

Adjunct Deletion
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Abstract: In this paper, I introduce the phenomenon of adjunct deletion. I show how facts about quantifier interpretation fit into an adjunct deletion analysis, but cannot be analyzed in terms of null *there*. I argue that deleted adjuncts are islands for extraction. This paper fits in with the results of Collins 2014 on relative clause deletion and Collins and Postal 2012 on ghosting (see also Collins and Radford 2015). Both works together show that the range of deletion phenomena is considerably greater than what is reported in recent survey papers on the topic.

Key Words: adjunct, deletion, quantifier scope, strict and sloppy, parallelism

1. Introduction

This paper explores what I will call *adjunct deletion* in English, illustrated in (1):

- (1) John wants to dance at the prom and Bill wants to sing.

This example has two interpretations. One interpretation can be paraphrased as in (2a), the other as in (2b):

- (2) a. John wants to dance at the prom and Bill wants to sing. (not specifically at the prom)
b. John wants to dance at the prom and Bill wants to sing at the prom.

The two interpretations can be distinguished by context. The interpretation of (1) in (2b) is natural when it is known that each student will be performing at the prom, and I am telling you what each wants to do (in terms of performance). This interpretation is brought out by putting stress on *dance* and *sing* (indicating contrastive focus). I will return to this property in section 6.

I propose that the interpretation in (2b) is the result of adjunct deletion:

- (3) John wants to dance at the prom and Bill wants to sing <at the prom>.

The angled brackets <...> indicate that the enclosed string is present syntactically but not pronounced. The interpretation in (2a) involves no adjunct deletion.

A general question that arises about the data in this paper is whether the adjunct is actually present in the syntax or is absent from the syntax and deduced by some kind of semantic or pragmatic inference (see Elbourne 2014 on the range of options for representing implicit content). I do not take up such theories here. I will simply present a range of data that follows from my syntactic deletion account, and leave it to future work to attempt a comparison to semantic and pragmatic theories of the type outlined by Elbourne. See section 5 for some preliminary comments.

On another note, the kind of deletion found in the above examples may extend to arguments in some cases (on Null Complement Anaphora see Hankamer and Sag 1976: 411).

- (4) John asked Jane where the station was, and Bill asked Mary.

This sentence can have the interpretation that Bill asked Mary where the station was. I assume that CP deletion of the embedded question is involved in the analysis of (4), but I do not pursue this issue here.

2. Null *there*

An alternative analysis of (1) is that there is a null *there* (or a deleted *there*):

- (5) John wants to dance at the prom and Bill wants to sing <there>

Such a representation would have the same interpretation as the one in (3). Such a null *there* could also be invoked in cases like the following:

- (6) a. Did you see John at the party?
b. Yes, he was dancing <there>

I assume that null *there* exists and plays a role in the syntax of English. However, I do not argue for the existence of null *there*, since that is not the goal of my paper. Rather, I will show that even if null *there* exists, it cannot explain the facts that I adduce in support of adjunct deletion.

3. Strict and Sloppy Readings

Adjunct deletion permits both strict and sloppy readings, in the same way that VP deletion does (Ross 1986[1967]: 207). Consider the following sentence:

- (7) Michael wanted to sing at his Bar Mitzvah, while Bill wanted to dance.

Once again, suppose that each boy wants to perform in some way at his own Bar Mitzvah. Furthermore, suppose that *sing* and *dance* are stressed. In this context, a sloppy reading is very natural for (7). The interpretation is given by the following paraphrase:

- (8) Michael wanted to sing at his (Michael's) Bar Mitzvah, and Bill wanted to dance at his (Bill's) Bar Mitzvah.

The strict interpretation can be brought out by the following context. Suppose Michael and Bill are friends, and they are both planning to perform at Michael's Bar Mitzvah. In this context, a strict reading is natural:

- (9) Michael wanted to sing at his (Michael's Bar Mitzvah) and Bill wanted to dance at his (Michael's) Bar Mitzvah.

The sloppy reading is also possible for quantificational subjects:

- (10) Every boy wants to sing at his birthday party and every girl wants to dance.

(10) admits the bound variable interpretation where every girl wants to dance at her own birthday party.

To the extent that strict and sloppy readings depend on deletion, the existence of strict and sloppy readings for examples like (7) argues for a deletion analysis. This conclusion must be tempered in light of the claims made that sloppy identity readings do not necessarily indicate ellipsis (see Hoji 1998). Merchant (2013: (7)) claims that “The presence of sloppy identity readings is not a diagnostic for ellipsis. These are found in number of constructions where ellipsis cannot be implicated, and are even found ‘inside’ pronouns, as in the famous paycheck examples....”

In fact, overt *there* does not exclude sloppy readings:

(11) Every boy wanted to sing at his birthday party and every girl wanted to dance there.

To me, this has a (perhaps somewhat marginal) interpretation where every girl wanted to dance at her own birthday party.

At this point the analytical alternatives are the following: (a) We give up the idea that a strict sloppy ambiguity is a diagnostic for ellipsis (essentially as in Merchant 2013). (b) We argue that even in the case of overt *there* (as in (11)) there has been deletion so that the structure of (11) is really [...dance [there <at her party>]]. I do not attempt to distinguish these alternatives here.

4. Quantifier Scope

In this section, I consider the interaction of adjunct deletion with quantifier scope. Consider first:

(12) Some boy wanted to sing at every party, and some girl wanted to dance

One interpretation of (12) is that some particular boy has the desire to sing at every party, and some particular girl has the desire to dance at every party (so in total, there is just one boy and one girl that the sentence is about). Another interpretation of (12) is that for every party, some boy wanted to sing at it, and for every party, some girl wanted to dance at it. Both interpretations would result from the adjunct deletion structure in (13a), which would give rise to two possible LF structures (shown in (13b) and (13c)):

- (13) a.and some girl wanted to dance <at every party>
b. [some girl]₁ [t₁ wanted [[every party]₂ [PRO₁ to dance at t₂]]]
c. [every party]₂ [some girl]₁ [t₁ wanted [PRO₁ to dance at t₂]]

Consider first the interpretation associated with the LF in (13c). An alternative analysis is that somehow *every party* in the first conjunct is taking wide scope over the whole sentence, and binding a null *there* (syntactically represented) in the second conjunct.

(14) [every party]₁ [some boy wanted to sing at t₁ and some girl wanted to dance <there₁>]

(14) is a null *there* analysis, not an adjunct deletion analysis. Such an analysis is supported by the fact that the interpretation in (14) is possible (perhaps marginally) when an overt *there* is used:

(15) Some boy wanted to sing at every party, and some girl wanted to dance there.

However, the following example makes such an approach unlikely in the general case. For this example, two performers are getting ready to go on tours (each on their own tour), and we are discussing their itineraries and performance plans:

(16) John wants to dance at a location in every major city, and Julie wants to sing.

A possible interpretation is the following:

(17) ...and Julie wants to sing at a location in every major city.

Crucially, (16) can be true on the interpretation in (17), when John and Julie do not plan to perform in the same cities. However, this interpretation disappears if an overt *there* is used:

(18) John wants to dance at a location in every major city, and Julie wants to sing there.

To the extent that this sentence is acceptable, for it to be true, John and Julie must plan to perform in the same cities. Since (16) has an interpretation different from the interpretation of (18), I conclude that (16) is not required to have a null *there* analysis (on the assumption that null *there* and overt *there* have similar semantic properties).

Now consider the interpretation associated with the LF (13b). This interpretation is impossible if overt *there* is inserted in (12), as in (15). So this is another example showing that the null *there* analysis cannot in general account for the quantifier scope facts.

A parallel example with weather predicates is given in (19):

(19) It is raining somewhere on every continent, and probably snowing too.

One interpretation of (19) is that it is probably snowing somewhere on every continent, where the places it is snowing and raining do not have to be the same (in fact, given the nature of rain and snow, a location where it snows is not usually a location where it rains). The LF representation of the second clause of (19) would be (20):

(20) [every continent]₁ [[somewhere]₂ [it is raining at t_2 on t_1]]

Once again, adding an overt *there* to (19) changes the interpretation:

(21) It is raining somewhere on every continent and probably snowing there too.

Here, it must be raining and snowing in the same places. The difference in possible interpretations of (19) and (21) strongly argues that (19) has a structure involving adjunct deletion (instead of a null *there* analysis).

A different kind of criticism of the analysis in (14) can be constructed on the basis of the sloppy interpretation of deleted adjuncts. In the following sentence, the restriction of the quantifier contains a pronoun with a sloppy interpretation:

- (22) John talked to one student at each conference that he attended,
and Julie talked to two.

One of the interpretations of this sentence is the following:

- (23) ...and Julie talked to two students at each conference that she attended.

It is impossible to analyze (22) by assuming at *each conference that he attended* takes wide scope over both conjuncts (as in (14)), since John and Julie did not necessarily go to the same conferences.

With *there* added to (22), as shown in (24), the interpretation is that John and Julie attended the same conferences:

- (24) John talked to one student at each conference that he attended,
and Julie talked to two students there.

A different kind of criticism of the analysis represented in (14) comes from the following example involving inverse scope internal to a relative clause (presumably a scope island for the quantifier):

- (25) The girl who saw a blue candle in most of the windows was scared,
but the boy who saw a red candle was not.

One interpretation of (25) is the following (facilitated by stressing *blue* and *red*):

- (26) [the boy x s.t. [for most of the windows y , x saw a red candle in y]] was not scared.

Since *most of the windows* in (25) is in a relative clause it presumably cannot scope out of the relative clause to bind a variable in the second conjunct. Furthermore, even if *most of the windows* could take wide scope over both conjuncts, that structure would not yield the right interpretation since the boy and the girl do not have to have seen the candles in the same set of windows.

Using *there* in (25) results in a different interpretation:

- (27) The girl who saw a blue candle in most of the windows was scared,
but the boy who saw a red candle there was not.

To the extent that is sentence is acceptable, the girl and the boy must have seen candles in the same set of windows.

In summary, the contrasts in (15-27) strongly suggest that a null *there* analysis will not account for all the facts concerning the interpretation of quantifiers. This in turn indirectly

supports the adjunct deletion analysis, which easily accounts for the quantifier interpretation facts.

5. Some Remarks on a Semantic Analysis

In this section, I will briefly consider some issues that the quantifier scope facts pose for a simple semantic/pragmatic analysis of adjunct deletion. Consider (28) below:

(28) It is raining in NYC, and probably snowing too.

Assuming that there is no adjunction deletion, the logical form for (28) is the following (putting aside complex issues of tense/aspect/modality):

(29) $\exists e[\text{rain}(e) \wedge \text{loc}(e) = \text{NYC}] \wedge \exists e[\text{snow}(e)]$

One could argue that if (28) is asserted in NYC, with the logical form in (29), then the addressee deduces that the existential quantifier in the second conjunct is restricted to events occurring in NYC. This semantic deduction yields the following logical form:

(30) $\exists e[\text{rain}(e) \wedge \text{loc}(e) = \text{NYC}] \wedge \exists e[\text{snow}(e) \wedge \text{loc}(e) = \text{NYC}]$

By this process, the correct logical form for (28) has been deduced, but there is no syntactic adjunct deletion.

The question is whether a similar process could account for the interpretation (19) (and other similar cases), repeated below in (31).

(31) It is raining somewhere on every continent, and probably snowing too.

The problem is finding the linguistic or discourse antecedent that could be the value of $\text{loc}(e)$ in the second conjunct of (32) below that gives the correct logical form.

(32) $\forall x [\text{continent}(x) \rightarrow \exists y \exists e[\text{rain}(e) \wedge \text{loc}(e) = y \wedge \text{at}(y, x)]$
 $\wedge \exists e[\text{snow}(e) \wedge \text{loc}(e) = ???]$

$\text{loc}(e)$ cannot be set to the cities where it is raining, since it could be raining and snowing in different cities. Could $\text{loc}(e)$ be set to the set of continents? Under that analysis, (31) should have the interpretation of the following sentence:

(33) It is raining somewhere on every continent, and probably snowing on those continents too.

If one can understand “snowing on a continent” to be the same as “snowing somewhere on a continent”, then it could be argued that (31) and (33) share an interpretation, and that $\text{loc}(e)$ is equal to the set (or sum) of continents in (32). However, (33) sounds odd, in a way that (31) does not, since one does not normally assert that it is snowing on a continent. So that difference between (33) and (31) argues against setting $\text{loc}(e)$ to the set (or sum) of continents in (32).

The logical form that captures the intended reading of (31) is (34) below:

- (34) $\forall x [\text{continent}(x) \rightarrow \exists y \exists e [\text{rain}(e) \wedge \text{loc}(e) = y \wedge \text{at}(y, x)]$
 $\wedge \forall x [\text{continent}(x) \rightarrow \exists y \exists e [\text{snow}(e) \wedge \text{loc}(e) = y \wedge \text{at}(y, x)]]]$

But it is unclear how to go from $\exists e [\text{snow}(e)]$ to the second conjunct in (34) without postulating complex semantic operations that depend closely on the linguistic antecedent (thereby replicating the results of the syntactic operation of adjunct deletion). The adjunct deletion account seems far simpler, and descriptively adequate.

6. Extraction Test

Merchant (2013) lists extraction as a diagnostic for ellipsis (considered as deletion of syntactic structure) (see also van Craenenbroek and Merchant 2013). Consider from this point of view the following facts:

- (35) a. *the party which Mary danced at and Bill sang
 b. *The New Year's Eve party, Mary wanted to dance at and Bill want to sing.
 c. *I don't know which party Mary danced at, or which party Bill sang.

The ungrammaticality of the sentences in (35) can be explained in the following way: (35a,b) violate the coordinate structure constraint. (35c) involves extracting *which party* from a position immediately following an intransitive verb in the second conjunct.

However, adjunct deletion would give rise to the following representations:

- (36) a. *the party which₁ Mary danced at t₁ and Bill sang <at t₁>
 b. *The New Year's eve party₁, Mary wanted to dance at t₁
 and Bill want to sing <at t₁>.
 c. *I don't know which party₁ Mary danced at t₁,
 or which party₂ Bill sang <at t₂>.

(36a,b) should be OK as examples of ATB movement, and example (36c) would involve extraction of *which party* from the post-verbal PP. But (36a,b,c) are all ungrammatical.

Even though the absence of adjunct deletion would lead to a natural explanation of the facts in (35), it does not follow that there is no adjunct deletion. Rather, it could be the case that the sentences in (35) are ruled out by other principles, even if there is adjunct deletion. In fact, this is the strategy followed by Aelbrecht (2012), who studies Modal Complement Ellipsis (MCE) in Dutch in great detail. She shows that even though there are strong reasons to think that MCE involves ellipsis, it is not possible to extract objects from the ellipsis site.

So I propose:

- (37) Deleted adjuncts are islands to movement

Of course, for this to be convincing, I need to give some reason why deleted adjuncts (but not deleted VPs and TPs) are islands for movement.

The fact that overt extraction from deleted adjuncts is unacceptable raises a problem for my analysis of quantifier scope and deleted adjuncts presented in section 4. Consider again (20), repeated below in (38):

(38) [every continent]₁ [[somewhere]₂ [it is raining at t₂ on t₁]]

In this example, *every continent* takes wide scope over the existential quantifier *somewhere*. I am assuming that it gets wide scope by QR, moving out of the locative adjunct. Such movement would clearly violate (37).

One possibility is that QR is not movement at all. On this analysis, the QP in the left periphery in (38) is externally merged there (and therefore, there would be no violation of (37)). Such an analysis would account for the fact that QR does not license parasitic gaps, since parasitic gaps are licensed by A'-movement, and QR would involve no movement. Pursuing this would lead to many issues that I cannot go into here.

Another less radical solution is that the preposition *on* is pied-piped by covert movement of the QP, yielding the following LF representation:

(39) [PP on every continent]₁ [[somewhere]₂ [it is raining at t₂ t₁]]

In this LF representation, there has been no extraction from a deleted adjunct, and hence (37) is not violated. However, it is unclear how this would yield the correct interpretation of the sentence, since *every continent* is not a sister to the TP. I do not pursue this issue any further here.

7. Focus and Deletion

The examples in this paper suggest that (a) a deleted adjunct needs an antecedent in a preceding clause or sentence, and (b) the antecedent must occupy a position that is parallel to the deleted adjunct, and (c) parallelism is defined in terms of focus. I encode these observations in the following constraint:

(40) Parallelism

Adjunct deletion is only possible in the following structure:

[XP₁.....A.... Adjunct] and/than [XP₂.....B....<Adjunct>]

where B is focused and XP₁ is a member of F(XP₂), the focus value of XP₂.

I understand F(XP), the focus value of XP, as in Fox 1999.

As an illustration of this condition, consider (1), on the adjunct deletion analysis:

(41) John wants to dance at the prom and Bill wants to sing <at the prom>.

According to Fox's parallelism condition, the antecedent (S₁ = [John wants to dance at the prom]) has to be in the focus value of the second clause S₂. The focus value of S₂ is defined as the set of sentences which are alternatives to S₂: F(S₂) = {S: ∃x∃y [S = x wants to y at the prom]}, where x ranges over DPs that are alternatives to *John* and y ranges over Vs that are

alternatives to *sing*. S1 is an element of F(S2), since S1 is of the syntactic form [x wants to y at the prom]. Therefore, parallelism is satisfied.

Consider now parallelism and sloppy identity. The example (7) is repeated in (42) below:

- (42) Michael₁ wanted to sing at his₁ Bar Mitzvah,
while Bill₂ wanted to dance <at his₂ Bar Mitzvah>

Crucially the index of the pronoun in the deleted adjunct is different from the index of pronoun in the non-deleted adjunct (since their antecedents *Michael*₁ and *Bill*₂ have different indices). According to Fox's (1999) parallelism condition, the antecedent (S1 = [Michael₁ wanted to dance at his₁ Bar Mitzvah]) has to be in the focus value of the second clause S2. The focus value of S2 is defined as the set of sentences which are alternatives to S2: F(S2) = {S: $\exists x \exists y$ [S = x wanted to y at x's Bar Mitzvah]}, where x ranges over DPs that are alternatives to *Bill* and y ranges over verbs that are alternatives to *dance*. S1 is an element of F(S2), since S1 is of the syntactic form [x wanted to y at x's Bar Mitzvah] (assuming *Michael*₁ and *he*₁ both count as x). Therefore, parallelism is satisfied.

8. Conclusion

In this paper, I have introduced the phenomenon of adjunct deletion. I have shown how facts about quantifier interpretation fit into an adjunct deletion analysis, but cannot be analyzed in terms of null *there*. I have also argued that deleted adjuncts are islands for extraction, and pointed out the problem this raises for the quantifier scope facts discussed in section 5.

This paper fits in with the results of Collins 2014 on relative clause deletion and Collins and Postal 2012 on ghosting (see also Collins and Radford 2015). Both works show that the range of deletion phenomena is greater than what is reported in survey papers on the topic (e.g., Merchant and van Craenenbroek 2013, Johnson 2001, Aelbrecht 2015).

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References

- Aelbrecht, Lobke. 2015. Ellipsis. In Tibor Kiss and Artemis Alexiadou (eds), *Syntax – Theory and Analysis. An International Handbook. Handbooks of Linguistics and Communication Science* 42.1-3. Berlin: Mouton de Gruyter.
- Aelbrecht, Lobke. 2012. Modal Complement Ellipsis. In Peter Ackema, Rhona Alcorn, Caroline Heycock, Dany Jaspers, Jereon Van Craenenbroek and Guido Vanden Wyngaerd (eds.), *Comparative Germanic Syntax: The State of the Art*. John Benjamins Publishing Company.
- Collins, Chris. 2008. Home Sweet Home. In Lisa Levinson and Oana Savescu-Ciucivara (eds.), *NYU Working Papers in Linguistics* Vol. 1.
- Collins, Chris. 2014. Relative Clause Deletion. Ms., New York University.

- Collins, Chris and Paul Postal. 2012. *Imposters*. Cambridge: MIT Press.
- Collins, Chris and Andrew Radford. 2015. Gaps, Ghosts and Gapless Relatives in Spoken English. *Studia Linguistica* (early view).
- Elbourne, Paul. 2014. Literal vs. Enriched Meaning: It's raining. Ms., University of London.
- Fox, Danny. 1999. Focus, Parallelism and Accommodation. In Tanya Matthews and Devon Strolovitch (eds.), *Proceedings of SALT 9*, 70-90. Ithaca, NY: Cornell University.
- Hankamer, Jorge and Ivan Sag. 1976. Deep and Surface Anaphora. *Linguistic Inquiry* 7, pgs. 391-426,
- Hoji, Hajime. 1998. Null Objects and Sloppy Identity in Japanese. *Linguistic Inquiry* 29, pgs. 127-152.
- Johnson, Kyle. 2001. What VP Ellipsis Can Do, and What it Can't, but not Why. In Mark Baltin and Chris Collins (eds.), *The Handbook of Contemporary Syntactic Theory*, 439-479. Blackwell.
- Merchant, Jason. 2013. Diagnosing Ellipsis. In Lisa Lai-Shen Cheng and Nibert Corver (eds.), *Diagnosing syntax*, 537-542. Oxford University Press: Oxford.
- van Craenenbroeck, Jereon and Jason Merchant. 2013. Ellipsis Phenomena In Marcel den Dikken (ed.), *The Cambridge Handbook of Generative Syntax*, 701-745. Cambridge University Press: Cambridge.
- Ross, John Robert. 1967. Constraints on variables in syntax. Doctoral dissertation, MIT. Published as *Infinite syntax*, Norwood, NJ: Ablex (1986).