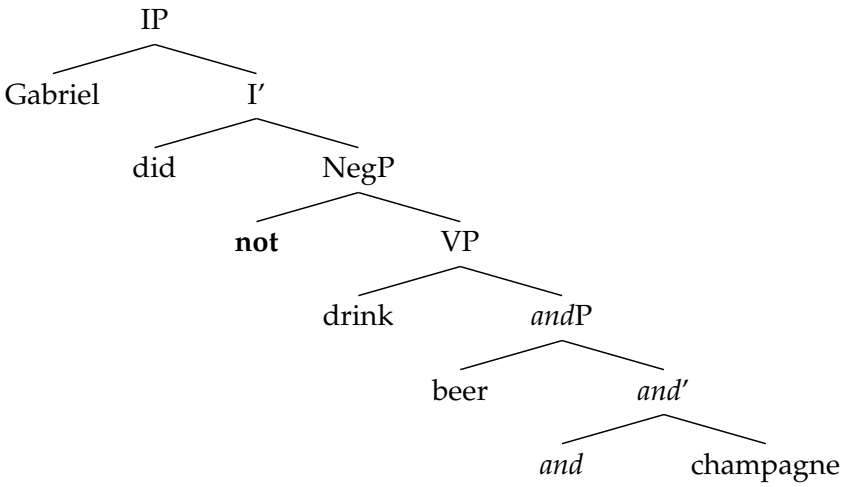
The source of this asymmetry can be traced to the requirements that *and* and corrective *but* impose on their conjuncts. By hypothesis, corrective *but* can only coordinate clauses, hence (12) must be assigned the structure in (14) prior to ellipsis of TP. In this structure, negation is embedded inside the first conjunct. Hence, the fact that it cannot scope over the second conjunct follows from a simple lack of c-command.

(14)



In contrast, *and* allows for coordination of smaller constituents without invoking ellipsis. Example (13) can be assigned the structure in (15), where negation is outside the coordinate structure. Therefore it can take wide scope over both conjuncts, yielding the $[\neg(p \wedge q)]$ reading.

(15)



for discussion. The relevant point here is that the latter reading (equivalent, by de Morgan's Law, to $[\neg p \vee \neg q]$), which requires negation scoping over coordination, is excluded from corrective *but* coordination.

3.2 Preverbal subject coordination

Corrective *but* cannot coordinate two preverbal subjects.[8] The examples in (16) cannot mean "two mathematicians got their papers published, but seven astrophysicists didn't", which is the reading we would expect if it were possible to coordinate preverbal subjects with corrective *but*.

(16) a. * Two mathematicians but seven astrophysicists didn't get their papers published.

b. * Dos matemáticos sino siete astrofísicos no pudieron publicar sus artículos.
two mathematicians but seven astrophysicists not were.able publish their papers

In contrast, *and* can coordinate preverbal subjects without trouble. Note that, as discussed in the previous section, *and* coordination differs from corrective *but* coordination in placing both conjuncts under the scope of negation.

(17) a. ✓ Two mathematicians and seven astrophysicists didn't get their papers published.

b. ✓ Dos matemáticos y siete astrofísicos no pudieron publicar sus artículos.
two mathematicians y seven astrophysicists not were.able publish their papers

This asymmetry can be explained if corrective *but* requires its conjuncts to be clauses, while *and* allows DP coordination. It is not possible to analyze the sequence "two mathematicians but seven astrophysicists" in terms of clausal coordination plus ellipsis, given that the Backward Anaphora Constraint (BAC, see Langacker 1969; Ross 1967, 1969) prohibits backward ellipsis within coordinate structures.[9]

(18) a. * [Two mathematicians [$_{IP}$ ~~got their papers published~~]] but seven astrophysicists didn't get their papers published

b. * [Dos matemáticos [$_{IP}$ ~~pudieron~~ ~~publicar~~ ~~sus~~ ~~artículos~~]] sino siete
two mathematicians were.able publish their articles but seven
astrofísicos no pudieron publicar sus artículos
astrophysicist not were.able publish their articles

[8] Sandra Chung (p.c.) and Jorge Hankamer (p.c.) have pointed out to me examples like (i), which seem to falsify the claim I make in this subsection and the following one.

(i) a. Not Steve but I should drive the car.

b. Not three but four girls are sunbathing on the lawn.

I'll ignore such examples for the time being and return to them in section 3.7

[9] More precisely, the original formulation of the BAC states that an anaphor cannot simultaneously command and linearly precede its antecedent. This restriction is classically illustrated through the paradigm below (from Ross 1969), on the assumption that it is the base position of the *although* clause that counts for purposes of command.

(i) a. Although I don't know who, I know he wants to see someone.

b. Although I know he wants to see someone, I don't know who.

c. I know he wants to see someone, although I don't know who.

d. *? I don't know who, although I know he wants to see someone.

There is no operation that preposes a conjunct within a coordinate structure, analogously to the preposing of the *although* clauses above. As a consequence, linear precedence and command go hand in hand in coordinate structures, just as in (ic) and (id). Therefore, the ban against backward ellipsis in coordinate structures follows as a corollary of the BAC. See Ross (1967, ch. 5) for additional discussion.

On the other hand, *and* allows direct coordination of the two subject DPs, thus circumventing the restrictions of the BAC.

(19) a. ✓ [[$_{DP}$ Two mathematicians] and [$_{DP}$ seven astrophysicists]] didn't get their papers published.

b. ✓ [[$_{DP}$ Dos matemáticos] y [$_{DP}$ siete astrofísicos]] no pudieron publicar
two mathematicians y seven astrophysicists not were.able publish
sus artículos.
their papers

Note, however, that corrective *but* can coordinate right-peripheral subjects (20a). Obviously, this effect is best illustrated in Spanish, since English doesn't generally allow postverbal subjects.[10] The grammaticality of this example is predicted by a conjunction reduction analysis, since it allows a parse in which the second conjunct is part of an elided clause (20b).

(20) a. ✓ No publicaron sus artículos dos matemáticos sino siete astrofísicos.
not published their papers two mathematicians but seven astrophysicists
"Two mathematicians didn't publish their papers but seven astrophysicists did."

b. [No publicaron sus artículos dos matemáticos] sino [[siete astrofísicos][$_{IP}$ ~~publicaron sus artículos~~ *t*]]

3.3 Attributive adjective coordination

In the same way as preverbal subjects, attributive adjectives cannot be coordinated with corrective *but*: (21a) cannot mean "I didn't read a short book, but I read a long one". The explanation is the same as in the previous section: the only way to derive (21a) out of a clausal coordination structure would require an implausible combination of backward and forward ellipsis (21b).

(21) a. * I didn't read a short but long book

b. * [I didn't read a short ~~book~~] but [~~I read a~~ long book.]

The problematic aspect of (21a) is the fact that it features backward ellipsis within a coordinate structure, which is not a licit operation (see previous subsection). Spanish behaves in the same way, although the data need to be constructed with some care. Due to the fact that Spanish attributive adjectives are nearly always postnominal,[11] it is not possible to construct an exact

[10] An anonymous reviewer points out that English allows postverbal subjects under locative inversion, predicting that this construction will allow corrective *but* coordination of subjects. As an illustration of this prediction, the reviewer offers (i). My informants actually reject (i), but no conclusions can be drawn from this fact, given that they also reject the control example (ii).

(i) * Into the room didn't run two clowns but (rather) three cowboys.

(ii) * Into the room didn't run two clowns.

[11] Some adjectives, such as *presunto* 'alleged' or *verdadero* 'true' can be used prenominally (cf. Ticio 2003). As expected, they cannot be coordinated with *sino*:

(i) * No han atrapado al verdadero sino presunto asesino
not have caught to.the true but alleged killer
"It's not the true killer that has been caught, but the alleged one"

minimal pair to (21a) above. Nonetheless, it is possible to check for the same effect by adding a PP to the right of the adjective (22a). The derivation of this example would require backward ellipsis (22b), just as that of (21a). Therefore, its ungrammaticality is expected.

(22) a. * Mauricio no ha leído un libro corto sino largo de Neal Stephenson
Mauricio not has read a book short but long by Neal Stephenson
"Mauricio hasn't read a short book by Neal Stephenson, but he has read a short one"

b. * [Mauricio no ha leído un libro corto ~~de Neal Stephenson~~] sino [~~Mauricio ha leído un libro~~ largo de Neal Stephenson]]

The impossibility of attributive adjective coordination suggests that corrective *but* can only coordinate full clauses. Consider now one additional paradigm in support of this hypothesis. The problem with the examples above is that they require one step of backward ellipsis. In principle, this problem could be circumvented by restricting all ellipsis to the second conjunct. Interestingly, this strategy results in ungrammaticality if the remnant of ellipsis is a bare adjective (23a).

(23) a. * I didn't read a short book, but long.

b. * I didn't read a short book, but long $[_{IP}$ ~~I read~~ $[_{DP}$ ~~a~~ *t* ~~book~~]].

(24) a. I didn't read a short book, but a long one

b. I didn't read a short book, but $[_{DP}$ a long one $[_{IP}$ ~~I read~~ *t*]

The contrast between (23a) and (24) provides one further piece of evidence in favour of a step of ellipsis in corrective *but* coordination. As is well-known, English doesn't allow extraction of an attributive adjective out of its containing DP (25a). In contrast, extraction of a full DP is unproblematic (25a).

(25) a. * Long, I read $[_{DP}$ a *t* book]

b. $[_{DP}$ A long book], I read *t*

We know that ellipsis can circumvent movement violations in some cases (Ross 1969; Lasnik 2001), but there are also several cases where no rescuing effect is observed –see Sauerland (1996), Merchant (2004a,b, 2008), and Vicente (2008) for discussion. On the assumptions that (i) movement is an integral part of ellipsis, and (ii) the type of ellipsis observed under corrective *but* coordination does not help rescue movement violations,[12] the paradigm in (23) through (25) follows.

Note, nonetheless, that the example becomes much better if the second adjective is introduced by its own article *al*. I propose that such examples are cases of edge coordinations, as described in section 3.7 below, and should therefore be analyzed along the lines discussed there.

(ii) No han atrapado al verdadero sino **al** presunto asesino
not have caught to.the true but to.the alleged killer
"It is not the true killer that has been caught, but the alleged one"

[12]Section 3.5 will provide additional evidence in favour of this assumption. For the time being, the reader is referred to Kennedy and Merchant (2000) for an extensive study of the effects of ellipsis in attributive adjective extraction.

Spanish, however, behaves in a different way. As opposed to English, when ellipsis is fully restricted to the second conjunct, both a bare adjective an a full DP are acceptable ellipsis remnants.

(26) a. Mauricio no ha leído un libro corto sino largo
Mauricio not has read a book short but long
"Mauricio hasn't read a short book but a long one"

b. Mauricio no ha leído un libro corto sino
[largo] [$_{IP}$ ~~Mauricio ha leído~~ [$_{DP}$ ~~un libro~~ *t*]]

(27) a. Mauricio no ha leído un libro corto sino un libro largo
Mauricio not has read a book short but a long book
"Mauricio hasn't read a short book but a long one"

b. Mauricio no ha leído un libro corto sino
[$_{DP}$ un libro largo] [$_{IP}$ ~~Mauricio ha leído~~ *t*]

The problem lies on the fact that Spanish does behave like English in not allowing extraction of attributive adjectives in non elliptical contexts.

(28) a. * Largo, Mauricio no ha leído [$_{DP}$ un libro *t*]
long Mauricio not has read a book
"Mauricio hasn't read a long book"

b. [$_{DP}$ Un libro largo], Mauricio no lo ha leído *t*
a book long Mauricio not CL has read
"Mauricio hasn't read a long book"

At this point, I am forced to say that whatever licenses adjective extraction under ellipsis in Spanish is not operative in English. I do not have any deeper explanation, though, as to why things ought to be this way. Nonetheless, the data in this subsection (especially (21) through (22)) support the hypothesis that corrective *but* can only coordinate full clauses.

3.4 Agreement

As pointed out in section 3.2, corrective *but* can coordinate clause final subjects in Spanish. This is because such examples offer the possibility of a parse in which the second conjunct is actually part of an elided clause. This hypothesis makes an interesting prediction: given that the second conjunct belongs to a separate clause, it will not be able to trigger agreement on the first conjunct verb. That is, in cases where corrective *but* conjoins two clause final subjects, a first conjunct agreement effect arises. The following examples confirm this prediction.[13] Note that if the coordinator is *and* (instead of *sino*) we get regular full conjunct agreement. This is because, as discussed above, *and* allows DP-level coordination, which forces agreement with the whole coordinate structure.

[13] As far as I know, this effect was first noted by Gallego (2004). However, he doesn't attribute it to an elliptical second conjunct. Rather, he assumes that there is no ellipsis and stipulates that coordinated subjects in corrective *but* coordination behave as a "more compact unit" for purposes of agreement (Gallego 2004, 20).

(29) a. No se { ✓presentó / *presentaron } un pianista sino tres
not SE showed.up.3PL showed.up.3PL a pianist but three
trombonistas.
trombone players
"A pianist didn't show up but three trombone players did."

b. No se { *presentó / ✓presentaron } un pianista y tres
not SE showed.up.3PL showed.up.3PL a pianist and three
trombonistas.
trombone players
"A pianist and three trombone players didn't show up."

(30) a. No { ✓cometió / *cometieron } un error un pianista sino tres
not made.3SG made.3PL a mistake a pianist but three
trombonistas
trombone players
"A pianist didn't make a mistake but three trombone players did"

b. No { *cometió / ✓cometieron } un error un pianista y tres
not made.3SG made.3PL a mistake a pianist and three
trombonistas
trombone players
"A pianist and three trombone players didn't make a mistake"

To complete the argument, it is necessary to show that first conjunct agreement in Spanish is really an illusion due to ellipsis, rather than a genuine first conjunct agreement effect (for explorations of the latter option in various languages, see Johannessen 1998, van Koppen 2005, and references therein). The contrast between *and* and *but* illustrated in both (29) and (30) already points towards this conclusion: if this was a genuine first conjunct agreement effect, we wouldn't expect it to be affected by the choice of coordinator.

Furthermore, we can show that Spanish does not behave like languages that display genuine first conjunct agreement. The hallmark of such languages is that first conjunct agreement effects persist even when a clausal-coordination-plus-ellipsis analysis is otherwise impossible. The two environments where this effect is typically exemplified are (i) modification by *together* and (ii) binding of the reciprocal anaphor *each other*. The relevant feature of *together* and *each other* is that they require the presence of a plural DP (cf. the ungrammaticality of English **Gabriel came together* and **Gabriel looked at each other*). Consider now the following examples from Standard Arabic (Soltan 2007), where the only pluralities available are the coordinate subjects *Hind and Amir* and *Hind and her brother*. Crucially, DP-level coordination is necessary in these two cases: a clausal-coordination-plus-ellipsis alternative would generate two separate clauses, each with a singular subject unable to license either *together* or *each other* on its own. Still, the verb shows singular agreement, which suggests that it is agreeing exclusively with the first conjunct of a DP-coordination structure.

(31) *Standard Arabic*

a. ʒaʔa-t [$_{DP}$ Hind-un wa ʕamr-un] maʕan
came.3SG Hind.NOM and Amir.NOM together
"Hind and Amir came together"

b. Tuħibbu [$_{DP}$ Hind-un wa ʔaxaw-a-ha] baʕḍ-a-hum el-baʕḍ
love.3SG Hind.NOM and brother.NOM.her some.ACC.them the.some
"Hind and her brother love each other"

In Spanish, the modifier *juntos* 'together' and the reciprocal pronoun *el uno al otro* 'each other' behave like their Arabic counterparts in requiring the presence of a plural DP. In the examples below, this plural DP is the coordinate structure *Daniel y Gabriel*. However, unlike in Arabic, these environments do not license first conjunct agreement effects. The ungrammaticality of first conjunct agreement in these examples can be explained if first conjunct agreement effects in Spanish only arise in the context of clausal coordination plus ellipsis. This context is bled in (32) by the presence of *juntos* and *el uno al otro*, hence the necessity of full conjunct agreement.

(32) a. { ✓Vinieron / *vino } [$_{DP}$ Daniel y Gabriel] juntos
came.3PL came.3SG Daniel and Gabriel together
"Daniel and Gabriel came together"

b. Se { ✓miraron / *miró } [$_{DP}$ Daniel y Gabriel] el uno al otro
SE looked.3PL looked.3SG Daniel and Gabriel the one to.the other
"Daniel and Gabriel looked at each other"

In spite of this restriction, a first conjunct agreement effect can be observed with Spanish *and* in cases where we can reasonably construct the second conjunct as belonging to a separate, elliptical clause. This can be done by inserting a prosodic break (#) right before the second conjunct and using the polarity particle *tampoco* 'neither'.[14] Under this analysis, (33a) is simply an elliptical variant of (33b).

(33) a. No { ✓ha / *han } leído el libro Daniel, # y Gabriel tampoco
not has have read the book Daniel and Gabriel neither
"Daniel hasn't read the book, and Gabriel hasn't read it either"

b. Daniel no { ✓ha / *han } leído el libro, y Gabriel tampoco lo ha leído
Daniel not has have read the book and Gabriel neither CL has read
"Daniel hasn't read the book, and Gabriel hasn't read it either"

These data show quite clearly that Spanish first conjunct agreement effects are related to the possibility of there being an elliptical clause. As a consequence, we can also conclude that the obligatoriness of such effects under corrective *but* coordination indicates that corrective *but* invariably requires clause-level coordination.

3.5 Locality effects

The theory of ellipsis I am assuming in this article is the one developed by Merchant (2001, 2004a,b), where the remnants of ellipsis move to a position outside the ellipsis site prior to PF deletion. Given that movement is an integral part of this approach to ellipsis, we should expect to find locality effects in cases of corrective *but* coordination. This argument is complicated, though, by the variable status of island effects under ellipsis. We can start by noting that, while island effects disappear under sluicing (34), they persist in fragment answers (35).

[14] For evidence that this construction does indeed involve clausal coordination plus ellipsis, see Depiante (2000), Vicente (2006), and references therein.

(34) a. ✓ They want to hire somebody who speaks a Slavic language, but I don't know which Slavic language.

b. * Which Slavic language do they want to hire somebody who speaks?

(35) A: They want to hire somebody who speaks Bulgarian.

B: * No, Polish.

B': * No, Polish, they want to hire somebody who speaks.

The kind of ellipsis that I am hypothesizing for corrective *but* coordination can be considered closer to fragment answers than to sluicing, given the non-interrogative status of the second conjunct. Therefore, we should expect corrective *but* coordination to be sensitive to island boundaries.[15] We will see in this section that this is indeed correct.[16] Let us begin by noticing that some speakers judge sentences like (36), in which corrective *but* is coordinating two objects, as degraded. Analogous examples in which corrective *but* coordinates two subjects are judged as fully ungrammatical (37). In both examples, the (b) entries illustrate the hypothesized extraction.

(36) a. ?? I didn't leave the party [{after/because} Amy started telling bad jokes] but [childhood anecdotes].

b. I didn't leave the party [{after/because} Amy started telling bad jokes] but...
...[childhood anecdotes] [~~I left the party~~ [{~~because/after~~} ~~Amy started telling~~ *t*]]

(37) a. * I didn't leave the party [{after/because} Amy started telling bad jokes] but [Cassandra].

b. I didn't leave the party [{after/because} Amy started telling bad jokes] but...
...[Cassandra] [~~I left the party~~ [{~~after/because~~} t ~~started telling bad jokes~~]]

As shown in (38) below, these judgements parallel the classical subject/object extraction asymmetries (cf. Chomsky 1986 *et seq*). Hence I take the contrast in (36) vs. (37) to indicate that corrective *but* involves movement as an integral part of ellipsis.

(38) a. ?? [Bad jokes], I left the party [{after/because} Amy started telling *t*].

b. * [Cassandra], I left the party [{after/because} *t* started telling bad jokes].

Note also that the examples in (36)/(37) turn grammatical if corrective *but* doesn't coordinate only the objects/subjects, but rather the entire adjunct (39)/(40). This is because movement of the adjunct doesn't violate any constraints on movement (41). As above, the (b) entries of the examples illustrate the corresponding movement operation.

[15]Note that here it is important to place negation outside the island, so as to ensure that, because of parallelism, the elided clause also contains an island boundary

[16]A few of the speakers I sampled (both for Spanish and English) do not find any island violations in the relevant examples. I do not have anything interesting to say about this, other than speculating that, for these speakers, ellipsis can circumvent island violations in a wider range of constructions than just sluicing (in fact, Jason Merchant, p.c., informs me that a similar split in judgements can be observed with respect to examples like 35). In spite of this, the fact remains that a significant subset of speakers agree with the judgements indicated in the text, which shows that the island effects are real.

(39) a. ✓ I didn't leave the party [{after/because} Amy started telling bad jokes] but [{after/because} she started telling childhood anecdotes].

b. I didn't leave the party [{after/because} Amy started telling bad jokes] but...
...[{after/because} she started telling childhood anecdotes] [~~I left the party~~ *t*]

(40) a. ✓ I didn't leave the party [{after/because} Amy started telling bad jokes] but [{after/because} Cassandra started telling them].

b. I didn't leave the party [{after/because} Amy started telling bad jokes] but...
...[{after/because} Cassandra started telling them] [~~I left the party~~ *t*]

(41) ✓ [{After/Because} Amy started telling bad jokes], I left the party.

As a final indication that movement is involved, note that the same speakers who reject (36)/(37) find analogous examples without island boundaries much more acceptable (42).

(42) a. ✓ I didn't say [that Cary Grant starred in *The Rope*] but [in *Charade*]. [cf. (36)]

b. ? I didn't say [that Cary Grant starred in *The Rope*] but [James Stewart]. [cf. (37)]

The following batch of examples show that the same paradigm can be replicated in Spanish. In (43), we see there is an asymmetry as to whether *sino* coordinates two objects or two subjects embedded in an adjunct island;[17] In (44), we see that coordination of the entire adjunct island circumvents ungrammaticality; and finally, in (45) we see that examples without island boundaries are also grammatical. I do not provide derivations for these examples, as they are structurally identical to the derivations for the English examples above.

(43) a. ?? Ernesto no se fue [{después de que / porque} Andrés empezara a contar chistes
Ernesto not SE left after of that because Andrés started to tell jokes
malos] sino [batallitas de su infancia]
bad but anecdotes from his childhood
"Ernesto didn't leave after/because Andrés started to tell bad jokes but childhood anecdotes."

b. * Ernesto no se fue [{después de que / porque} Andrés empezara a contar chistes
Ernesto not SE left after of that because Andrés started to tell jokes
malos] sino [Mauricio]
bad but Mauricio

[17] One potential problem with (43b) is that *sino* requires focus on the coordinated constituents, and for a number of speakers there is a tendency to place focused subjects in a postverbal position. Thus, it is possible that part of the deviance of (43b) is due to the placement of the subject in the first conjunct, rather than to island constraints (thanks to Ricardo Etxepare, p.c., for pointing this out). Note that if we place the subject in a postverbal position, we would expect a deviance similar to that of objects: postverbal subjects sit in Spec*v*P (cf. Ordóñez 1997), which is a properly governed position. This seems to be correct.

(i) ?? Ernesto no se ha cabreado porque haya traído cinco suspensos su sobrino sino su hija.
Ernesto not SE has got.angry because has got five Fs his nephew but his daughter.
"Ernesto didn't get angry because his nephew got five Fs, but because his daughter did"

"Ernesto didn't leave after/because Andrés started to tell bad jokes but after Mauricio started to."

(44) a. ✓ Ernesto no se fue [{después de que / porque} Andrés empezara a contar chistes
Ernesto not SE left after of that because Andrés started to tell jokes
malos] sino [{después de que / porque} *pro* empezara a contar batallitas de
bad but after of that because started to tell anecdotes from
su infancia].
his childhood
"Ernesto didn't leave after/because Andrés started to tell bad jokes but after/because he started telling childhood anecdotes."

b. ✓ Ernesto no se fue [{después de que / porque} Andrés empezara a contar chistes
Ernesto not SE left after of that because Andrés started to tell jokes
malos] sino [{después de que / porque} Mauricio empezara a contarlos].
bad but after of that because Mauricio started to tell.CL
"Ernesto didn't leave after/because Andrés started to tell bad jokes but after/because Mauricio started telling them."

(45) a. ✓ No he dicho [que Cary Grant actuara en *La soga*], sino [en *Charada*].
not have said that Cary Grant played in The Rope but in Charade
"I didn't say that Cary Grant played in *The Rope* but in *Charade*."

b. ? No he dicho [que Cary Grant actuara en *La soga*], sino [James Stewart].
not have said that Cary Grant played in The Rope but James Stewart
"I didn't say that Cary Grant played in *The Rope* but James Stewart."

In Spanish it is possible to use P-stranding as an additional movement test.[18] Example (46a) shows that corrective *but* cannot coordinate two DPs under a single preposition –rather, it is necessary for each conjunct to have its own preposition (46b). This follows if corrective *but* requires clausal coordination plus movement as an integral part of ellipsis: the derivation of (46a) requires movement of DP stranding its preposition, which is not possible in Spanish (46c). The ungrammatical derivation that creates (46a) is illustrated in (47).[19]

(46) a. ?* No he visto a una chica con un vestido azul sino __ zapatos negros
not have seen to a girl with a dress blue but shoes black
"I haven't seen a girl in a blue dress, but a girl in black shoes"

b. ✓ No he visto a una chica con un vestido azul sino **con** zapatos negros
not have seen to a girl with a dress blue but with shoes black
"I haven't seen a girl in a blue dress, but a girl in black shoes"

c. * ¿Qué tipo de zapatos has visto a una chica con?
what type of shoes have seen to a girl with
"What type of shoes have you seen a girl in?"

[18]This argument is adapted from Depiante (2000, 106ff), who uses it to show that regular stripping involves A-bar movement.

[19]See Rodrigues et al. (2008) and Vicente (2008) for arguments that, as opposed to what happens with strong islands, ellipsis does not rescue P-stranding violations.

(47) * ...pero [zapatos negros] [~~no he visto a una chica con~~ *t*]

In short, we have seen that locality data point towards a conjunction reduction analysis of corrective *but* in which movement is an integral part of ellipsis.

3.6 Connectivity effects

Merchant (2004a) uses examples like the following to show that fragment answers stem from a full clause that undergoes ellipsis.

(48) A: Who does every$_i$ man love the most?
B: His$_i$ wife.

The pronoun in (48) gives rise to a bound variable reading, even though the clause it appears in doesn't contain any visible quantifier. Merchant explains this effect by assuming that, in reality, (48) contains an elided version of the quantifier. This results in a regular quantifier-variable relation (49). If fragment answers were not elided clauses, (48) could only be explained by stipulating that variable binding can exceptionally apply across utterances in these cases.

(49) A: Who does every$_i$ man love the most?
B: [His$_i$ wife] [~~every$_i$ man loves the most~~ *t*].

The same argument can be made in the domain of corrective *but* coordination. Consider the following pair of examples.

(50) a. I didn't say that every$_i$ man loves his$_i$ wife but his$_i$ mistress.
b. No he dicho que todo$_i$ hombre quiera a su$_i$ mujer, sino a su$_i$ amante.
not have said that every man loves to his wife but to his mistress

In both English and Spanish, *his mistress* and *su amante* are interpreted outside the scope of the negation in the first conjunct, as discussed in section 3.1. Also in both cases, the only visible binder (the QP *every man/todo hombre*) is contained inside the first conjunct, and therefore within the scope of negation. Suppose now that (50) didn't contain any silent structure. Since negation outscopes the QP, and the pronoun outscopes negation, it would appear that, by transitivity, the pronoun should also outscope the QP. This configuration would block a bound reading of *his mistress/su amante*, contrary to fact.[20] On the other hand, if we assume that the second conjunct is an elliptical clause containing a representation of the QP (in parallel to Merchant's analysis of (48), then we can create a configuration where the pronoun has an appropriate binder (i.e., the silent QP in the second conjunct), while still being outside the scope of negation.[21]

[20]Note that one cannot get around this problem by treating (50) as a case of donkey anaphora. Contrary to the examples above, a universal quantifier requires a plural donkey-anaphoric pronoun, not a singular one (Evans 1980, 341), both in English as in Spanish:

(i) a. If a farmer owns every donkey, he beats {✓them/*it}
b. Si un granjero tiene todos los burros, *pro* {✓ les / *le } pega.
if a farmer owns all the donkeys CL.3PL CL.3SG beats

[21]Note that one must assume that *his mistress/su amante* reconstructs: otherwise, the movement proposed in (51) would take it outside the scope of its binder. The reader is referred to Merchant (2004a) for discussion of how this analysis of ellipsis interacts with binding.

(51) ... but [his$_i$ mistress] [~~I said that every$_i$ man loves~~ t]]

3.7 An aside on edge coordinations

In sections 3.2 and 3.3, I argued that corrective *but* cannot coordinate preverbal subjects or attributive adjectives. I attributed this restriction to the impossibility of creating the corresponding elliptical structures. However, at the same time, I acknowledged in footnote 8 the existence of cases like (52) and (53), which appear to contradict the claims defended in these two sections. Bianchi and Zamparelli (2004) refer to such examples as "adjacent initial edge coordinations", though for convenience I'll shorten the label to just "edge coordination".

(52) a. Not a mathematician but a physicist discovered the neutron.

b. Not three but four girls are sunbathing on the lawn.

(53) a. No un matemático sino un físico descubrió el neutrón.
not a mathematician but a physicist discovered the neutron

b. No tres sino cuatro chicas están tomando el sol en el jardín
not three but four girls are taking the sun in the garden

There are reasons against conflating edge coordinations with the cases of preverbal subject coordination discussed in section 3.2 (and, to a lesser extent, with the cases of attributive adjective coordination in section 3.3). First, there is a very consistent word order difference: edge coordinations exhibit the order [NEG DP BUT DP], whereas the order in preverbal subject coordination and attributive adjective coordination is [DP BUT DP NEG]. Second, this word order difference correlates with a difference in the scope of negation. In edge coordinations, it is clear that negation takes scope only over the first conjunct. On the other hand, in the cases of preverbal subject coordination, the intended scope of negation is over the second conjunct only. These differences suggest that it is appropriate to treat edge coordinations as a different phenomenon. The question, obviously, is what their proper analysis should be. At first sight might be tempting to conclude that edge coordinations feature corrective *but* coordination at the DP/AP level, without ellipsis, which I have been claiming to be impossible. The goal of this subsection is to address this potential problem for my analysis by showing that edge coordinations are compatible with a clausal-coordination-only approach.[22]

For a variety of reasons, the tests developed in sections 3.1 through 3.6 are not applicable to edge coordinations. We can immediately dismiss tests based on subject coordination and attributive adjective coordination, since these are the ones that give rise to the problematic data. Tests based on connectivity effects are also useless here, as we will see in section 5.6 that they cannot distinguish between clausal and subclausal coordination. Of the three remaining tests, locality effects and scope of negation are also unreliable to determine the correct structure. Let me start by commenting on locality effects on the basis of the following example.

(54) * [Not the neutron but the Higgs boson] we had a toast because [a physicist had discovered t].

[22] This is also the hypothesis defended by Bianchi and Zamparelli (2004, 326-327). See, however, Toosarvandani (2009) for a dissenting view.

Although it is obvious that (54) is an adjunct island violation, it is actually impossible to tell what exactly causes the violation. We can say that edge coordinations are cases of small coordination, and that the island violation is caused by movement of [$_{DP}$ *not the neutron but the Higgs boson*]. However, we could equally plausibly say that edge coordinations are instances of clausal coordination plus ellipsis within the first conjunct, in which case the ungrammaticality would be caused by the independent movements of *not the neutron* and *the Higgs boson*. The conclusion is that, in this particular environment, locality effects are also ineffective to differentiate between clausal and subclausal coordination.

A test based on the scope of negation is equally ineffective. Clearly, negation only scopes over the first conjunct in (52) and (53). Note, however, that we are dealing here with constituent negation:[23] as soon as we try to combine edge coordination with sentential negation, we effectively replicate the ungrammatical sentences of sections 3.2 and 3.3.

(55) a. * A mathematician but a physicist didn't discover the proton.
b. * Three but four girls aren't sunbathing on the lawn.

(56) a. * Un matemático sino un físico no descubrió el neutrón.
a mathematician but a physicist not discovered the neutron
b. * Tres sino cuatro chicas no están tomando el sol en el jardín
three but four girls not are taking the sun in the garden

It is quite plausible to assume that constituent negation attaches directly to the negated constituent (see Lasnik 1972 for English, and Depiante 2000 and Vicente 2006 for Spanish). The problem is that this is again not enough to differentiate ellipsis from small coordination. An example such as (52a) is potentially compatible with these two structures:

(57) *Edge coordination as subclausal coordination without ellipsis*
[$_{TP}$ [[$_{DP}$ not a mathematician] but [$_{DP}$ a physicist]]
discovered the neutron]

(58) *Edge coordination as clausal coordination plus ellipsis*
[$_{TP}$ [$_{DP}$ not a mathematician] ~~discovered the neutron~~]
but [$_{TP}$ [$_{DP}$ a physicist] discovered the neutron]

We are left, therefore, with only one test –namely, agreement, which fortunately offers some clues about the correct structure of edge coordinations. The examples below show that, when an edge coordination takes two singular DPs, the verb may only show singular agreement. This is unexpected under a small DP coordination analysis, since a coordination of two singular DP should be semantically plural. In contrast, this paradigm follows without stipulation under a clausal coordination analysis. We may conclude, therefore, that edge coordinations don't constitute counterexamples to the analysis of corrective *but* coordination developed above.

[23] As one reviewer points out, this is quite transparent in languages like Greek, which feature different lexical items for constituent and sentential negation (*oxi* and *dhen*, respectively). Although *dhen* is a verbal clitic, I have also considered a sentence initial position in order to maintain a parallelism with *oxi* in (ia).

(i) a. ✓ Oxi tria ala tessera koritsia kanun iliotherapia stin avli
not three but four girls do heliotherapy in the yard
b. * (Dhen) tria ala tessera koritsia (dhen) kanun iliotherapia stin avli
not three but four girl not do heliotherapy in the yard

(59) a. Not a boy but a girl {*are/✓is} sunbathing on the lawn.

b. No un chico sino una chica { *están / ✓está} tomando el sol
not a boy but a girl are is taking the sun

An additional argument in favour of this conclusion comes from the observation (Bianchi and Zamparelli, 2004, 314) that it is sometimes possible to separate the two conjuncts of an edge coordination, giving rise to alternations like the one exemplified in (60). Any attempt to derive (60b) via movement out of a small coordination structure would result in a violation of the Coordinate Structure Constraint.

(60) a. [Not only Mary but also Lucy] did he invite

b. [Not only Mary] did he invite, [but also Lucy]

The reader might have noticed that, even if edge coordinations are cases of clause-level coordination, their surface form cannot be derived via ellipsis, as in the environments discussed in sections 3.1 through 3.6. An analysis along these lines would require backward ellipsis, and we have already seen in sections 3.2 and 3.3 that backward ellipsis is impossible within coordinate structures due to the Backward Anaphora Constraint (Langacker 1969; Ross 1967, 1969). As an indication that edge coordinations require a reduction process distinct from *bona fide* ellipsis, consider the fact that they disallow form mismatches (cf. Bianchi and Zamparelli 2004; Gallego 2004). This is exemplified in (61) for number morphology. In contrast, it is well-known that such mismatches are common under ellipsis, as (62) illustrates.

(61) a. ?? Not three but only one girl {are/is} sunbathing on the lawn

b. ?? No tres sino sólo una chica {están / está} tomando el sol
not three but only one girl are is taking the sun

(62) a. These women are more clever than Alfred [~~is clever~~].

b. Estas mujeres son más inteligentes que Alfredo [~~es~~ ~~inteligente~~]
these women are more intelligent than Alfred is intelligent

I won't say anything else about edge coordinations in the rest of this article, other than noting Hankamer's (1973) proposal that apparent cases of backward ellipsis within coordinate structures ought to be analyzed as Right Node Raising. Whatever the exact details of the analysis of edge coordinations, though, this section has shown that this construction is compatible with a clausal-coordination-plus-ellipsis approach, and therefore poses no problem for the hypothesis I'm developing in this paper.

4 Interim conclusion and prospects

Table 1 summarizes the properties of corrective *but*. As we have seen in each of the six cases, this particular array of characteristics follows from the hypothesis that corrective *but* requires its conjuncts to be clauses.

The argument will be completed in the next section, where we will see that counterexpectational *but* behaves differently from corrective *but* in interesting ways. As already advanced in (10b) above, the data will show that counterexpectational *but* allows coordination of both clausal and subclausal constituents. In the cases where clausal coordination takes place, we will observe the same signs of ellipsis discussed above for corrective *but* coordination. On the other hand,

Blocks scope of negation	yes
Allows preverbal subject coordination	no
Allows attributive adjective coordination	no
Triggers first conjunct agreement	yes
Shows locality effects	yes
Shows connectivity effects	yes

Table 1: Properties of corrective *but*

subclausal coordination allows for a direct coordination of the two relevant constituents, without any ellipsis taking place. Importantly, though, the choice between these two types of coordination is not free. Rather, clausal coordination (plus subsequent ellipsis) happens only when the second conjunct contains an element associated to a high position in the clausal functional structure. In the data examined below, this element will be the negative particle *no*, which, after Laka (1990), Depiante (2000, 2004) and Vicente (2006), I take to reside in a polarity projection ΣP in the extended CP area (I return to this point right below). In contrast, subclausal coordination appears to be the elsewhere case. For ease of later reference, I summarize this split as in (63). The next section concentrates on showing that (63) holds true. Discussion of the reason why it should hold true is deferred to section 7.

(63) *Behaviour of counterexpectational 'but'*
Counterexpectational *but* coordination is subclausal coordination without ellipsis *unless* the second conjunct contains an element associated to the CP area. In the latter case, clausal coordination plus ellipsis obtains.

Before proceeding to the next section, it is necessary to say something about the negative particle *no*, which I will use to motivate a clausal coordination analysis. More specifically, the relevant environment is the polarity ellipsis construction, exemplified in the second conjunct below.

(64) Esteban ha viajado a Venezuela, pero a Cuba no.
Esteban has travelled to Venezuela but to Cuba not

Depiante (2000, 2004) and Vicente (2006) argue that such examples are derived by moving the DP remnant to a topic position to the left of negation, followed by deletion of IP (65). I take the negative marker *no* to head the polarity projection ΣP proposed in Laka (1990).[24] I refer the interested readers to the cited papers for full justification of this analysis.

(65) ... pero a Cuba [$_{\Sigma P}$ no [$_{IP}$ ~~ha viajado Esteban~~ *t*]]

It is worth noting that the construction exemplified above has a variant in which the polarity marker precedes the remnant of ellipsis –i.e., a *no XP* order. The difference between the two variants, however, is deeper than just a change in word order. Concentrating especially on negative

[24]This assumption receives support from French, where the negative word used in polarity ellipsis is *non*, distinct from the regular sentential negation *ne... pas*. Thanks to Amanda Morris (p.c.) and an NLLT reviewer for pointing out this datum to me.

(i) Marie a lu un livre, mais Claude non
Marie has read a book but Claude not

fragments, both Depiante and Vicente present evidence that the *no XP* order can be derived by directly left-adjoining negation to the negated constituent –rather than through clausal ellipsis, as in the *XP no* order.

(66) a. Esteban ha viajado a Venezuela, pero no a Cuba
Esteban has travelled to Venezuela but not to Cuba
b. ... pero [$_{PP}$ no [$_{PP}$ a Cuba]]

Due to this asymmetry, I will consider only the *XP no* order in the next section, as this is the only one that forces an underlying clausal structure for the second conjunct. Turning to English, we can note that while there is a polarity ellipsis construction, it is limited to the *not XP* order (67).

(67) a. Steve wants to go to California, but not to Vermont
b. * Steve wants to go to California, but to Vermont not

However, Lasnik (1972) argues at length that English polarity ellipsis can be structurally ambiguous: it may stem from either a conjunction reduction structure, as Spanish (65), or from non-elliptical structure like Spanish (66). Given that it is not possible to guarantee that an English *not XP* structure stems from an underlying clause, English data will play a smaller part in the discussion in section 5. Spanish data will nonetheless suffice to show that (63) holds.

5 Counterexpectational *but* allows subclausal coordination

5.1 Scope of negation

As opposed to corrective *but*, counterexpectational *but* (Spanish *pero*) allows a negation to take scope over both conjuncts, yielding the reading $[\neg(p \wedge q)]$. Thus, the meaning of (68a) is that it is not the case that Susie is simultaneously poor and honest, though she might have one of these two properties (given that, by de Morgan's law, $[\neg(p \wedge q)] = [\neg p \vee \neg q]$). As discussed above in section 3.1, this particular reading is generated when negation scopes over the whole coordinate structure. Therefore, its availability supports an analysis in which *pero* conjoins two bare APs, without any ellipsis. Compare this to the corrective *but* coordination in (68b), which, as discussed in section 3.1, only allows a $[(\neg p) \wedge q]$ reading as a consequence of being based on clausal coordination plus ellipsis.[25]

(68) a. Susana no es [$_{AP}$ pobre pero honesta]
Susana not is poor but honest
$[\neg(p \wedge q)]$

[25]Note that DPs exhibit the same behaviour as APs in this environment. Thanks to John Moore (p.c.) for suggesting the following example.

(i) a. Mario no es una persona generosa pero un mentiroso
Mario not is a person generous but a liar
"Mario is not both a generous person and a liar" $[\neg(p \wedge q)]$
b. Mario no es una persona generosa sino un mentiroso
Mario not is a person generous but a liar
"Mario is not a generous perso, but he is a liar" $[\neg p \wedge \neg q]$

b. [$_{CP}$ Susana no es pobre] sino [$_{CP}$ honesta]
Susana not is poor but honest
$[(\neg p) \wedge q]$

Consider now (69), a case of counterexpectational *but* coordination with a polarity particle in the second conjunct. As advanced in (63) above, this example receives the same analysis to (68a), example (69) receives the reading $[(\neg p) \wedge q]$. After Laka (1990), I assume that *sí* is an affirmative instantiation of Σ.

(69) Susana no ha viajado a Venezuela, pero a México sí.
Susana not has travelled to Venezuela but to Mexico yes
"Susana hasn't travelled to Venezuela, but she has travelled to Mexico"

English is less informative than Spanish in this respect, given that it features one single lexical item (*but*) for the two types of adversative coordination. Therefore, the following example is ambiguous between the $[(\neg p) \wedge q]$ reading (when *but* is interpreted correctively) and the $[\neg p \wedge \neg q]$ reading (when it is interpreted counterexpectationally).[26]

(70) Susan is not poor but honest.
Ambiguous: $[(\neg p) \wedge q]$ *and* $[\neg(p \wedge q)]$

5.2 Preverbal subject coordination

As opposed to corrective *but*, counterexpectational *but* can coordinate preverbal subjects without trouble. In the same way as in the previous subsection, the grammaticality of (71) follows if counterexpectational *but* and *pero* allow DP-level coordination without ellipsis.

(71) a. ✓ [$_{DP}$ One single neurosurgeon but at least three cardiologists] will take part in this operation.

b. ✓ [$_{DP}$ Un único neurocirujano pero al menos tres cardiólogos] participarán en
one single neurosurgeon but at least three cardiologists take.part.FUT in
esta operación
this operation

Also, as in the previous section, the polarity ellipsis construction cannot be used to coordinate preverbal subjects. This suggests that, in the same way as with corrective *but*, we are dealing with an elliptical clause here. Note that this sentence is grammatical if the second conjunct appears at the right edge, in a position consistent with conjunction reduction (72b).[27] This shows that the ungrammaticality of (72a) is purely syntactic and cannot be reduced to semantic incongruity.

[26] Although the speakers I have consulted tend to treat the $[(\neg p) \wedge q]$ reading as the primary one, with the $[\neg(p \wedge q)]$ reading requiring some contextual prompting.

[27] Note, though, that (72a) has an alternative grammatical parse, namely "One single neurosurgeon but at least three cardiologists won't take part in this operation", where *.no* is a sentential negation that doesn't form a constituent with the subject. This reading is irrelevant for our purposes, since we are focusing on cases where negation only modifies the second conjunct.

(72) a. * [Un neurocirujano pero (al menos) tres cardiólogos no] participarán en esta
one neurosurgeon but at least three cardiologists not take.part.FUT in this
operación
operation
"One single neurosurgeon will take part in this operation, but (at least) three cardiologists will not"

b. Un neurocirujano participará en esta operación, pero tres cardiólogos no.
a neurosurgeon take.part.fut in this operation but three cardiologists not
"One single neurosurgeon will take part in this operation, but (at least) three cardiologists will not"

5.3 Attributive adjective coordination

As an extension of the previous argumente, consider the fact that counterexpectational *but* also allows coordination of attributive adjectives (as opposed to corrective *but*, see section 3.3). Once again, the reason is that counterexpectational *but* allows its conjuncts to be smaller than clauses (in this case, bare adjectives).

(73) a. ✓ A [$_{AP}$ young but brilliant] organist played a Bach sonata.

b. ✓ Un organista [$_{AP}$ joven pero brillante] interpretó una sonata de Bach
a organist young but brilliant played a sonata by Bach

Also as in the previous section, trying to apply the polarity ellipsis construction to counterexpectational *but* coordination of attributive adjectives results in ungrammaticality, unless it is done in such a way that it becomes compatible with a conjunction reduction analysis.

(74) a. * Un organista [$_{AP}$ joven] pero [$_{CP}$ brillante no] interpretó una sonata de Bach
a organist young but brilliant not played a sonata by Bach

b. Un organista [$_{AP}$ joven] interpretó una sonata de Bach, pero uno brillante no
a organist young played a sonata by Bach but one brilliant not

5.4 Agreement

In section 3.4, we saw that, in Spanish, corrective *but* is exceptional in triggering first conjunct agreement with clause final subjects. That effect was attributed to the fact that the second conjunct belongs to a separate clause and, as such, it is unable to trigger agreement on the first conjunct verb. The hypothesis we are defending in this section is that counterexpectational *but* allows DP-level coordination without ellipsis. Since the environment for a first conjunct agreement effect would not be created, we should expect regular full conjunct agreement. The minimal pair below shows that this prediction is correct.[28]

[28] Interestingly, a first conjunct agreement effect is mildly acceptable for some speakers, especially if there is a noticeable prosodic break between the conjuncts.

(i) ?? Va a participar en la operación [$_{DP}$ un único neurocirujano # pero tres cardiólogos]
go.3SG to take.part in the operation a single neurosurgeon but three cardiologists
"Although only one neurosurgeon will take part in the operation, three cardiologists will."

Arguably, the status of (i) is due to the fact that this example is actually compatible with an elliptical analysis. Compare it to (77), where ellipsis is not an option due to the position of the coordinate structure.

(75) Van a participar en la operación [$_{DP}$ un único neurocirujano pero tres cardiólogos]
go.3PL to take.part in the operation a single neurosurgeon but three cardiologists
"Although only one neurosurgeon will take part in the operation, three cardiologists will."

However, in the context of the polarity ellipsis construction, the ambiguity disappears and only first conjunct agreement is possible (76).

(76) { *Van / ✓Va } a participar en la operación un único neurocirujano pero tres
go.3PL go.3SG to take.part in the operation a single neurosurgeon but three
cardiólogos no
cardiologists not

Conversely, if we place the coordinated subject in a position where a conjunction reduction parse would not be possible (e.g., a preverbal position), then only full conjunct agreement is possible (77). These data show that counterexpectational *but* coordinates subclausal categories without ellipsis unless the polarity ellipsis construction enforces clausal coordination.

(77) Un único neurocirujano pero al menos tres cardiólogos { ✓van / *va } a
one single neurosurgeon but at least three cardiologists go.3PL go.3SG to
participar en la operación
take.part in the operation

5.5 Locality effects

In section 3.5 we saw that, for some speakers, corrective *but* is sensitive to island boundaries. This sensitivity was attributed to the fact that movement is an integral part of the analysis of ellipsis assumed throughout section 3. Those same speakers, however, find it perfectly grammatical to embed a counterexpectational *but* coordinate structure inside the same type of island (78). These examples shows that counterexpectational *but* does not involve ellipsis, at least inasmuch as we want to consider movement an integral part of ellipsis.

(78) a. ✓ I complained to the director of the hospital [because one single surgeon but at least three unqualified students took part in the operation].

b. ✓ Me quejé al director del hospital [porque un único neurocirujano
CL complained to.the director of.the hospital because one single neurosurgeon
pero al menos tres estudiantes sin experiencia participaron en la
but at least three students without experience took.part in the
operación].
operation

However, island effects reappear if the second conjunct features polarity ellipsis. As discussed in section 4, the string *tres estudiantes no* should be analyzed as part of an elliptical clause, with movement (and therefore island sensitivity) being an integral part of ellipsis. The derivation of the second conjunct of (79) is given in (80).

(79) * Me quejé al director del hospital [porque un único neurocirujano había
CL complained to.the director of.the hospital because one single neurosurgeon had
participado en la operación] pero [tres estudiantes no]
taken.part in the operation but three students not

(80) ...pero [[tres estudiantes] no [$_{IP}$ ~~me quejé al director del hospital~~ [~~porque~~ *t* ~~no habían participado~~]]]

The same asymmetry holds for P-stranding effects: under regular counterexpectational *but* coordination, they are absent, which suggests DP coordination below the preposition (81a). However, if polarity ellipsis forces the second conjunct to be clausal, P-stranding effects reappear. As above, the derivation of the second conjunct of the ungrammatical (81b) is given in (82)

(81) a. ✓ He visto a una chica [$_{PP}$ con [$_{DP}$ un vestido azul pero zapatos negros]].
have seen to a girl with a dress blue but shoes black
"I have seen a girl wearing a blue dress but black shoes"

b. * He visto a una chica [$_{PP}$ con un vestido azul] pero [$_{CP}$ __ zapatos negros no]
have seen to a girl with a dress blue but shoes black not
"I have seen a girl wearing a blue dress, but not black shoes"

(82) ...pero [[zapatos negros] no [$_{IP}$ he visto a una chica [$_{PP}$ con *t*]]]

5.6 Connectivity effects

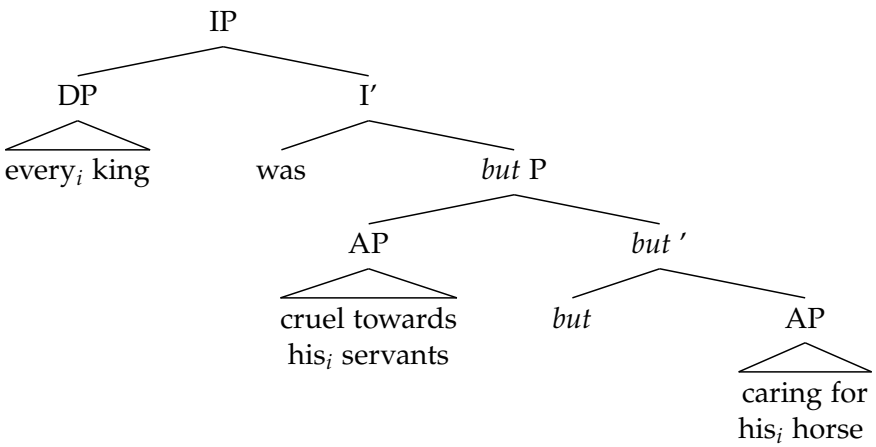
Connectivity effects are exceptional in that counterexpectational *but* shows the same behaviour as corrective *but*: a pronoun in the second conjunct can be bound by a preceding quantifier.

(83) a. Every$_i$ medieval king was cruel towards his$_i$ servants but very caring for his$_i$ horse.

b. Todo$_i$ rey medieval era cruel con sus$_i$ vasallos pero cariñoso con su$_i$ caballo.
every king medieval was cruel with his servants but caring with his horse

This possibility is expected if counterexpectational *but* allows for small coordination. If only the objects are coordinated in (83), then the quantificational subject takes scope over the entire conjunction, and can bind the pronouns in either object.

(84)



(85) Todo$_i$ rey medieval se comportaba de manera cruel con sus$_i$ vasallos, pero con su$_i$ caballo no
every medieval king SE behaved of manner cruel with his servants but with his horse not

The data in (83) are compatible both with a small coordination analysis as well as with a clausal coordination analysis in which the second conjunct contains a silent instance of the quantifier (cf. section 3.6). As such, they do not constitute direct evidence in favour of a small coordination analysis of counterexpectational *but* –they are rather merely compatible with it. However, when this paradigm is considered together with the preceding five arguments, a small coordination approach is more plausible than conjunction reduction.

6 Final empirical summary

The empirical results of this article are summarized in Table 2 below. As we have discussed all through the article, these properties can be derived if we accept the following three premises:

- Corrective *but* requires clausal coordination in all cases.
- Counterexpectational *but* allows coordination of both clausal and subclausal constituents.
- Notwithstanding the last point, counterexpectational *but* will show signs of clausal coordination plus ellipsis only when the second conjunct contains an element associated to the CP area (in the cases examined here, this element is the negative particle *no* in the polarity ellipsis construction). In the elsewhere case, subclausal coordination without ellipsis obtains.

	Corrective *but*	Counterexpectational *but* (polarity ellipsis)	Counterexpectational *but* (elsewhere)
Blocks scope of negation	yes	yes	no
Allows preverbal subject coordination	no	no	yes
Allows attributive adjective coordination	no	no	yes
Triggers first conjunct agreement	yes	yes	no
Shows locality effects	yes	yes	no
Shows connectivity effects	yes	yes	yes

Table 2: Comparison of corrective vs. counterexpectational *but*

7 Additional theoretical remarks

Table 2 shows that clausal coordination is required for corrective *but* coordination in every case, and for counterexpectational *but* coordination when combined with the polarity ellipsis construction. The common characteristic of these two environments is that they contrast two propositions

of opposite polarity. In contrast, in counterexpectational *but* coordination outside polarity ellipsis environments, polarity is not an issue. What gets contrasted there is a subconstituent of the clause –specifically, in the cases we have discussed, a DP or an adjective. I want to propose that the data in Table 2 are a consequence of this asymmetry.

I start by assuming that polarity is encoded in a functional projection in the expanded CP area –see Cinque (1999) and related works for discussion. In keeping with the terminology of section 4, I will use Laka's (1990) ΣP label to refer to this projection. With this much in place, the data in Table 2 can be derived if the presence of ΣP entails the presence of a full clausal structure embedded under it. I'll turn to the justification of this assumption in a moment, but first consider the reasoning behind it: corrective *but* coordinates a negative proposition (technically, the denial of a proposition) with a closely related affirmative proposition. Assuming that negation and affirmation require the presence of ΣP (*pace* Laka 1990), we can restate the previous sentence by saying that corrective *but* coordinates two constituents of ΣP category. Now, if, as conjectured above, ΣP entails the presence of a full clausal structure embedded under it, the fact that corrective *but* can only take full clauses as its conjuncts follows. The same reasoning holds for counterexpectational *but* in combination with polarity ellipsis. In this case we are also conjoining an affirmative proposition with a negative one –therefore, two ΣP constituents, each containing a full clausal structure.

Let me turn now to the question of why the presence of ΣP should entail the presence of a full clausal structure. This correlation can be derived from the selectional properties of lexical items. That is, Σ must take a TP[29] complement to satisfy its subcategorization feature. In turn, T must take a complement of the appropriate category (say, AspP), which also in turn must take a complement of its own, and so on. The necessity of satisfying this sequence of selectional requirements gives us the desired result.

Crucially, this is not the case when counterexpectational *but* is not associated with polarity ellipsis: in such examples, the polarity of the conjuncts is not contrasted, therefore there is no need for an independent ΣP in each conjunct. Consequently, there is no need either for a full clausal structure in each conjunct, and coordination of subclausal constituents obtains. Note that the reasoning outlined here depends on the assumption that clausal coordination takes place only necessary –i.e., counterexpectational *but*, when not in combination with the polarity ellipsis construction, can only be subclausal coordination without ellipsis.[30] Arguably, this restriction can be reduced to an economy principle on structure building, which forbids the inclusion of silent structure unless its presence is necessary for independent reasons.[31]

8 Conclusions

The primary goal of this article has been to argue that the semantic difference between corrective and counterexpectational *but* translates into a different syntax for each of them. The specific generalizations, stated in (10) and (63) above, are repeated here as (86) and (87), respectively.

[29]Obviously, this is only for the sake of exposition –whether TP is the immediate complement of Σ, or whether there are intervening categories is irrelevant for the discussion. The same holds for the following sentence.

[30]Thanks to John Moore (p.c.) for stressing the importance of this point.

[31]See, e.g., the visibility guideline for functional categories discussed in Fukui and Sakai (2003, 323-328). This guideline states that functional heads are only justified if (i) they are overt; or (ii) in case they are silent, if they have detectable side effects like affecting the morphology of another constituent or triggering some movement operation. One might also want to include semantic effects as a third factor legitimating silent structure, so as to be able to cover the bound pronoun cases in section 3.6.

(86) *The syntax of adversative coordination*

a. Corrective *but* (*sino*) always requires its conjuncts to be full clauses.

b. Counterexpectational *but* (*pero*) allows its conjuncts to be smaller than clauses.

(87) *Behaviour of counterexpectational 'but'*
Counterexpectational *but* coordination is subclausal coordination without ellipsis *unless* the second conjunct contains an element associated to the CP area. In the latter case, clausal coordination plus ellipsis obtains.

The data discussed throughout sections 3 and 5 suggest that these generalizations are essentially correct. I would also like to call the reader's attention to the pervasivity of ellipsis in adversative coordination, which bears on the debate of how sentence fragments ought to be analyzed. The analysis I have developed clearly favours the hypothesis that such fragments are derived from an underlying full clausal structure, as claimed in Morgan (1973), Merchant (2004a), and related works. Especially, the data discussed in section 3 pose a challenge for the family of analyses where fragmentary sentences have no hidden structure whatsoever (e.g., Culicover and Jackendoff 2005, Stainton 2006, Nykiel and Sag 2009, and references).

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