

Voice Mismatch and Syntactic Identity

Hidekazu Tanaka

On the basis of an asymmetry between VP-deletion and pseudogapping, Merchant (2008a) concludes that ellipsis is conditioned by syntax. This article demonstrates that both pseudogapping and VP-deletion potentially allow voice mismatch. The unacceptable cases of voice mismatch in these constructions are attributed to a discourse factor (Kehler 2000, 2002). Nevertheless, since sluicing does not allow voice mismatch (Merchant 2001, 2007) even in the same context that allows voice mismatch in VP-ellipsis, Merchant's (2007, 2008a) conclusion is still valid. A syntactic condition on ellipsis is proposed, based on a semantic condition from Takahashi and Fox 2005. Kehler's discourse explanation is phrased in a revised format.

Keywords: VP-ellipsis, pseudogapping, sluicing, voice, conditions on ellipsis

1 Merchant's (2008a) Claim

Merchant (2007, 2008a) regards pseudogapping and sluicing as forming a natural class in that neither allows voice mismatch, the alternation between active voice and passive voice under ellipsis. (1) and (2) show that pseudogapping does not permit voice mismatch.

- (1) *Roses were brought by some, and others did ~~bring~~ lilies.
- (2) *Some brought roses, and lilies were ~~brought~~ by others.

Sluicing does not allow voice mismatch, either, as (3) shows (Merchant 2007).

- (3) *Someone brought roses, but we don't know by whom ~~roses were brought~~.

The above constructions contrast with VP-ellipsis, which permits voice mismatch (Kehler 2002: 53).

- (4) This problem was to have been looked into, but obviously nobody did ~~look into this problem~~.
- (5) Steve asked me to send the set by courier through my company insured, and it was ~~sent by courier through my company insured~~.

I would like to thank Helen Goodluck, Bill Haddican, Mika Kizu, Susan Pintzuk, Bernadette Plunkett, George Tsoulas, Marilyn Vihman, Anthony Warner, Eytan Zweig, and anonymous reviewers for comments, criticisms, and judgments on English sentences. An earlier version of this article was presented at Kwansai Gakuen University and Kanda University of International Studies. I thank the audiences at these institutions, especially Koji Fujita, Nobuko Hasegawa, Kazuko Inoue, Kazuki Kuwabara, Shigeru Miyagawa, and Hiroyuki Ura, for comments and suggestions. Remaining imperfections are my own.

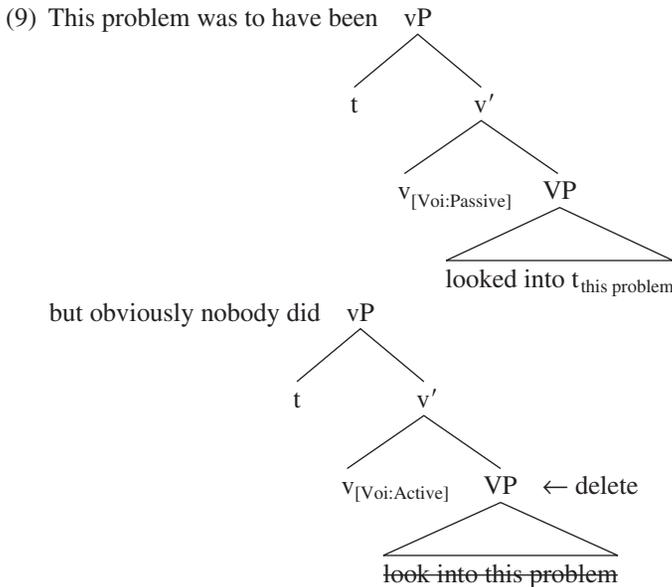
This paper is dedicated to the memory of Professor Masatake Muraki, who made a linguist out of me.

From these observations, Merchant concludes that syntax plays a role in ellipsis. At the core of his explanation is the assumption that the above elliptical constructions elide categories of different sizes. Pseudogapping elides a vP, a constituent slightly larger than the one deleted in VP-ellipsis, a VP, and thus patterns with sluicing, which deletes a larger category, a TP. This classification, as we will see, is not correct. The correct classification is that pseudogapping forms a natural class with VP-ellipsis, as opposed to sluicing, and the judgment on (1) and (2) should be attributed to nonsyntactic factors (Kehler 2000, 2002). Nonetheless, I will demonstrate that the conclusion that Merchant draws, though drawn on the wrong basis, is essentially valid, since sluicing does not permit voice mismatch even in the context where VP-ellipsis does permit it. I will also elaborate on both Kehler's account and the syntactic identity condition on ellipsis.

Merchant's (2008a) explanation of (1)–(5) employs the following assumptions:

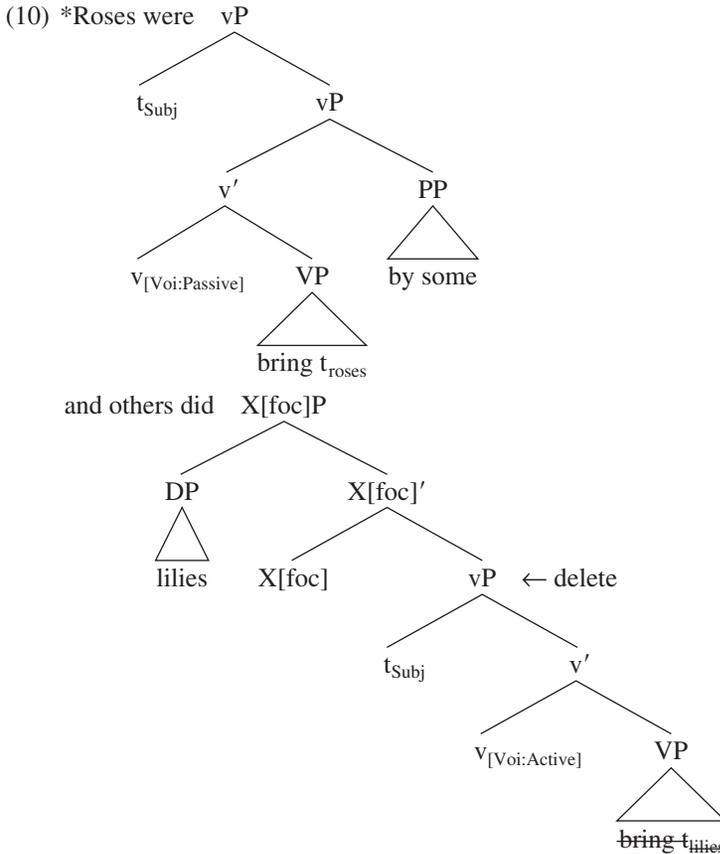
- (6) Syntactic isomorphism is required for ellipsis.
- (7) The v head hosts the feature [voi], responsible for active versus passive voice.¹
- (8) VP-ellipsis deletes a VP, but pseudogapping deletes a vP.

(7) and (8) jointly rule out the possibility of voice mismatch in pseudogapping, but not in VP-ellipsis. For instance, consider the structure of (4), shown in (9). Aside from the object NP, *this problem* (a trace in the antecedent but a full DP in the ellipsis; copy theory overcomes this difference), the two VPs are identical.



¹ Merchant (2007) puts the feature on the head of VoiceP. This difference is irrelevant for the following discussion.

In contrast, pseudogapping in (1) is represented as in (10). The X[foc]P is a functional category that Merchant assumes whose specifier houses the pseudogapping remnant.



The two vPs in (10) have different values for the voice feature, which precludes ellipsis. Thus, pseudogapping does not allow voice mismatch in (1) and (2).

According to Merchant's account, voice mismatch is impossible in sluicing because the operation deletes a TP, including the voice feature on the v head. The next section shows that this explanation suffers from conceptual difficulties.

2 A Theoretical Problem with Merchant's Explanation

Merchant's account of voice mismatch relies on (8): VP-ellipsis deletes a VP, but pseudogapping deletes a vP. However, as this difference does not follow from anything, (8) lacks independent motivation. Consider (9). If deletion targets vP instead of VP, ellipsis is not possible because the two vPs do not have the same value for the voice feature. Hence, (4) should be ungrammatical. Similarly, if pseudogapping targets VP, ellipsis should be possible in (10), since the two VPs are identical except for the term of the contrast, *roses* and *lilies*; this one difference should not block ellipsis in pseudogapping, as (11) shows.

(11) Some brought roses, and others did ~~bring~~ lilies.

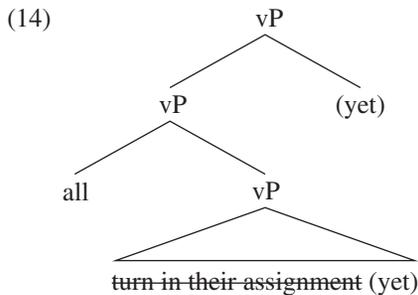
The ungrammaticality of (10) is especially problematic since many authors claim that pseudogapping is a type of VP-ellipsis (Jayaseelan 1990, Lasnik 1999a:chap. 3, Levin 1978, Takahashi 2004).² The poverty-of-the-stimulus argument also poses a serious obstacle for (8). Evidence regarding the size of the elided category is unlikely to be accessible to children, especially because pseudogapping is a marginal construction.

Support for the difference in the size of elided categories comes from (12) and (13), from Merchant 2008a:176. The judgments are Merchant's.

(12) Many of them have turned in their assignment already, but they haven't yet all.

(13) Many of them have turned in their assignment already, but they haven't yet (*all) their paper (*all).

Merchant assumes with Sportiche (1988) that a floating quantifier can be dropped off in the specifier position of any functional category it has moved through. Assuming further that *all* in (12) moves through Spec,vP, (12) shows that the constituent elided in VP-ellipsis is smaller than vP, since *all* remains outside the ellipsis site. The impossibility of a floating quantifier in (13) shows that the vP containing the floating quantifier deletes in pseudogapping constructions. This argument that Merchant adduces to support (8) has problems, however. I have checked (12) with three informants, and none found it grammatical (one gave it ?? and the other two gave it *). Note also that if the penultimate word *yet* in (12) were right-adjoined to the vP (or VP), like its counterpart, *already*, in the antecedent clause, *all* in Spec,vP should precede *yet*, as in (14).



Hence, it is not clear that (12) would support Merchant's analysis, even if it were grammatical. My informants do agree that the problem with (12) is the order between the sentence-final adjuncts, *yet all*, and that switching their order considerably improves grammaticality.

² Agbayani and Zoerner (2004) disagree on this analysis. The account they propose is that pseudogapping is derived through across-the-board movement of the verb head. This approach faces several empirical difficulties, however. For instance, Levin (1978) observes that non-NP-remnants are not possible in pseudogapping.

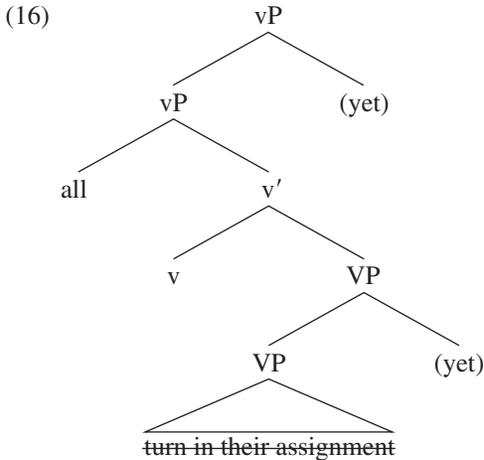
(i) *You probably just feel relieved, but I do ~~feel~~ jubilant.

(ii) *Rona sounded annoyed, and Sue did ~~sound~~ frustrated.

It is not clear why across-the-board movement of a verb is sensitive to the category of the remnant phrase. Since a full review of Agbayani and Zoerner 2004 is not my primary goal, I will not discuss this issue further.

(15) Many of them have turned in their assignment already, but they haven't all yet.

This allows ellipsis of the smallest VP, *turn in their assignment*, as in (16), as long as the verb *turn* does not raise to the v head position prior to ellipsis.



The problem is that the same word order alternation also improves (13), as (17) shows.

(17) ?Many of them have turned in their assignment already, but they haven't all yet their paper.

However, if the floating quantifier *all* occupies Spec,vP, and if pseudogapping elides vP, as Merchant assumes, (17) should be ungrammatical, since the floating quantifier must be deleted along with the rest of the vP. As (17) runs contrary to this expectation, the validity of Merchant's account of (12) and (13) is in doubt. If *all* in (15) and (17) indeed occupies Spec,vP, the grammaticality of these examples suggests that both VP-ellipsis and pseudogapping delete a category smaller than vP, such as VP. It can also be the case that *all* in (15) and (17) occupies a position outside vP, in which case the entire vP can be deleted.

3 Empirical Problems

This section shows that when the difference between VP-ellipsis and pseudogapping is minimized, the claimed asymmetry between the two constructions disappears.

3.1 Ungrammatical Examples Remain Ungrammatical

(1), repeated here, supposedly shows that pseudogapping does not allow voice mismatch.

(18) *Roses were brought by some, and others did ~~bring~~ lilies.

The VP-ellipsis counterpart of (18), shown in (19), is also ungrammatical. However, Merchant's account predicts that (19) should be grammatical, since VP-ellipsis should generally permit voice mismatch.

(19) *Roses were brought by some, and others did ~~bring~~ roses, too.

(19) would in fact be grammatical were it not for voice mismatch.

(20) Some brought roses, and others did ~~bring~~ roses, too.

(20) shows that the problem with (19) is not the absence of a contrast between the remnant phrases (see, e.g., Rooth 1992), since *some* and *others* suffice to license ellipsis in (20), but not in (19).

One possibility is that (19) may not be acceptable with or without ellipsis; hence, the problem with (19) has nothing to do with ellipsis. (19) could be accounted for as a mismatch in information structure (Birner and Ward 1998, Vallduví 1992) or predication structure (Williams 1980). The validity of this possibility depends on the judgment of the full-fledged counterpart of (19), shown in (21).

(21) Roses were brought by some, and others brought roses, too.

According to my seven informants, (21) is better than (19). The contrast becomes sharper, it seems, in the following pair. (23), but not (22), involves ellipsis.

(22) Roses were brought by some boys, and some girls brought roses, too.

(23) *Roses were brought by some boys, and some girls did, too.

Thus, the ungrammaticality of (19) and (23) should be accounted for in terms of ellipsis.

Now consider (2), repeated in (24). Its VP-ellipsis counterpart, (25), is also ungrammatical.

(24) *Some brought roses, and lilies were ~~brought~~ by others.

(25) *Some brought roses, and lilies were ~~brought by some~~, too.

In these examples, *roses* and *lilies* should suffice as terms of a contrast, as (26) shows.

(26) Roses were brought by some, and lilies were ~~brought by some~~, too.

(27)–(32) provide additional pseudogapping examples with voice mismatch reported by Merchant (2007:170).

(27) *Klimt is admired by Abby more than anyone does ~~admire~~ Klee.

(28) *Hundertwasser's ideas are respected by architects more than most people do ~~respect~~ his work.

(29) *More people were invited to Beth's reception by her mother than Beth herself did ~~invite~~ to her wedding!

(30) *Abby admires Klimt_i more than he_i is ~~admired~~ by anyone else.

(31) *Laypeople respect Hundertwasser's work more than his ideas are ~~respected~~ by architects.

(32) *Beth's mother invited more people to her wedding than were ~~invited~~ by Beth herself!

Their VP-ellipsis counterparts are also ungrammatical, as (33)–(38) show.

- (33) *Klimt is admired by Abby more than anyone does ~~admire Klimt~~.
- (34) *Hundertwasser's ideas are respected by architects more than most people do ~~respect his ideas~~.
- (35) *More people were invited to Beth's reception by her mother than Beth herself did ~~invite to her reception!~~
- (36) *Abby admires Klimt_i more than he_i is ~~admired by Abby~~.
- (37) *Laypeople respect Hundertwasser's work more than his ideas are ~~respected~~.
- (38) *Beth's mother invited more people to her wedding than were ~~invited by her mother!~~

Since ungrammatical pseudogapping examples remain ungrammatical even under VP-ellipsis, there is no asymmetry between the two constructions.

3.2 Grammatical Examples Remain Grammatical

An example similar to (4), repeated in (39), remains almost grammatical when it is turned into a pseudogapping sentence, (40).

- (39) This problem was to have been looked into, but obviously nobody did ~~look into this problem~~.
- (40) ?My problem will be looked into by Tom, but he won't ~~look~~ into yours.

The following pairs also show that there is no asymmetry:

- (41) The system can be used by anyone who wants to ~~use it~~.
- (42) ?The new system can be used by anyone who could ~~use~~ the older versions.
- (43) Actually, I have implemented it [= a computer system] with a manager, but it doesn't have to be ~~implemented with a manager~~.
- (44) ?Actually, I have implemented it [= a computer system] with a manager, but it should have been ~~implemented~~ by a computer technician.

Admittedly, the judgments given on these pseudogapping examples are subtle, as is the case for pseudogapping examples in general, but these pseudogapping examples are less grammatical than others.³ None of my seven informants found (40), (42), or (44) perfectly grammatical, but five of them agreed that they are more acceptable than (27)–(32). I will thus assume that the two elliptical constructions form a syntactically natural class, leaving open how to account for the marginal status of (40), (42), and (44).

4 A Possible Explanation

We have observed that the putative asymmetry between VP-ellipsis and pseudogapping does not exist. Since the asymmetry that (8) accounts for does not exist, the conceptual problem with (8),

³ Merchant (2008a:fn. 4) also cites a couple of marginal pseudogapping sentences with voice mismatch.

pointed out in section 2, immediately disappears. One might also claim that Merchant's conclusion (2007, 2008a) that syntax plays a role in ellipsis is unwarranted. However, I argue that his conclusion is still valid, since sluicing, unlike VP-ellipsis and pseudogapping, does not allow voice mismatch, an observation that requires giving a syntactic explanation for ellipsis. To do this, consider why some cases of voice mismatch are grammatical, while others are not. This is an important task, since we have to make sure that sluicing with voice mismatch is impossible in the same context that potentially allows voice mismatch in VP-ellipsis/pseudogapping.

4.1 Competing Possibilities

The discussion so far leaves us two possible lines of research.⁴

- (45) Both VP-ellipsis and pseudogapping allow voice mismatch, and ungrammatical sentences are the result of semantic/pragmatic factors.
- (46) Voice mismatch is generally impossible in both VP-ellipsis and pseudogapping, and grammatical sentences are the result of semantic/pragmatic factors.

(46) is difficult to maintain. One could think of a semantic/pragmatic algorithm that transforms a nonmatching antecedent into an appropriate phrase that matches in voice with the ellipsis site. For instance, consider (4) again, repeated in (47). Since a passive antecedent like the one in (47) implies its active counterpart and vice versa, *x looks into this problem* can be reconstructed on the basis of *this problem was to have been looked into*.

- (47) This problem was to have been looked into, but obviously nobody did ~~looked into this problem~~.

The problem is that the same algorithm also provides an antecedent for the elliptical phrase in the following ungrammatical example:

- (48) *Roses were brought by some, and others did ~~bring~~ roses.

Since *roses were brought by some* implies *some brought roses*, we would incorrectly predict (48) to be grammatical (Arregui et al. 2006). Hence, it is more fruitful to pursue the approach in (45).

Kehler (2000, 2002) argues convincingly that discourse factors interfere with judgments on ellipsis. Kehler distinguishes three different kinds of connections between sentences in a discourse: Cause-Effect, Resemblance, and Contiguity. The first two are relevant here. Sentences in Cause-Effect relations do not require a syntactically isomorphic antecedent for ellipsis, but those in Resemblance relations do. Thus, ellipsis in a Cause-Effect discourse can be interpreted as long as a semantically salient antecedent is present. Cause-Effect relations are typically realized as Result (*and therefore . . .*) or Violated Expectation (*but obviously . . .*, *but surprisingly . . .*), while Resemblance relations are realized as Parallel (*and similarly . . .*) or Contrast (*but in contrast . . .*). This accounts for the difference in grammaticality between (47), involving Violated

⁴ Goldberg (2005), Kennedy (2002), Potsdam (1997), Sag (1976), and Warner (1993) conclude that VP-deletion does not permit voice mismatch. This conclusion would leave all the grammatical examples unaccounted for.

Expectation (the conjunction is *but obviously*), and (49), involving a Parallel relation (*and similarly*).

(49) *This problem was looked into by John, and (similarly) Bob did, too.

When a syntactically identical antecedent is present, VP-ellipsis is of course possible. (49) contrasts with (50).

(50) John looked into this problem, and (similarly) Bob did, too.

(48) involves a Parallel relation, as evidenced by the connective *and similarly* in (51).

(51) Some brought roses, and similarly others did ~~bring roses~~, too.

(52) is a case of Violated Expectation, since *but surprisingly* connects the sentences.

(52) Roses should have been brought by somebody, but surprisingly, nobody did ~~bring roses~~.

The contrast between (48) and (52) can therefore be attributed to the discourse factor that Kehler points out. The ungrammatical examples in (27)–(38) can be considered to exhibit Parallel relations, while (39)–(44) exhibit Cause-Effect relations. I will thus assume that Kehler's explanation is in principle valid. However, I also point out a difficulty: Kehler's analysis cannot account for Merchant's (2007) observation that sluicing does not tolerate voice mismatch.

4.2 *Sluicing and Voice Mismatch*

We have seen that ungrammatical examples of voice mismatch fall under Kehler's (2000, 2002) Resemblance relations, which require a syntactically parallel antecedent. Under Kehler's analysis, ellipsis in Cause-Effect relations does not require a syntactically parallel antecedent. In this context, it is interesting to note that TP-ellipsis, or sluicing, does not allow voice mismatch (Merchant 2007). ((53) is adapted from Merchant 2007:19; (54)–(55) are from Merchant 2007:6, 7, respectively.)

(53) *Someone brought roses, but we don't know by whom ~~roses were brought~~.

(54) *Who is sending you to Iraq? By Bush ~~I am being sent to Iraq~~.

(55) *MAX brought the roses, not by AMY ~~the roses were brought~~.

As a matter of fact, sluicing with voice mismatch is impossible even in a Cause-Effect discourse relation (Violated Expectation), which allows voice mismatch in VP-ellipsis. Consider the following pair:⁵

⁵ (56) has two clauses in a Cause-Effect relation, and one of the VPs deletes. In (57), however, a clause embedded within one of the two clauses in a Cause-Effect relation deletes. One might argue that this difference in depth of embedding is responsible for the contrast. This conclusion is not warranted, however, since embedding the second clause in (56) does not change the grammaticality of the example, as (i) shows.

(i) Nobody brought roses, even though we believe that they should have been.

(56) Nobody brought roses, even though they should have been (brought).

(57) Someone brought roses, even though we don't know by whom *(roses were brought).

If sluicing and VP-ellipsis are viewed as being governed by the same discourse principles, Kehler's proposal predicts that (57) does not require a syntactically identical antecedent; however, the impossibility of sluicing in (57) runs counter to this prediction.

To summarize, sluicing departs from VP-ellipsis and pseudogapping in that only sluicing does not tolerate voice mismatch. I now define a syntactic identity condition that, coupled with Merchant's (2007, 2008a) intuition that the size of the elided category is relevant, draws a necessary distinction.

4.3 Syntactic Identity Condition

Assume that an active sentence and its passive counterpart entail each other and are semantically equivalent. Then, a condition on ellipsis based solely on semantic equivalence cannot account for the fact that sluicing does not tolerate voice mismatch, while VP-ellipsis and pseudogapping do. This suggests that ellipsis is conditioned by syntax (e.g., Fiengo and May 1994, Merchant 2007, 2008a).

The account of ellipsis developed here is based on proposals in Rooth 1992 and Takahashi and Fox 2005,⁶ phrased in syntactic terms (see also Fiengo and May 1994, Sag 1976, Schwarzschild 1999).

(58) For ellipsis of XP_E to be licensed under identity with an antecedent constituent (XP_A), XP_A and XP_E must be focus variants.

⁶ Takahashi and Fox's (2005:229) Parallelism is stated as a semantic condition.

(i) *Parallelism*

PD [parallelism domain] satisfies the parallelism condition if PD is semantically identical to another constituent AC, modulo focus-marked constituents.

PD is semantically identical to AC modulo focus-marked constituents, if there is a focus alternative to PD, PD_{Alt} , such that for every assignment function, g , $\llbracket PD_{Alt} \rrbracket^g = \llbracket AC \rrbracket^g$.

PD_{Alt} is an alternative to PD if PD_{Alt} can be derived from PD by replacing focus-marked constituents with their alternatives.

Takahashi and Fox also propose a requirement on ellipsis operations, MaxElide.

(ii) *MaxElide*

Elide the largest deletable constituent reflexively dominated by PD.

MaxElide accounts for the fact that while (iii), which elides the largest deletable constituent, allows sloppy interpretation, (iv), which elides just the embedded VP, does not.

(iii) John_i said Mary hit him_i, and Bill_j also did ~~say she did hit him_j~~.

(iv) *John_i said Mary hit him_i, and Bill_j also said she did ~~hit him_j~~.

In contrast to (iv), (v) allows sloppy interpretation. Since the antecedent and ellipsis clauses have different matrix verbs, the matrix verb cannot be elided.

(v) John_i argued that Mary hit him_i, but Bill_j denied that she did ~~hit him_j~~.

For (58) to work, the notion of focus variants must be duly defined. There are two cases to consider. In the first case, a focus phrase directly binds expressions within the antecedent, XP_A , and a parallel focus phrase also binds expressions within the elliptical phrase, XP_E . An example is given in (59), where the focus phrases are capitalized.

(59) SAM_i [XP_A t_i ate the beans], and $SALLY_j$ did [XP_E ~~t_j eat the beans~~], too.

In the second case, a phrase that dominates a focus phrase (*which HOT beans*), and a parallel phrase that also dominates a focus phrase (*which COLD beans*), bind expressions in XP_A and XP_E .⁷

(60) I can tell you which HOT beans _{i} [XP_A Sam ate t_i], but I can't tell you which COLD beans _{j} [XP_E Sam ate t_j].

(60) shows that a focus phrase may pied-pipe a larger constituent, and the pied-piped phrase can bind expressions in the ellipsis site. These two cases should be part of the definition of *focus variants* in (58). Let us therefore define *f-bound phrases* as follows:

(61) An expression is *f-bound* iff it is bound by a phrase (the *f-binder*) that reflexively dominates a focus phrase.

Given (61), we can define *focus variants* in (58) as follows:

- (62) XP_A and XP_E are *focus variants* iff
- a. XP_A and XP_E are identical modulo *f-bound* constituents.
 - b. *F-bound* constituents count as identical iff
 - i. they are bound by *f-binders* in parallel positions outside XP_A and XP_E and
 - ii. the *f-binders* have parallel structures modulo the focus phrase.⁸

The proposed syntactic condition requires that XP_A and XP_E be made up of the same lexical items in the same way⁹ except for the *f-bound* constituents. The *f-binders* must be in parallel

⁷ Sentences like (60) were pointed out to me by an anonymous reviewer.

⁸ The *f-binders* must have parallel structures in order to block the impossible sloppy reading in (i).

(i) John _{i} 's coach thinks he _{i} has a chance, and Bill _{j} does ~~think he _{j} has a chance~~, too.

While *Bill* binds the pronoun in the ellipsis site, *John* does not. This blocks ellipsis. The *f-binders* in (ii) have parallel structures. The sentence therefore permits ellipsis under the intended interpretation (Rooth 1992, Sauerland 2004). The same analysis also applies to (iii).

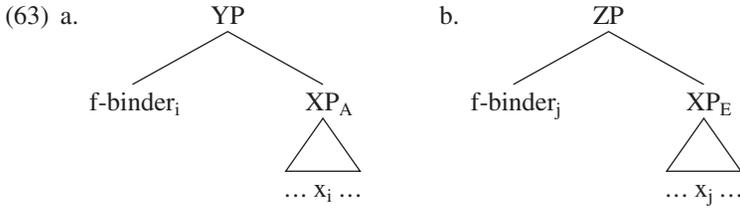
(ii) John _{i} 's coach thinks he _{i} has a chance, and Bill _{j} 's coach does ~~think he _{j} has a chance~~, too.

(iii) John _{i} thinks he _{i} has a chance, and Bill _{j} does ~~think he _{j} has a chance~~, too.

⁹ Ellipsis ignores certain binding-theoretic features (vehicle change), which indicates that syntactic identity must look at indices for indexed expressions. (i), for example, illustrates that an R-expression like *John* can alternate with a pronoun like *him* under ellipsis. See Fiengo and May 1994 for details.

(i) Mary loves John, and he thinks that Sally does ~~love him~~, too.

positions in the phrases that dominate XP_A and XP_E , and they must also have parallel structures. The structures in (63) illustrate the proposal, where the f-binder, as defined in (61), can either be a focus phrase itself or dominate a focus phrase.

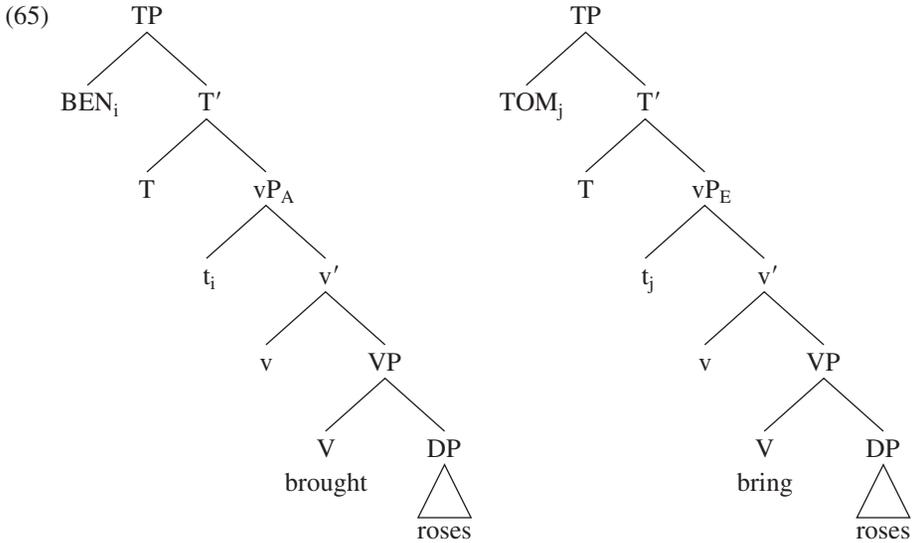


Let us now look at how the proposal applies in each elliptical construction.

4.4 VP-Ellipsis

First, consider the VP-ellipsis sentence (64) and its structure in (65).

(64) BEN brought roses, but TOM didn't [_{VP_E} bring roses].

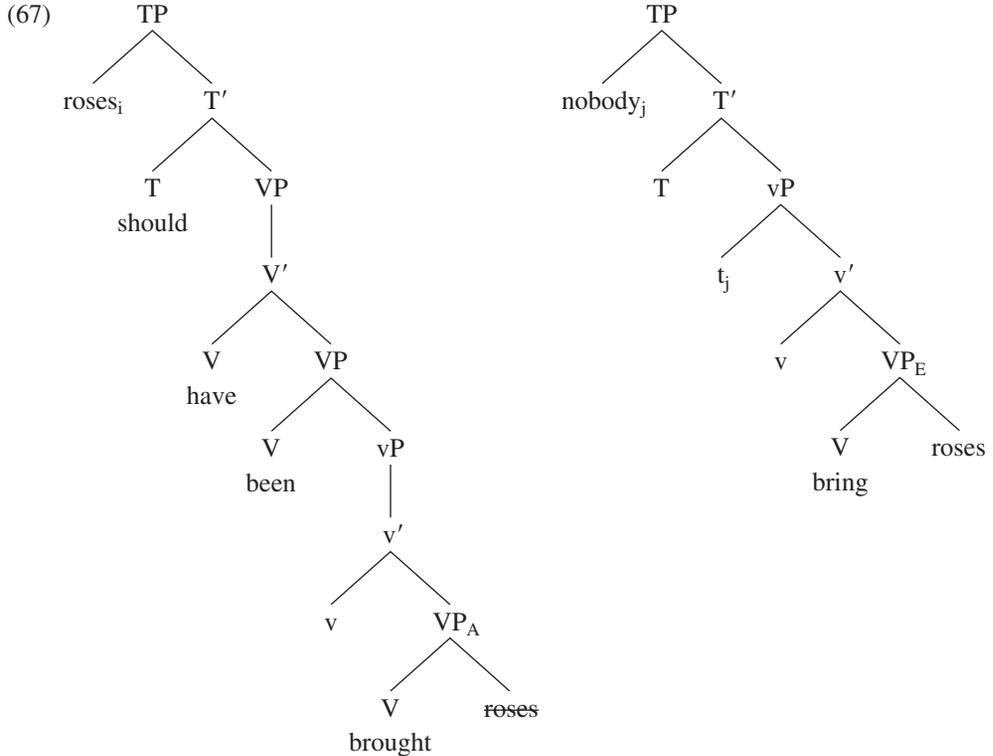


The subject DPs are focused, and bind the internal trace in Spec,vP in both the antecedent vP and the elliptical vP. The two vPs are otherwise identical. One of the vPs can therefore be deleted.¹⁰

¹⁰ The simplest account is that either the vP or the VP can be elided in VP-ellipsis. Since the two VPs are also trivially identical, ellipsis would be possible at the VP level as well. However, I assume with Takahashi and Fox (2005) that ellipsis must target the largest possible constituent (see footnote 6).

Next, consider VP-ellipsis with voice mismatch, illustrated by sentence (66) and its structure in (67).

- (66) Roses should have been [_{VP_A} brought roses] by somebody, but nobody did [_{VP_E} bring roses].



(66) has a passive antecedent VP_A and an active elliptical VP_E. VP_A and VP_E are identical, since the raised object in passive sentences leaves a copy of itself in object position.¹¹ VP_E can therefore be deleted. Furthermore, since the proposed syntactic condition (58) says nothing about which one can be the antecedent of the other, an active verb phrase can be the antecedent of an elliptical passive verb phrase.

- (68) Steve asked me to [_{VP_A} send the set by courier through my company insured], and it was [_{VP_E} ~~sent by courier through my company insured~~].

¹¹ The vP is not a possible ellipsis target in this case, since *nobody* binds its trace in the elliptical constituent, but the implicit agent in the antecedent constituent is not bound by a parallel phrase.

4.5 Pseudogapping

Turning now to pseudogapping, let us look at a typical example without voice mismatch.

(69) JOHN_i [_{VP_A} t_i brought t_j] ROSES_j, and TOM_k did [_{VP_E} t_k ~~bring~~ t_i] LILIES_i.

It is generally assumed that the remnant phrase in pseudogapping moves out of the ellipsis site (Jayaseelan 1990) and that the corresponding focus phrase in the antecedent also undergoes movement. This conclusion is based on the fact that the focus phrase in the antecedent displays a weak crossover (WCO) effect. As Chomsky (1976) notes, focus phrases like the one capitalized in (70) show WCO effects.

(70) ??The woman he_i loved betrayed JOHN_i.

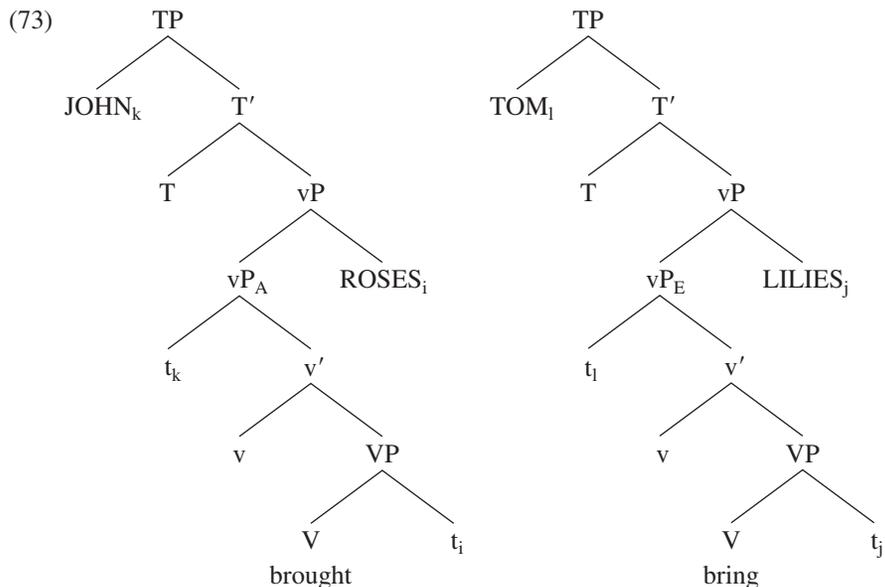
Chomsky's explanation of (70) is that the focus phrase moves, crossing over the pronoun. This creates a typical WCO configuration.

(71) JOHN_i [the woman he_i loved betrayed t_i].

In light of this, consider (72), which violates WCO if we assume that the focus phrase in the antecedent crosses over the coindexed pronoun.

(72) ??The woman he_i loved [_{VP_A} betrayed t_i] JOHN_i, although she didn't [_{VP_E} ~~betray~~ t_j] BILL_j.

Since the focus phrases move out of the verb phrases in (69), the two clauses are represented as in (73).

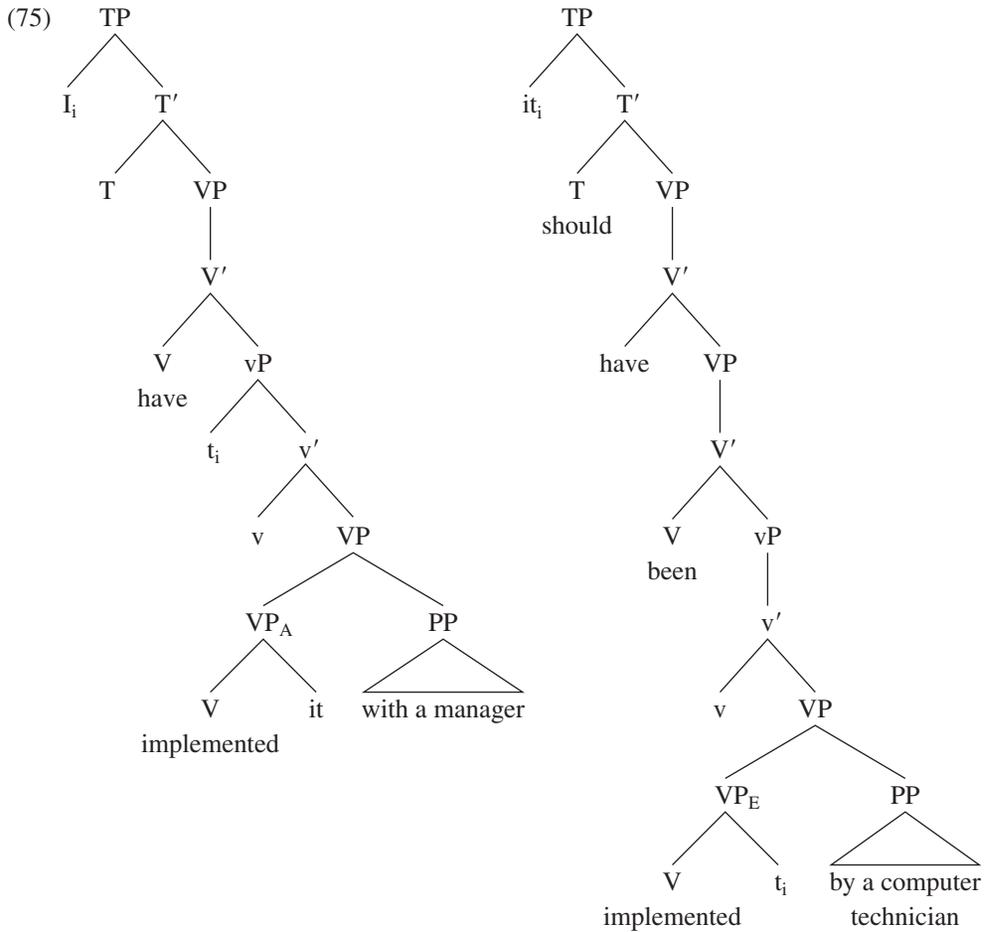


Both the subject phrases and the remnant phrases bind constituents within the vPs from parallel positions, and the lower segments of the vPs are otherwise identical. Therefore, one of the vPs can be deleted.¹²

We saw in the previous section that VP-ellipsis with voice mismatch elides a VP (see the discussion around (67), especially footnote 11), since voice mismatch causes the difference related to presence or absence of the verb's external argument. With this in mind, consider voice mismatch in pseudogapping. Example (44) is repeated here.

(74) ?Actually, I have implemented it [= a computer system] with a manager, but it should have been ~~implemented-t~~ by a computer technician.

The relevant portions of the sentence are represented in (75).



¹² The discussion presupposes that verbal inflections are ignored under ellipsis, since *brought* and *bring* do not match in tense. I come back to this issue in section 4.7.

Since the lower VPs are identical, ellipsis is potentially possible, but for reasons beyond the scope of this article, pseudogapping with voice mismatch does not result in perfect grammaticality.

4.6 Sluicing

Finally, let us consider sluicing. The proposed syntactic account requires that when a phrase is bound by an f-binder in the ellipsis site, a phrase parallel to it in the antecedent must be bound by a parallel f-binder in the antecedent clause. Both the remnant phrase in the elliptical clause and the phrase that corresponds to it in the antecedent are focused. Assume that focus phrases undergo covert movement. A simple sluicing sentence without voice mismatch is represented as in (76).

(76) SOMEONE_i [_{TP_A} t_i brought roses], but we don't know WHO_j [_{TP_E} t_j ~~brought roses~~].

Since the two TPs are identical except for the f-bound variables, sluicing is allowed.¹³

Merchant (2007) attributes the impossibility of voice mismatch in sluicing to the size of the elided category. Active and passive TPs have different structures. The account proposed here explains the impossibility of voice mismatch in sluicing in the same fashion. Since sluicing elides a TP, syntactic identity must hold between two TPs for sluicing to take place; that is, they must have the same structure. However, with voice mismatch, the two TPs have different structures. The structure for (77) is shown in (78).

(77) * [_{TP_A} SOMEONE_i brought roses], but we don't know by WHOM_j [_{TP_E} ~~roses were brought~~ <roses> t_j].

The remnant phrase in pseudogapping can be pied-piped by a focus phrase.

(i) Sam_k [t_k ate t_i] the HOT beans_i, but Sally_i did [t_i eat t_j] the COLD beans_j.

Each remnant phrase dominates a focused phrase. See the discussion around (60).

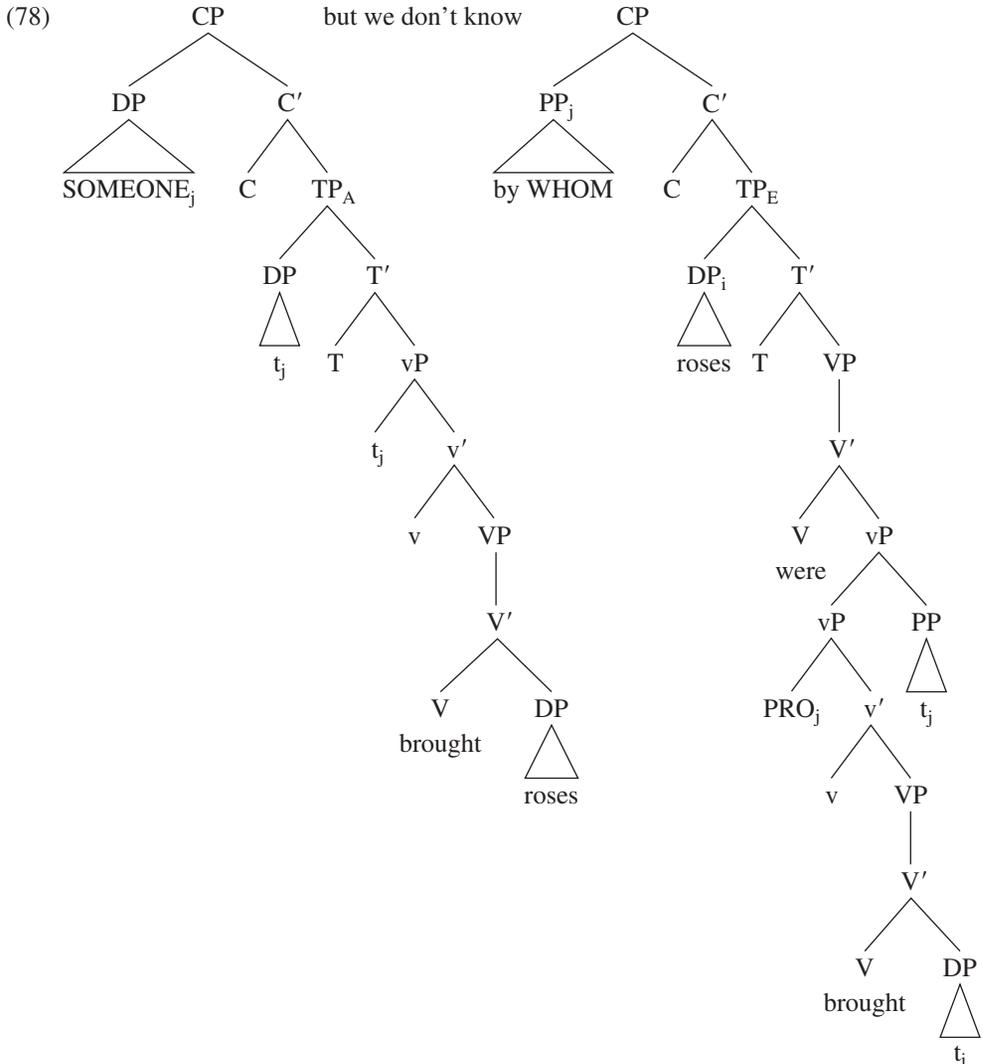
¹³ The proposed analysis requires that the indefinite phrase in the antecedent move as high as the *wh*-phrase does in the elliptical clause. As is well known, sluicing cancels island violations (Lasnik and Park 2003, Merchant 2001, 2008b, Ross 1969).

(i) You met a boy that ate something, but I don't know what.

(i) is represented as follows:

(ii) SOMETHING_i [_{TP_A} you met a boy that ate t_i], but I don't know what_j [_{TP_E} ~~you met a boy that ate~~ t_j]

A potential problem is that the antecedent in (ii) violates the Complex NP Constraint. I simply assume that focus movement is exempt from the Subadjacency Condition, and refrain from further discussion on island repair.



One difference between the two TPs is that the passive *were* is present in the ellipsis site, but not in the antecedent. Another is that the copy/trace of the *by*-agentive PP is present in the ellipsis site, but not in the antecedent. These differences suffice to make ellipsis impossible in (77).

Thus, Merchant's (2007) conclusion that sluicing behaves differently from VP-ellipsis is valid, and the asymmetry requires a syntactic explanation, as Merchant (2007, 2008a) concludes.

4.7 Inflectional Morphemes

The proposed analysis of voice mismatch requires that ellipsis operate between an active verb, *bring*, and its passive counterpart, *brought*. This is not surprising, given that verbs belonging to

different inflectional classes (except for *be* and auxiliary *have*) allow ellipsis (Johnson 2001, Lasnik 1999b, Sag 1976, Warner 1986). In (79), the bare form of the verb is elided under identity with its progressive counterpart.

(79) John was sleeping, and now Mary will sleep.

Lasnik's (1999b) account is that VP-ellipsis applies to the structure to which affix hopping (Chomsky 1957, Sag 1976) has not applied. Assume that affix hopping takes place in the PF wing of grammar (PF merger).¹⁴ At LF, the two VPs in (79) have exactly the same form, and VP_E can delete under identity with VP_A, as shown in (80).¹⁵

(80) John was-ing [_{VP_A} sleep], and now Mary will [_{VP_E} sleep]

With this in mind, consider voice mismatch. In (81), both verbs lack inflection at LF, as shown in (82), since affix hopping takes place at PF.

(81) Somebody_j [_{VP_A} t_j brought roses_i], even though they_i shouldn't have been [_{VP_E} brought <they_i>] (by somebody).

(82) somebody_j Infl [_{VP_A} t_j bring roses_i], even though they_i shouldn't have been-en [_{VP_E} PRO_j-bring <they_i>] (by somebody_j)

Ellipsis is therefore possible in (81).

4.8 Kehler's (2000, 2002) Resemblance Relation

As noted in section 4.1, Kehler (2000, 2002) argues that voice mismatch is impossible when the Resemblance relation holds between the antecedent clause and the elliptical clause.

(83) *This problem was looked into by John, and Bob did ~~look into the problem~~, too.

Without voice mismatch, ellipsis is possible in the same discourse context.

(84) John looked into this problem, and Bob did ~~look into the problem~~, too.

¹⁴ I am indebted to an anonymous reviewer for suggesting an analysis along this line.

¹⁵ As Lasnik (1999b) notes, the reverse of (80), where the bare form of the verb serves as antecedent for the progressive form, is not possible (Quirk et al. 1972).

(i) *John slept, and Mary was ~~sleeping~~, too.

Lasnik's explanation is that (i) violates his Stranded Affix Filter (Lasnik 1981), which rules out a morphologically realized affix that is not dependent on a morphologically realized category. In his system, *ing* gets stranded.

(ii) *John Infl sleep, and Mary was ing ~~sleep~~, too.

This fails to explain the fact that the perfective morpheme *en* can be stranded (Lasnik 1999b:113).

(iii) John may be questioning our motives, but Peter has (en) n't ~~been questioning our motives~~.

The voice mismatch case seems to be in the same league with perfectives, in that the stranded passive morpheme does not cause ungrammaticality.

(iv) Steve asked me to send the set by courier through my company insured, and it was (en) ~~send-by-courier through my company insured~~.

Kehler's explanation is that ellipsis in a Resemblance relation requires syntactic identity, unlike ellipsis in a Cause-Effect relation, which only needs a semantically equivalent antecedent. We have seen that for voice mismatch cases in Cause-Effect relations, syntactic identity holds at a somewhat abstract level, LF. Viewed from this perspective, the impossibility of (83) suggests that identity at LF does not suffice to allow ellipsis in the Resemblance relation. As Kehler (2000: 547) notes, recovering ellipsis in Resemblance relations involves identifying parallel arguments and their relative pairings,¹⁶ which requires access to the syntactic structure of the utterance. Assuming that the relevant syntactic level is the surface form, that is, PF, the LF identity available in Cause-Effect relations cannot give a proper interpretation for (83). If identity at PF mandates identity of pronounced copies, (83) must, but fails to, satisfy this condition at this level.

5 Summary

The claimed asymmetry between VP-ellipsis and pseudogapping does not exist. The unacceptable cases of VP-ellipsis and pseudogapping must be attributed to nonsyntactic factors (Kehler 2000, 2002). One desirable consequence of this conclusion is that it eliminates Merchant's (2008a) assumption that the voice feature distinguishes pseudogapping and VP-ellipsis. Merchant also has to specify where the feature is located (the *v* head in Merchant 2008a or the Voice head in Merchant 2007) and which category deletes in each construction. Nonetheless, since sluicing does not allow voice mismatch even in the same context that allows voice mismatch in VP-ellipsis, Merchant's conclusion is still valid. Sluicing elides a phrase larger than the one elided in VP-ellipsis or pseudogapping. It is therefore reasonable to attribute the asymmetry between sluicing and VP-ellipsis/pseudogapping to the size of the elided category, as Merchant (2007) does. Voice mismatch is impossible under sluicing, since an active TP and its passive counterpart cannot be focus variants. For VP-ellipsis/pseudogapping sentences in Resemblance relations, LF identity does not suffice to allow ellipsis, and identity at PF is required. Whether or not these two kinds of identity (LF and PF) correlate with the two approaches to ellipsis, LF copying and PF deletion, remains unclear at this point; I leave this question for future investigation. Kehler (2000, 2002) also discusses other differences between Cause-Effect relations and Resemblance relations, but I leave these for future research as well.

References

- Agbayani, Brian, and Ed Zoerner. 2004. Gapping, pseudogapping and sideward movement. *Studia Linguistica* 58:185–211.
- Arregui, Ana, Charles Clifton, Jr., Lyn Frazier, and Keir Moulton. 2006. Processing elided verb phrases with flawed antecedents: The recycling hypothesis. *Journal of Memory and Language* 55:236–246.

¹⁶ I assumed in section 4.7 that affix hopping takes place at PF. If ellipsis in the Resemblance relation requires PF identity, affix hopping should block ellipsis in the Resemblance relation. This expectation runs contrary to fact.

(i) John was sleeping, and now Mary will sleep.

It therefore seems that Resemblance relations identify parallel arguments and their relative pairings and that they ignore inflectional morphemes on the verb.

- Birner, Betty, and Gregory Ward. 1998. *Information status and noncanonical word order in English*. Amsterdam: John Benjamins.
- Chomsky, Noam. 1957. *Syntactic structures*. The Hague: Mouton.
- Chomsky, Noam. 1976. Conditions on rules of grammar. *Linguistic Analysis* 2:303–351.
- Fiengo, Robert, and Robert May. 1994. *Indices and identity*. Cambridge, MA: MIT Press.
- Goldberg, Lotus. 2005. Verb-stranding VP-ellipsis: A cross-linguistic study. Doctoral dissertation, McGill University, Montreal.
- Jayaseelan, K. A. 1990. Incomplete VP deletion and gapping. *Linguistic Analysis* 20:64–81.
- Johnson, Kyle. 2001. What VP ellipsis can do, and what it can't, but not why. In *The handbook of contemporary syntactic theory*, ed. by Mark Baltin and Chris Collins, 439–479. New York: Blackwell.
- Kehler, Andrew. 2000. Coherence and the resolution of ellipsis. *Linguistics and Philosophy* 23:533–575.
- Kehler, Andrew. 2002. *Coherence, reference, and the theory of grammar*. Stanford, CA: CSLI Publications.
- Kennedy, Christopher. 2002. Ellipsis and syntactic representation. In *The interfaces: Deriving and interpreting omitted structures*, ed. by Kerstin Schwabe and Susanne Winkler, 29–53. Amsterdam: John Benjamins.
- Lasnik, Howard. 1981. Restricting the theory of transformations: A case study. In *Explanations in linguistics*, ed. by Norbert Hornstein and David Lightfoot, 152–173. London: Longman.
- Lasnik, Howard. 1999a. *Minimalist analysis*. Oxford: Blackwell.
- Lasnik, Howard. 1999b. Verbal morphology. In Lasnik 1999a, 97–119.
- Lasnik, Howard, and Myung-Kwan Park. 2003. The EPP and the Subject Condition under sluicing. *Linguistic Inquiry* 34:649–660.
- Levin, Nancy. 1978. Some identity-of-sense deletions puzzle me. Do they you? In *Proceedings of the Fourteenth Regional Meeting of the Chicago Linguistic Society*, ed. by Donka Farkas, Wesley Jacobson, and Karol Todrys, 229–240. Chicago: University of Chicago, Chicago Linguistic Society.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2007. Voice and ellipsis. Ms., University of Chicago, Chicago, IL.
- Merchant, Jason. 2008a. An asymmetry in voice mismatches in VP-ellipsis and pseudogapping. *Linguistic Inquiry* 39:169–179.
- Merchant, Jason. 2008b. Variable island repair under ellipsis. In *Topics in ellipsis*, ed. by Kyle Johnson, 132–153. Cambridge: Cambridge University Press.
- Potsdam, Eric. 1997. English verbal morphology and VP-ellipsis. In *NELS 27*, ed. by Kiyomi Kusumoto, 353–368. Amherst: University of Massachusetts, Graduate Linguistic Student Association.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1972. *A grammar of contemporary English*. London: Seminar Press.
- Rooth, Mats. 1992. Ellipsis redundancy and reduction redundancy. In *Proceedings of the Stuttgart Ellipsis Workshop*, ed. by Steve Berman and Arild Hestvik. Arbeitspapiere des Sonderforschungsbereichs 340. Bericht Nr. 29. Heidelberg: IBM Germany.
- Ross, John Robert. 1969. Guess who? In *Proceedings of the Fifth Regional Meeting of the Chicago Linguistic Society*, ed. by Robert Binnick et al., 252–286. Chicago: University of Chicago, Chicago Linguistic Society.
- Sag, Ivan. 1976. Deletion and Logical Form. Doctoral dissertation, MIT, Cambridge, MA.
- Sauerland, Uli. 2004. The interpretation of traces. *Natural Language Semantics* 12:63–127.
- Schwarzschild, Roger. 1999. Givenness, Avoid F and other constraints on the placement of accent. *Natural Language Semantics* 7:141–177.
- Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19:425–451.
- Takahashi, Shoichi. 2004. Pseudogapping and cyclic linearization. In *NELS 34*, ed. by Matthew Wolf and Keir Moulton, 571–585. Amherst: University of Massachusetts, Graduate Linguistic Student Association.

- Takahashi, Shoichi, and Danny Fox. 2005. MaxElide and the re-binding problem. In *Proceedings from Semantics and Linguistic Theory XV*, ed. by Effi Georgala and Jonathan Howell, 223–240. Ithaca, NY: Cornell University, CLC Publications.
- Vallduví, Enric. 1992. *The informational component*. New York: Garland.
- Warner, Anthony. 1986. Ellipsis condition and the status of the English copula. *York Papers in Linguistics* 12:153–172.
- Warner, Anthony. 1993. *English auxiliaries: Structure and history*. Cambridge: Cambridge University Press.
- Williams, Edwin. 1980. Predication. *Linguistic Inquiry* 11:203–238.

Department of Language and Linguistic Science
University of York
Heslington YO10 5DD
United Kingdom
hidekazu.tanaka@york.ac.uk

Adjectival Inflection and the Position of Measure Phrases

Akira Watanabe

Corver (2009) accounts for the postadjectival placement of the measure phrase in Romance by preposing the adjectival phrase over the measure phrase. I show that this movement serves to avoid violating locality when the T head tries to enter into a multiple agreement relation with the adjective as well as with the subject. I also suggest that the feature content of the potentially intervening measure phrase influences the range of parametric options.

Keywords: adjectival agreement, measure phrase, multiple Agree, masked underspecification

1 Introduction

In this article, I take up the parametric variation in the placement of measure phrases that accompany dimensional adjectives. Corver (2009) provides an in-depth analysis of the range of structures given in (1) and (2).

- | | | |
|--------|---|---------|
| (1) a. | John is six feet tall. | English |
| b. | Dit brood is drie dagen oud.
this bread is three days old
(Corver 2009:(42a)) | Dutch |

I would like to thank the audience at the Mini-Workshop on Modifiers and Cartography (Tromsø) in March 2010, including Guglielmo Cinque, Gillian Ramchand, Michal Starke, Peter Svenonius, and Øystein Vangsnes, for stimulating discussion. I am also grateful to Ken Hiraiwa and anonymous reviewers for useful comments and to Christer Platzack and Höskuldur Thráinsson for help with the Swedish and Icelandic data, respectively. The research reported in this article was supported by Grant-in-Aid for Scientific Research (C) 22520492 from the Japan Society for the Promotion of Science.

This article has been cited by:

1. Taichi Nakamura. 2013. Voice Mismatches in Sloppy VP-Ellipsis. *Linguistic Inquiry* 44:3, 519-528. [[Citation](#)] [[Full Text](#)] [[PDF](#)] [[PDF Plus](#)]
2. Jason Merchant. 2013. Voice and Ellipsis. *Linguistic Inquiry* 44:1, 77-108. [[Abstract](#)] [[Full Text](#)] [[PDF](#)] [[PDF Plus](#)]