

On Adverb-Stranding VP Ellipsis

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On Adverb-Stranding VP Ellipsis*

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1 Introduction

In English, there are several elliptical constructions involving verb phrases. Two of the most typical elliptical constructions are VP Ellipsis (VPE) and pseudogapping, which are exemplified below.

(1) John talked to Bill but Mary didn't [e].	(Lobeck (1995: 21))
(2) a. John will bring wine to the party, and Mary will [e]	beer.
	(Thoms (2016: 286))
b. Rab will talk to Mary, but he won't [e] to Tam.	(Thoms (2016: 288))

The example in (1) illustrates a case of VPE, in which the entire verb phrase *talk to Bill* is omitted. The examples in (2) are pseudogapping. In (2a), a part of the verb phrase *bring to the party* is omitted and the object *beer* is left as the remnant. In (2b), the verb *talk* is omitted and the argument PP *to Tam* appears as the remnant. Like VPE and pseudogapping, the following elliptical construction also seems to be associated with the omission of verb phrases.

- (3) a. John read the newspaper slowly, and Mary did [e] quickly.[e]=read the newspaper
 - b. John fixed the car carefully, and Mary did [e] carelessly.[e]=fix the car

In the examples in (3), the VP adverbs are stranded as the remnants: *quickly* in (3a) and *carelessly* in (3b) (see Jackendoff (1972) for a detailed discussion of adverbs). This paper calls this elliptical construction Adverb-Stranding VP

Ellipsis (ASVPE).^{1,2}

Previous generative studies have attempted to provide a unified account of VPE and pseudogapping (see Jayaseelan (1990), Lasnik (1999), Shima (2006), Gengel (2007) and Takaki (2017)), whereas ASVPE has been given very little attention in the literature (see Engels (2010) and Larson (2013)). The goal of this paper is to add ASVPE to the two types of ellipsis and to explain the similarities and differences of the three verbal ellipses in a unified way, by assuming that these three types of ellipsis are subject to both the licensing condition using the spec-head agreement advocated by Lobeck (1995) and the identity condition such as parallelism.

This paper is organized as follows. Section 2 introduces the properties of ASVPE in comparison with VPE and pseudogapping. Section 3 shows how the licensing and identity conditions on ellipsis restrict VPE and pseudogapping. In section 4, I claim that ASVPE is also subject to these conditions and that since the remnants of ASVPE are adverbs, i.e., adjuncts, they can be stranded either by adjoining to the elided site or by moving from the elided site, as long as ASVPE satisfies the conditions. The proposed analysis can capture the differences and similarities of ASVPE with VPE and pseudogapping. Section 5 concludes this paper.

2 Basic Properties of ASVPE

In this section, I outline the basic properties of ASVPE while comparing it to VPE and pseudogapping. First, it is well-known that pseudogapping is impossible when the antecedent and the elided clause compose a question-answer pair, but VPE is possible under the same circumstance. ASVPE is also allowed in the same context. This is illustrated in (4)-(7).³

(4) a.	. How did John read the newspaper?	
b.	o ^k /?? He did [e] slowly.	(ASVPE)
(5) a.	. How did John fix the car?	
b.	o ^k /?? He did [e] carefully.	(ASVPE)
(6) a.	. Who read the newspaper?	
b.	. John did [e].	(VPE)

- (7) a. What (else) did John read?
 - b. ??/*He did [e] the newspaper. (pseudogapping)

This fact shows that ASVPE does not necessarily need both contrastively focused remnants and correlates, as opposed to pseudogapping, which must have both (see also (2) and (3)). The difference between ASVPE and pseudogapping is also indicated by (8), where the focused correlates are absent.⁴

(8) a. $^{\rm ok}/\ref{eq:schemestric}$ John read the newspaper, and he did [e] quickly.	(ASVPE)
b. $^{ok}/??$ John fixed the car, and he did [e] carefully.	(ASVPE)
c. *John drunk, and he did [e] wine.	(pseudogapping)
d. *John ate, and he did [e] fish.	(pseudogapping)

Second, (9a) shows that ASVPE is clause-bounded, in that *slowly* cannot be interpreted as the modifier of the embedded verb phrase *read the newspaper*. Pseudogapping is also clause-bounded, but not VPE, as illustrated in (9b, c).

- (9) a. ??/* Kathy thinks she will read the newspaper quickly, but John does think she will read the newspaper slowly. (ASVPE)
 b. *Kathy thinks she should study French, but she doesn't think she should study German. (pseudogapping) (Thoms (2016: 294))
 c. Kathy thinks she should study French, but John doesn't think she
 - c. Kathy thinks she should study French, but John doesn't think she should study French. (VPE)

Summarizing the above, remnants in ASVPE does not have to be contrastively focused, which means that they may be informationally focused and therefore ASVPE is permitted in a question-answer pair. In this respect, it is like VPE, differing from pseudogapping. On the other hand, like pseudogapping, but not VPE, ASVPE is unable to cross a clause boundary. The next and subsequent sections will give an account of these properties, focusing on the nature of the remnant in ASVPE.

3 The Conditions on Ellipsis, VPE and Pseudogapping

This paper assumes that ellipsis obeys the licensing condition which has been widely supported since Lobeck (1995) and the identity condition which has been called parallelism (cf. Fiengo and May (1994), Fox (2000), Fox and Lasnik (2003), Griffiths and Lipták (2014) and Thoms (2016)). In section 3.1, we discuss these conditions, and in sections 3.2 and 3.3, we see how they work in VPE and pseudogapping.

3.1. The Licensing Condition and the Identity Condition on Ellipsis

According to Lobeck (1995), elided constituents are licensed only when they are the complements of the heads which agree with their specifiers (i.e., spechead agreement). This paper argues that ellipsis including VPE, pseudogapping and ASVPE are subject to this condition. Then, the standard VPE in (10a) is licensed by INFL as in (10b).

In (10b), the subject *Mary* agrees with INFL and the latter licenses VP as the elided constituent. While Lobeck (1995) assumes VP as the complement of T (INFL), this paper follows the recent general assumption that the complement of T is *v*P and that the subject moved from *v*P undergoes the ϕ -feature agreement with T (e.g., Chomsky (1995)). Then, (10b) can be rewritten as follows.

(11) ... but
$$[_{CP} C [_{TP} Mary_{[\phi]i} [^{T} T_{[\phi]} [_{\nu P} t_i talk to Bill]]]]].$$

Next, parallelism has long been argued to play an important role in ellipsis (see e.g., Fiengo and May (1994), Fox (2000), Fox and Lasnik (2003), Griffiths and Lipták (2014) and Thoms (2016)). This paper hypothesizes that ellipsis must satisfy the scopal parallelism requirement as the identity condition, which is stated in (12).

(12) Scopal Parallelism in Ellipsis

Variables in the antecedent and the elided clause are bound from parallel positions. (Fox and Lasnik (2003: 149), Griffiths and Lipták (2014: 210))

For example, sluicing in (13a) satisfies the scopal parallelism in the LF structure, as in (13b).

(13) a. Everyone bought a book, but I don't know which one [e].

(Thoms (2016: 295))

b. [_{CP} a book λx [_{TP} everyone bought *x*]], but I don't know [_{CP} which one λy [_{TP} everyone bought *y*]] (cf. Thoms (2016: 295))

In (13b), the remnant *which one* in the elided clause is moved to the specifier of CP, and TP is deleted. Then, the correlate *a book* must also move to the specifier of CP for the variables in the two conjuncts to be bound from parallel positions, and therefore it is quantifier-raised. As a result, *a book* takes sentential scope in the LF structure. In fact, the first conjunct in (13a) does not have a surface reading. In the next section, we will see how these conditions apply to VPE and pseudogapping.

3.2. VPE

As argued in section 3.1, vP ellipsis is licensed by the ϕ -feature agreement between the subject and T. The scopal parallelism is met by the movement of the subject in the elided clause and the antecedent, as shown in the LF structure below.

(14) [_{CP} C [_{TP} John T λx [_{*v*P} *x* talked to Bill]]], but [_{CP} C [_{TP} Mary T λy [_{*v*P} *y* talked to Bill]]]

In (14), the scopal parallelism is automatically satisfied because *John* in the antecedent and *Mary* in the elided clause move to the specifier of TP to undergo the ϕ -feature agreement with T.

Let us now turn to the properties of VPE which were mentioned in section 2: VPE is possible in a question-answer pair as in (15a,b) and can cross a clause boundary as in (16a). These cases satisfy the licensing condition and the scopal parallelism in the same way as in (14).

- (15) a. Who read the newspaper?
 - b. John did [e].
 - c. $[_{CP} C [_{TP} who T \lambda x [_{vP} x talked to Bill]]]^{5}$ $[_{CP} C [_{TP} John T \lambda y [_{vP} y talked to Bill]]]$ agreement
- (16) a. Kathy thinks she should study French, but John doesn't think she should study French.
 - b. [_{CP} C [_{TP} Kathy T λx [_{vP} x thinks she should study French]]] [_{CP} C [_{TP} John T λy [_{vP} y thinks she should study French]]] agreement

Thus, the properties of VPE shown in (15a,b) and (16a) follow from the licensing and identity conditions on ellipsis.

3.3. Pseudogapping

This subsection starts by introducing several assumptions about pseudogapping presented by Thoms (2016). First, following Jayaseelan (2001) and Gengel (2013), Thoms (2016) proposes that the remnant undergoes leftward A[']-movement to a TP-internal focus position, which is immediately below T.⁶ Furthermore, Thoms (2016) assumes that this moved focus element licenses the constituent it immediately dominates (e.g., vP) to be elided. This paper argues that this ellipsis licensing by focus movement is reducible to the licensing by spec-head agreement: that is, ellipsis of the complement of FocP is licensed by the [Foc]-feature agreement between the moved focus element and Foc, as schematized in (17).

(17)
$$[_{\text{TP}} \text{Subj}_i [_{\text{T'}} T [_{\text{FocP}} \text{REMNANT}_{[\text{Foc}]i} [_{\text{Foc'}} \text{Foc}_{[\text{Foc}]} [_{vP} t_i \cdots t_j \cdots]]]]$$

Next, Thoms (2016) proposes that pseudogapping is subject to the scopal parallelism. If so, the remnant's correlate must also move to FocP in the antecedent and form the LF structure parallel to the elided clause. Thus, Thoms (2016) assumes that the focused correlate undergoes covert movement, i.e., quantifier raising (QR), to take scope. Accordingly, it covertly moves to a TP-internal focus position, establishing a suitable variable-binding dependency for pseudogapping.

With the assumptions so far in mind, let us see how they work on pseudogapping. The sentence in (18) has the LF representation in (19):

(18) John will bring wine to the party, and Mary will [e] beer.

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(Thoms (2016: 286))
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(19) $[_{\text{TP}} \text{ Johh } \lambda x [_{\text{FocP}} \text{ wine } [_{\text{Foc'}} \text{ Foc } \lambda x \land [_{vP} x [_{v} \land v [_{vP} \text{ bring } x \land \text{ to the party}]]]]$ and $[_{\text{TP}} \text{ Mary } \lambda y [_{\text{FocP}} \text{ beer } [_{\text{Foc'}} \text{ Foc } \lambda y \land [_{vP} y [_{v} \land v [_{vP} \text{ bring } y \land \text{ to the party}]]]]].$ agreement

In (19), the focused remnant *beer* undergoes overt movement to take scope and agrees with Foc, which leads to the licensing of *v*P ellipsis. Then, to meet the scopal parallelism, the remnant's correlate undergoes QR. The landing site of the two movements must be a TP-internal focus position. Both variables are bound from parallel positions, so the scopal parallelism is satisfied in (19). Therefore, *v*P, the complement of FocP, is allowed to be elided.

Thoms (2016) accounts for the properties of pseudogapping, the clauseboundedness and the impossibility in a question-answer pair. First, consider the example of (20), which exhibits the clause-boundedness of pseudogapping.

(20) *Kathy thinks she should study French, but she doesn't [e] German.[e]=think she should study (Thoms (2016: 294))

Following Thoms (2016), this paper assumes that pseudogapping must satisfy the scopal parallelism and therefore the correlate of the moved focus remnant must undergo QR. Thoms (2016) argues that pseudogapping is impossible when QR cannot be applied to the correlate. In fact, there are some cases where QR is not applicable: For example, it cannot occur out of finite clauses, as seen in (21).

(21) Someone thinks you should kiss everyone.
$$\exists > \forall, * \forall > \exists$$

(Thoms (2016: 297))

The example of (21) shows that *everyone* cannot take wide scope of *someone*, which means that QR is impossible to cross the boundary of finite clauses. Then, (20) has the LF representation in (22).

(22)
$$[_{TP} \text{ Kathy} [_{T'} T \qquad [_{FocP} \qquad [_{Foc'} \text{ Foc } \cdots [_{CP} [_{VP} \text{ study astronomy}]]]]]$$

[_{TP} she [_{T'} doesn't [_{FocP} meteorology [_{Foc'} Foc λy [… [_{CP} [_{VP} study y]]]]]]]

Given that QR is clause-bounded, the scopal parallelism is not satisfied in (22). Therefore, the impossibility of pseudogapping that crosses a clause boundary is derived from the violation of the scopal parallelism.

Next, the example of (23), where the elided site is included in the answer to the question, has the representation in (24).

(23) a. What (else) did he eat?
b. *He did [e] a salad. (Thoms (2016: 302))
(24) a. [_{CP} What did
$$\lambda x'$$
 [_{TP} he λx [_{vP} $\cdots x \cdots x' \cdots$]]]
b. [_{TP} he λy [_{FocP} a salad $\lambda y'$ [_{vP} $\cdots y \cdots y' \cdots$]]]
Not Parallel ______

(24) shows that the *wh*-phrase *what* in the antecedent moves to the specifier of CP, while the remnant in the elided clause moves to the specifier of FocP which is below T. Then, the operator in the antecedent binds the variable from a higher position than the one in the elided clause. This means that the scopal

parallelism is violated and thereby pseudogapping becomes impossible. The same argument holds of the following examples.

- (25) a. *John drunk, and he did [e] wine.
 - b. *John ate, and he did [e] fish.

In these sentences, there is no focused correlate in the first conjunct, the antecedent. Accordingly, parallel operator-variable dependencies are not formed, which violates the scopal parallelism.

4 ASVPE

Now, I discuss how ASVPE satisfies the licensing and identity conditions. I will propose that adverbs can remain as remnants either when they adjoin to vP and the lower segment is elided or when they are extracted from the elided vP. In other words, ASVPE is licensed if at least one of the options is available, but it is not licensed if neither option is available. This proposal allows us to account for the properties of ASVPE, the similarities and differences with VPE and pseudogapping.

4.1. Adverbs as Adjuncts in ASVPE

In addition to the discussion in section 3.1, Lobeck (1995) argues that when a modifier is adjoined to V', either VP with the modifier or V' without it can be an elided constituent through the agreement between the subject DP and T. This argument is based on the existence of VPE which leaves PP modifiers as remnants, as shown in (26).

(26) Because Mary is bringing wine to the office party she won't [vP [v·e] to the reception]. (Lobeck (1995: 47))

According to Lobeck (1995), V^{γ} is elided through the agreement between the subject *she* and T in the main clause in (26).⁷ In light of this, assuming that when an adjunct is adjoined to *v*P, the adjunction structure is also labeled as *v*P (cf.

Chomsky (2000)), I argue that either the higher vP or the lower vP can be the target of VPE through the agreement between the subject DP and T. Adverbs are standardly assumed to be adjuncts like PP modifiers as in (26), so that when adverbs are adjoined to vP, the following types of vP ellipsis are possible.

(27a,b) give rise to the standard VPE and ASVPE, respectively. Thus, the examples of ASVPE in (28a), (29b) and (30a) can be licensed and meet the scopal parallelism as follows.

(28) a. John read the newspaper slowly, and Mary did [e] quickly. b. [_{CP} C [_{TP} John T λx [_{vP} [_{vP} x read the newspaper] slowly]]], and $\begin{bmatrix} CP & C \end{bmatrix} \begin{bmatrix} TP & Mary T \\ L & L \end{bmatrix} \lambda y \begin{bmatrix} VP \\ VP \end{bmatrix} \begin{bmatrix} VP & V \\ VP \end{bmatrix}$ read the newspaper] quickly]] agreement

(29) a. How did John read the newspaper? b. ^{ok}/??He did [e] quickly. c. [_{CP} How C $\lambda x'$ [_{TP} John T λx [_{vP} [_{vP} x read the newspaper] x']]] $[_{CP} C$

 $\begin{bmatrix} TP & Mary T & \lambda y \\ \end{bmatrix}_{vP} \begin{bmatrix} vP & y \text{ read the newspaper} \end{bmatrix} \text{ quickly} \end{bmatrix}$ (30) a. $^{ok}/??$ John read the newspaper, and he did [e] quickly.

b. [_{CP} C [_{TP} John T λx [_{*p*P} x read the newspaper]]], and $\begin{bmatrix} CP & C \\ TP & Mary T \lambda y \\ u & u \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} \begin{bmatrix} P & V \\ P & V \end{bmatrix} 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Note that judgments on (29b) and (30a) vary somewhat across speakers. Concerning this issue, this paper assumes that native speakers differ in whether they easily allow the ellipsis of the lower projection in (27b). That is, for some speakers, the only perfectly acceptable target of ellipsis is the highest

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projection, i.e., the entire complement of T as in (27a). However, it should be noted that even such a speaker takes (28a) to be acceptable. In this regard, the adverb can be a remnant by extraction from vP, as will be discussed in detail in section 4.2. Then, the highest vP can be elided, not the lower vP. On the other hand, it is not possible to use this strategy to make (29b) and (30a) grammatical because their LF structures would violate the scopal parallelism, like the similar examples of pseudogapping in (23) and (25).

The analysis in this subsection does not hold of pseudogapping because unlike remnants of ASVPE, those of pseudogapping are selected as arguments by the verbs, so that they are inevitably included in the lowest VP. Then, they cannot be adjoined to vP and stranded as remnants of the ellipsis of the lower vP, as illustrated in (31).

(31) [_{CP} C [_{TP} Subj [_T T [_{vP} *Obj [vP]]]]]

It should be noted that if they are extracted out of vP by movement to become remnants, then the scopal parallelism must be obeyed. Therefore, as repeated below, when the contrastively focused remnant and correlate are absent, pseudogapping becomes impossible.

- (32) a. What (else) did he eat?
 b. *He did [e] a salad. (Thoms (2016: 302))
 (33) a. *John drunk, and he did [e] wine.
 - b. *John ate, and he did [e] fish.

Let us turn to the clause-boundedness of ASVPE. Under the system in this subsection, ASVPE which crosses a clause boundary in (9a) is analyzed as in (34).

(34) John does [_{vP1} [_{vP1} think she will [_{vP2} read the newspaper]] slowly].

In (34), the lower vP1 is elided by the agreement between John and T. The

adverb *slowly* can be left as the remnant only when it is adjoined to vP1. However, in this case, it is unable to modify vP2, which it must modify. Therefore, such ASVPE is ruled out.

One might argue that *slowly* may initially be adjoined to vP2 and then be moved outside of the elided site vP1, as shown in (35).

(35) [
$$_{\alpha}$$
 slowly [$_{vP1}$ think she will [$_{vP2}$ [$_{vP2}$ read the newspaper] t_{slowly}]]]
modification

The next section argues that this derivation of ASVPE is not allowed.

4.2. Adverbs as Moved Elements in ASVPE

First, let us consider the question of whether movement can be applied to adverbs. Remnants in ASVPE are different from those in pseudogapping such as DP and PP in that the former are adjuncts, while the latter are arguments. Chomsky (1995: 42-43) casts doubt on the possibility of adverb movement. However, a number of researchers have argued that adverbs undergo movement since the seminal work by Rizzi (2004), who discusses the relevant issue based on the observation of the relative order of adverbs in Italian offered in (36).

(36) a. I tecnici hanno (probabilmente) risolto rapidamente il problema 'The technicians have probably resolved rapidly the problem.'

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(Rizzi (2004: 234))
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b. *Rapidamente, i tecnici hanno probabilmente risolto il problema 'Rapidly, the technicians have probably resolved the problem.'

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(Rizzi (2004: 234))
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- c. RAPIDAMENTE i tecnici hanno probabilmente risolto il problema (non lentamente).
 'RAPIDRY the technicians have probably solved the problem (not slowly).' (Rizzi (2004: 235))
- d. Rapidamente, I tecnici (*non) hanno risolto il problema. 'Rapidly, the technicians have (not) solved the problem.'

e. RAPIDAMENTE I tecnici (*non) hanno risolto il problema.

'RAPIDRY the technicians have (not) solved the problem.'

(Rizzi (2004: 235))

As shown in (36a), the epistemic adverb *probabilmente* precedes the celerative adverb *rapidamente* in general. (36b) illustrates that *rapidamente* cannot be simply fronted when *probabilmente* is included in the sentence. On the other hand, it is shown in (36c) that if *rapidamente* is interpreted to be focus, the equivalent of (36b) becomes acceptable. (36d,e) indicate that whether *rapidamente* counts as focus or not, it fails to move across the negation *non*. Rizzi (2004) derives the pattern in (36) from adverb movement and feature-based relativized minimality, which specifies that elements belonging to the same class show intervention effects on each other. According to Rizzi (2004), A/A[´] elements are classified into the following four types:

- (37) a. Argumental: person, number, gender, case
 - b. Quantificational: Wh, Neg, measure, focus…
 - c. Modifier: evaluative, epistemic, Neg, frequentative, celerative, measure, manner,...
 - d. Topic

(Rizzi (2004: 243))

Given (37), let us consider the examples of (36). In (36b), movement of *rapidamente* across *probabilmente* is blocked because the two adverbs are in the same classification, Modifier in (37c). In contrast, in (36c), *rapidamente* with the focus feature moves across *probabilmente*. In this case, *rapidamente* belongs to Quantificational in (37b) and *probabilmente*, to Modifier in (37c). Thus, (36c) does not show the intervention effect. Whether *rapidamente* is interpreted as focus or not, it cannot move across *non*, due to the classification of Neg. Thus, the relative order of adverbs is accounted under the assumption that they can move in the same way as arguments.⁸

Based on this assumption, remnants of ASVPE, which are adverbs,

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can undergo focus movement. Indeed, there is a correlation between the acceptability of focus preposing of adverbs to the beginning of sentences and the one of ASVPE, as illustrated by the examples of (38)-(41).

- (38) a. QUICKLY, John read the newspaper t.
 - b. QUICKLY, he tried to read the newspaper *t*.
 - c. ??/*QUICKLY, I saw him read the newspaper *t*.
 - d. ??/*QUICKLY, Mary said that he read the newspaper *t*.
- (39) a. John read the newspaper slowly, and Mary did [e] quickly.
 - b. ^{ok}/?Mary tried to read the newspaper slowly, and John did [e] quickly.[e]=try to read the newspaper
 - c. ?/??Mary saw him read the newspaper slowly, and I did [e] quickly.[e]=see him read the newspaper
 - d. ??Mary said that he read the newspaper slowly, and Sally did [e] quickly.

[e]=say that he read the newspaper

- (40) a. CAREFULLY, he fixed the car t.
 - b. CAREFULLY, he continued to fix the car *t*.
 - c. *CAREFULLY, I saw him fix the car *t*.
 - d. *CAREFULLY, Mary said that he fixed the car *t*.
- (41) a. John fixed the car carefully, and Mary did [e] carelessly.
 - b. Mary continued to fix the car carefully, and John did [e] carelessly.[e]=continue to fix the car
 - c. ?/*Mary saw him fix the car carefully, and John did [e] carelessly.[e]=see him fix the car
 - d. ??/*Mary said that he fixed the car carefully, and Sally did [e] carelessly.[e]=say that he fixed the car

The (a)-(b) examples in (38)-(41) show that adverbial preposing and ASVPE are possible in simple sentences and sentences containing control verbs, whereas as illustrated in the (c)-(d) examples, the two phenomena are impossible when the adverb modifies the embedded verbal phrase in small clauses and *that*-clauses.

This correlation supports the assumption that focus movement of adverbs may be involved in the derivation of ASVPE.

We are now in a position to see how ASVPE is licensed when adverbs undergo movement. ASVPE is allowed in sentences containing control verbs where the remnant and correlate are contrastively focused, as in (42), which has the representation in (43).

- (42) ^{ok}/?Mary tried to read the newspaper slowly, and John did [e] quickly.
- (43) $[_{TP}$ Johh $\lambda x [_{FocP}$ slowly $[_{Foc'}$ Foc $\lambda x' [_{\nu P1} x [_{\nu'} v [_{VP}$ tried to $[_{\nu P2} [_{\nu P2}$ read the newspaper] x']]]]]] $[_{TP}$ Mary $\lambda y [_{FocP}$ quickly $[_{Foc'}$ Foc $\lambda y' [_{\nu P1} y [_{\nu'} v [_{VP}$ tried to $[_{\nu P2} [_{\nu P2}$ read the newspaper] y']]]]]]

In this case, *v*P1 is elided by the agreement between the moved focus element *quickly* and Foc in the elided clause. Then, to meet the scopal parallelism, the correlate *slowly* covertly moves to the specifier of FocP in the antecedent, giving rise to ASVPE across a control clause boundary.

Next, let us consider the clause-boundedness of ASVPE. I have argued that ASVPE is banned if the adverb cannot remain as the remnant either by adjunction to the elided site vP or by extraction from vP. Recall that ASVPE which crosses a finite clause boundary fails to form a modification relation between the adverbial remnant and its host when the remnant adjoins to the elided site (cf. (34)). Moreover, given the discussion so far, it follows that the relevant case of ASVPE cannot be derived even by the movement of the adverbial remnant because adverbs cannot undergo movement across a finite clause boundary, as illustrated in (44):

(44)
$$[_{TP} John [_{T'} T [_{FocP} Foc \cdots [_{CP} [_{vP} \cdots slowly \cdots]]]]]$$

As seen in (38d) and (40d), the movement of VP adverbs cannot span a clause boundary. Thus, (44) shows that the impossibility of ASVPE across a finite clause boundary stems from the lack of the agreement between the focus element and Foc for ellipsis licensing.

5 Conclusion

In this paper, I have tried to give a unified account of three verbal ellipses: VPE, pseudogapping and ASVPE. I have proposed that the licensing condition of Lobeck (1995) and the scopal parallelism are imposed on these elliptical constructions. Furthermore, I have argued that adverbs in ASVPE can be left either by adjoining to the elided site *v*P or by moving out of *v*P. Based on these proposals, this paper has accounted for the similarities and differences between VPE, pseudogapping and ASVPE: VPE and ASVPE but not pseudogapping are possible in a question-answer pair, and pseudogapping and ASVPE but not VPE are clause-bounded.

ASVPE has not received much attention in the literature, but this paper has analyzed it as one of verbal ellipses and contributes to providing a theoretical explanation for it. Furthermore, it is expected that the proposed analysis can be applied to clausal ellipsis and nominal ellipsis, which are treated in the same way as VPE in Lobeck (1995). I leave the investigation of this for future work.

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Notes

1) My informants judged the examples of (3), in which ASVPE occurs, as completely acceptable. Engels (2010) and Larson (2013) also shows that ASVPE is possible. However, some researchers report the ungrammaticality of the variants of (3) (e.g., Jackendoff (1971), Sag (1978), Brodie (1985), Lobeck (1995) and Oku (1998)). See also note 7.

- 2) Göbbel (2007) and Engels (2010) present similar examples of (3). Göbbel's examples are gapping in which the remnant is a VP adverb. Engels' are VPE where the remnant is an adverb, but not a VP adverb (e.g., *probably*) (see also Sag (1978), Baker (1981), Wilder (1997) and Ernst (1983)). However, accounting for them is beyond the scope of this paper. Therefore, I leave the issue for future research.
- 3) The difference in the acceptability of (4b) and (5b), e.g., ^{ok}/?? will be discussed in section 4.
- The difference in the acceptability of (8a,b), e.g.,^{ok}/?? will also be discussed in section 4.
- 5) This paper assumes that subject *wh*-phrases move to TP, not CP. Otherwise, it might be the case that the subject in the answer covertly moves to the specifier of CP to meet the scopal parallelism.
- 6) More precisely, Thoms (2016) argues that focus movement of the remnant targets the specifier of ΣP, which Laka (1990) assumes to be the position for negation and polarity particles like *so* and *too*. As shown in (i), pseudogapping and the polarity elements cannot co-occur.
 - (i) a. ?*Students may bring wine, but they may not [e] beer.
 - b. ?John won't bring beer, but he will TOO [e] wine!
 - c. *?John has not brought beer, but he has so [e] wine! (Thoms (2016: 292))

Given that the correlate also moves to the same position as the remnant in Thoms (2016), it is predicted that negation cannot appear in the antecedent. However, negation and the correlate in pseudogapping can co-occur, as illustrated in (ii).

(ii) You might not believe me but you will [e] Bob. (Lasnik (2001: 357))

Considering this observation, we cannot conclude that movement involved in pseudogapping targets the specifier of ΣP . I leave the issue for future research.

7) Lobeck (1995: 49) observes that ASVPE is impossible, as shown in (i).

(i) a. *Because Jane suddenly [e], Mary also quickly left.b. *Bill could never avoid rush hour, but Sally could often [e].

(Lobeck (1995: 49))

Lobeck (1995) accounts for the examples of (i) by assuming that adverbs are in the specifier of VP in English and thereby are not qualified as the licensors of VPE. However, as has been shown in this paper, ASVPE is possible. The examples of (i) should be given a different explanation than the one by Lobeck (1995). In (ia), the *because*-clause lacks an overt spell-out of T (e.g., the auxiliary verb and the infinitival *to*), despite it being necessary for VPE and pseudogapping. This may cause the ungrammaticality of (ia). In fact, (ia) is improved when the *because*-clause has the overt realization of T, as shown in (ii).

(ii) Because Jane did suddenly [e], Mary also quickly left.

In connection with (ib), let us take a look at the following example.

(iii) Bill could never avoid rush hour, but Sally often could [e].

(iii) indicates that the frequency adverb *often* must precede the auxiliary verb *could*. For the moment, I take such a type of VPE leaving frequency adverbs to be different from ASVPE covered in this paper because of the relevant order of the frequency adverb and the auxiliary verb. I leave the issue for future

research.

- 8) Because *probabilmente* is generally higher than *rapidamente*, the former's movement to the beginning of the sentence is possible, of course.
 - (i) Probabilmente, i tecnici hanno risolto rapidamente il problema 'Probably, the technicians have rapidly resolved the problem.'

(Rizzi (2004: 234))

Given (37), it is predicted that when adverbs are interpreted to be topic rather than focus, it can be moved across negation. This is borne out by (ii).

 (ii) Speravo proprio che potessero sbarazzarsi rapidamente di questo problema,ma devo dire che, rapidamente, non lo hanno risolto.

'I really hoped that they could rapidly get rid of this problem, but I must say that, rapidly, they didn't solve it.' (Rizzi (2004: 236))

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On Adverb-Stranding VP Ellipsis

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The goal of this paper is to give a unified account for the three types of verbal elliptical constructions, namely VP Ellipsis (VPE), pseudogapping and Adverb-Stranding VP Ellipsis (ASVPE), e.g., *John read the newspaper slowly, and Mary did quickly*. I assume that these types of ellipsis are subject to both the licensing condition using the spec-head agreement proposed by Lobeck (1995) and the scopal parallelism known as the identity condition. Then, I propose that as long as ASVPE satisfies these conditions, the adverbial remnant can be stranded either by being adjoined to or being extracted from the elliptical site. The proposed analysis is empirically supported by the facts that VPE and ASVPE but not pseudogapping are possible in a question-answer pair, and that pseudogapping and ASVPE but not VPE are clause-bounded.