Adverb Placement in English VP Ellipsis Constructions

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The acceptability of adverb placement to the immediate left of a VP ellipsis site depends on the syntactic construction (non-inverted vs. inverted clauses), and the scope of the adverb. The influence of these factors will be accounted for by the interaction of violable constraints in an Optimality Theoretic framework.

1   Data

Although the order *finite auxiliary < adverb* (< = precedes) is usually preferred over the sequence *adverb < finite auxiliary* (1), the former is unacceptable if it coincides with adverb placement immediately in front of a VP ellipsis site in sentences such as (2) and (3): Some element has to intervene between the adverb and the ellipsis site, compare (4).

(1)   a.   *?George and Martha **probably   never** have   seen a real politician.*
        b.   *George and Martha   have **probably never** seen a real politician.*
        c.   *George and Martha **probably**   have   **never** seen a real politician.*
<div align="right">(Baker 1981: 309)</div>

(2)   *Fred has never been rude to Grandfather, but*   (Baker 1981: 309)
        a.   *John **always**   has   __.*
        b.   **John   has   **always**   __.*

(3)   *John has read this book, and*   (Sag 1978: 149)
        a.   *Otto **probably**   has   __, too.*
        b.   **Otto   has   **probably**   __, too.*

(4)   a.   *John's often been arrested, although Mary's **never** been __.*   (Wilder 1997: 348)
        b.   *Bill is living in France, but John is **probably** not __.*

Post-auxiliary adverb placement is also ruled out if the adverb's sister constituent would not include any phonetic material due to topicalization (5) or *wh*-movement out of a copula construction (6).[1]

(5)   *They used to be Socialists, but Communists*   (Sag 1978: 148)
　　　a.   *they* **never** *were*   __.
　　　b.   ***they*   *were*   **never**   __.

(6)   *I don't know how happy*   (Sag 1978: 148)
　　　a.   *they* **ever** *were*   __.
　　　b.   ***they*   *were*   **ever**   __.

However, adverb placement in front of a VP ellipsis site is possible in subject-auxiliary inversion constructions.[2]

(7)   A: *Terry knows how to build an H-bomb.*   (Ernst 1983: 548)
　　　B: *No - does he **really** __?*

(8)   A: *John hasn't gotten along well with Grandpa lately.*   (Baker 1981: 313)
　　　B: *Has he **ever** __?*

Likewise, an adverb that takes narrow scope with respect to a modal verb or negation may occur to the immediate left of an ellipsis site.[3]

(9)   a.   *He's gotten along well with Fred in the past few weeks, but he hasn't **always** __.*
                                                                         (Baker 1981: 313)
　　　b.   *A diabetic must monitor his insulin level, and he should **regularly** __.*
　　　c.   *Mary might have drunk a whole bottle of gin, but Sue can't **possibly** __.*
             (She is still walking straight.)

Note that the sequence *finite auxiliary < adverb* as in (10)a is ambiguous, whereas the reverse order is restricted to a wide scope reading of the adverb, (10)b. In other words, an adverb with wide scope reading may appear in pre-auxiliary and post-auxiliary position while an adverb with narrow scope reading has to occur in post-auxiliary position.

(10)   a.   *Students   can   **often**   run up to the mountaintop.*   (Ernst 2004: 383)
             i) 'Students often can run up to the mountaintop.'
             ii) 'Students can run often up to the mountaintop.'

　　　b.   *Students   **often**   can   run up to the mountaintop.*
             i) 'Students often can run up to the mountaintop.'
             ii) #'Students can run often up to the mountaintop.'

2   Analysis

2.1   Basic Assumptions

Following Ernst (2004), I assume that adverb positions are restricted by the adverbs' lexical requirements. An inviolable constraint guarantees that in all competing candidates, an adverb is merged in a position in which it c-commands (the base positions of) all and only those elements that belong to its semantic argument specified in the input, see Engels (2005). Hence, under a wide scope reading the adverb in (10) has to be merged somewhere above the base position of the finite auxiliary, under a narrow scope reading, it has to be merged below it. As a result, the interpretative ambiguity of the sequence *finite auxiliary < adverb* in (10)a correlates with a structural contrast.

 The fact that a finite auxiliary may precede an adverb with wide scope reading indicates that it is merged in its own projection, AuxP, from which it moves to a higher head position, I^0. According to Grimshaw (1997), Aux^0-to-I^0 movement is triggered by the constraint OBHD and its dominance over STAY.

(11)   a.   OBLIGATORY HEADS (OBHD): A projection has a [lexicalized, E.E.] head.
         b.   STAY: Trace is not allowed.   (Grimshaw 1997: 374)

Given that Aux^0-to-I^0 movement is obligatory (OBHD >> STAY, see candidate T1-a), pre-auxiliary and post-auxiliary positions of an adverb with wide scope reading contrast in the attachment site of the adverb: I' and AuxP, respectively (see candidates T1-b and T1-c).[4]
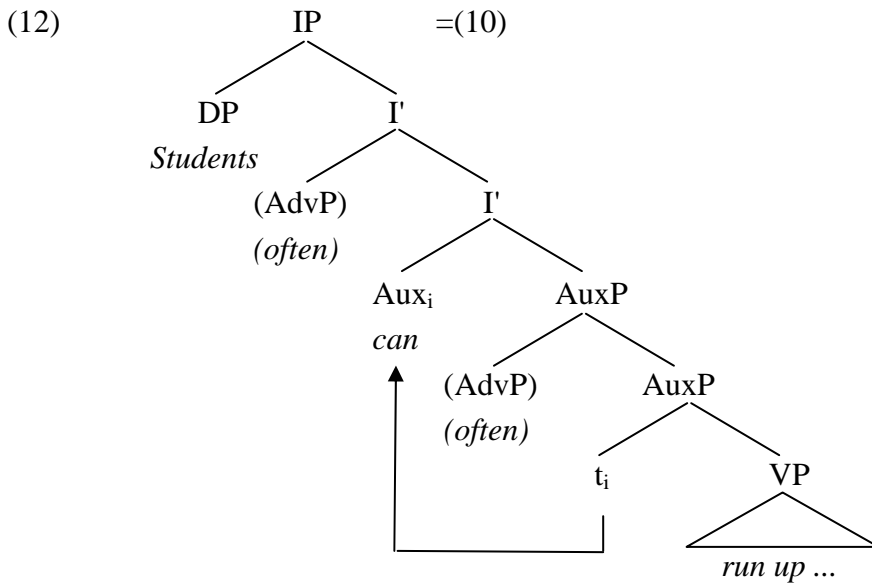
(12)   IP   =(10)

Tableau 1 Optionality of the order of wide scope adverb and finite auxiliary

=(10)		*Students (often) can (often) run up ...*	OBHD	STAY
	a.	[IP *Students* e [AuxP ***often*** [AuxP *can* [VP *run up ...*]]]]	*!	
☞	b.	[IP *Students* ***often*** [I' *can_i* [AuxP t_i [VP *run up ...*]]]]		*
☞	c.	[IP *Students can_i* [AuxP ***often*** [AuxP t_i [VP *run up ...*]]]]		*

2.2 Placement of wide scope adverbs in non-inverted VP Ellipsis constructions

The constraint in (13) prohibits placement of an adverbial to the immediate left of an ellipsis site (see note 1).

(13) ADJUNCT-CONTENT (ADJCON):
Adjuncts are sisters to constituents which include phonetic material.

Due to the requirement of ADJCON, adverb attachment to AuxP is ruled out if AuxP is phonetically empty; the adverb has to adjoin to I' where it precedes the finite auxiliary, compare Tableau 2 vs. Tableau 3.
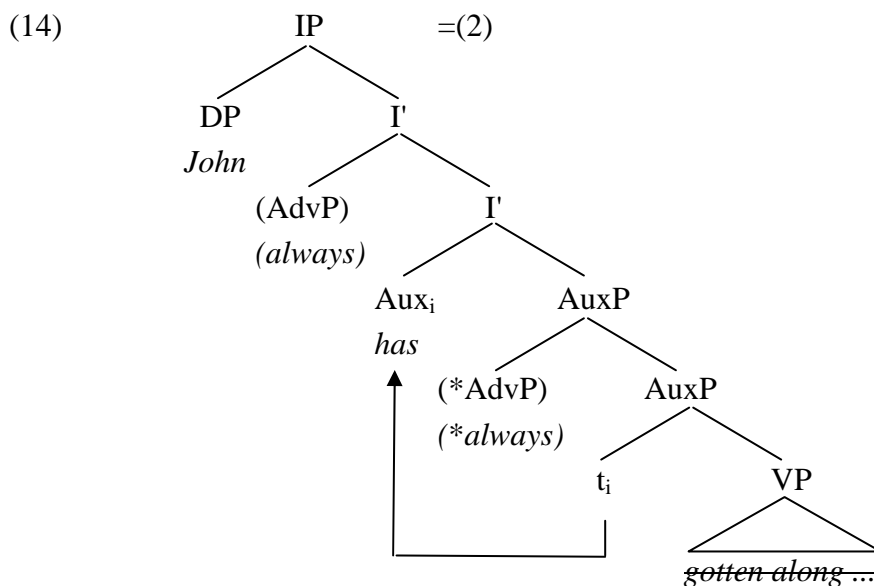
(14) =(2)

Tableau 2 No adverb placement in front of an ellipsis site

=(2) ... *John (always) has (*always) __.*	OBHD	ADJCON	STAY
a. [IP *John has$_i$ [AuxP **always** [AuxP t$_i$ [VP ~~gotten along well ...~~]]]]*		*!	*
☞ b. [IP *John **always** [I' has$_i$ [AuxP t$_i$ [VP ~~gotten along well ...~~]]]]*			*

Tableau 3 Optionality of the order of adverb and finite auxiliary in VP Ellipsis constructions

=(4) ... *Mary (?never) has (never) been __.*	OBHD	ADJCON	STAY
☞ a. [IP *Mary has$_i$ [AuxP1 **never** [AuxP1 t$_i$ [AuxP2 been [VP ~~arrested~~]]]]]*			*
☞ b. [IP *Mary **never** [I' has$_i$ [AuxP1 t$_i$ [AuxP2 been [VP ~~arrested~~]]]]]*			*

2.3 Placement of adverbs in inverted VP Ellipsis constructions

In questions, CP is projected and, consequently, OBHD requires that the finite auxiliary move to C^0. The ranking OBHD >> ADJCON >> STAY predicts that subject-auxiliary inversion takes place even if it results in placement of an adverb in front of the ellipsis site, see T4-a.[5]
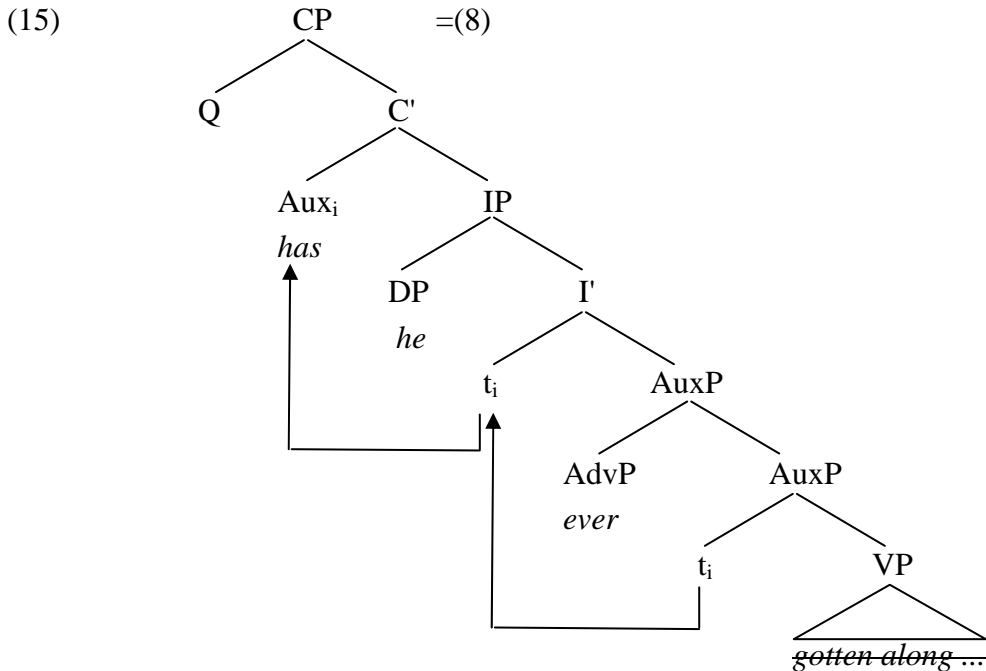
(15)

Tableau 4 Adverb placement in front of an ellipsis site in SAI constructions

=(8) ... *(Has) he ever (*has) __?	OBHD	ADJCON	STAY
☞ a. [CP Q *has*ᵢ [IP *he* tᵢ [AuxP **ever** [AuxP tᵢ [VP ~~gotten ...~~]]]]]		*!	**
b. [CP Q e [IP *he* **ever** [I' *has*ᵢ [AuxP tᵢ [VP ~~gotten ...~~]]]]]	*!		*

2.4 Placement of narrow scope adverbs in VP Ellipsis constructions

Remember that under a narrow scope reading, an adverb is merged below the wide scope element. The constraint SCOPEMATCHING prohibits movement of an adverb across an element that takes wider scope, compare Ernst (2004: 420).

(16)   SCOPEMATCHING (SCMA):
        The scope of the head of a chain of an adverbial matches the scope of its foot.[6]

An adverb with narrow scope reading can immediately precede an ellipsis site: Dominance of SCMA over ADJCON rules out movement of the adverb to some position in front of an element that takes scope over it as in candidate T5-b.
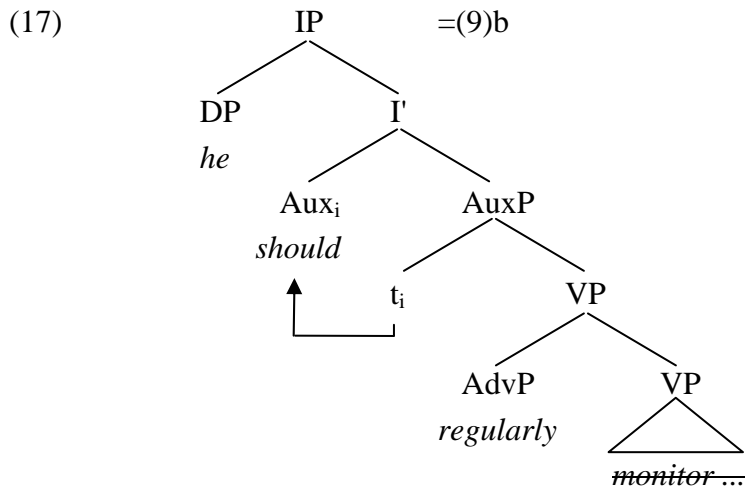
(17)   IP   =(9)b

              DP   I'
              he

                      Aux$_i$ AuxP
                      should

                              t$_i$ VP

                                      AdvP   VP
                                      regularly

                                              monitor ...

Tableau 5 Placement of a narrow-scope adverb in front of an ellipsis site

=(9)b ... *he (*regularly) should (regularly) __.*	OB HD	SC MA	ADJ CON	STAY
☞ a. [IP *he should$_i$* [AuxP t$_i$ [VP ***regularly*** [VP *~~monitor ...~~*]]]]			*	*
b. [IP *he **regularly**$_j$* [I' *should$_i$* [AuxP t$_i$ [VP t$_j$ [VP *~~monitor ...~~*]]]]]		*!		**

3   Conclusion

The unacceptability of adverb occurrence to the immediate left of a VP ellipsis site in (2) and (3) cannot be due to a strict prohibition against this placement: An adverb may precede the ellipsis site if it takes narrow scope or subject-auxiliary inversion takes place. The influence of these factors on the acceptability of adverb placement in front of an elliptic VP can be accounted for by the interaction of violable constraints in an OT framework.

Notes

[1] In avoiding placement in front of an ellipsis or extraction site, adverbs pattern like contracted auxiliaries. The acceptability of auxiliary contraction apparently depends on the phonological context: A contracted form requires the presence of a stressed syllable to its right preceding the gap; as illustrated in (iii), a weak pronoun does not suffice (see e.g. Baker 1971, 1981, and Wilder 1997).

(i)   *I wonder*   (Zagona 1988: 106)
         a.   *where the party **is** __ tonight.*
         b.   **where the party's __ tonight.*

(ii)   a.   *I don't know where John's been __.*   (Wilder 1997: 348)
         b.   *They said that Paul would be polite, but polite, he's actually not __.*

(iii)   a.   *What's that __?*   (Wilder 1997: 351)
         b.   *What's it for __?*
         c.   **What's it __?*
         d.   **What's it __ now?*

The unacceptability of adverb positioning in front of an ellipsis site does not seem to depend on focus. Even a focused adverb (with wide scope reading) cannot precede an ellipsis site in non-inverted clauses.

(iv)   *John has admired Sue only since last year, but ...*   (Baker 1971: 170)
         a.   *... Bill **ALWAYS**   has   __.*
         b.   **... Bill   has **ALWAYS**   __.*

Occurrence of overt phonetic material behind a gap does not allow a medial adverb to precede it.

(v)   *I wonder ...*   (Baker 1971: 170)
         a.   *... where Gerard   **usually** is   __ at this time of day.*
         b.   **... where Gerard   is   **usually**   __ at this time of day.*

(vi)   *Mary is taking her final exam this term, and ...*
         a.   *... Sue **probably**   will   __ next term.*
         b.   **... Sue   will **probably** __ next term.*

However, note that the mere existence of an extraction site does not block adverb placement in front of it. Given that the subject originates in a VP-internal position (see Koopman & Sportiche 1985, 1991, Kitagawa 1986, among others), the adverb in (vii)a immediately precedes the trace of the subject. Similarly, the subject trace in Spec,VP does not prevent auxiliary contraction in (vii)b.

(vii)   a.   *John_j **probably**[$_{VP}$ t_j kissed Mary]*
         b.   *Mary_j's [$_{VP}$ t_j left]*

These facts point to the conclusion that adverbials do not avoid placement to the immediate left of an ellipsis / extraction site *per se* but attachment to a constituent that does not contain *any* phonetic material at all. Under the assumption that this is true for clause-final adverbials too, the contrast in (v, vi) is accounted for: Given that the clause-final adverbial occupies some position above the finite auxiliary, it is not included in the sister constituent of the medial adverb in (v)b and (vi)b.

[2] Since the adverb in (7), (8), and (9) is the final overt element in the clause, its position relative to the ellipsis site cannot be deduced from surface order. However, there is evidence that the adverb does precede the gap in these sentences.
       First, as Abels (2003) mentions, some of these adverbs cannot occur post-verbally.

(i)   a.   *John hasn't gotten along with Grandpa lately. *Has he gotten along with Grandpa **ever**?*   (Abels 2003: 7)
         b.   *??Fred has sometimes been rude to Grandfather, but he hasn't been rude to Grandfather **always**.*

Second, contracted auxiliaries are acceptable in the presence of an adverb; as mentioned in note 1, auxiliary contraction requires a stressed syllable to the left of the gap, pointing to the conclusion that the medial adverb precedes the gap.

(ii)   a. *Where's he *(**usually**) __ (when Mary is in London)?*
        b. *(A: The weather was bad yesterday.) B: How's it *(**normally**) __ in May?*
        c. *(A: John hasn't been to the gym lately.) B: Why's he *(**ever**) __?*

[3] However, note that even if subject-auxiliary inversion applies or the adverb takes narrow scope, not all types of adverbs may attach to a phonetically empty constituent. The various types of adverbs differ in which types of gaps they may precede (*wh*-movement vs. topicalization / VP Ellipsis) under these conditions, see Engels (2005).

[4] The constraints OBHD and STAY also predict that adverbials occur in adjoined positions - unless their placement in a specifier position is explicitly required by some higher ranking constraint, as e.g. for *wh*-adverbials, see Engels (2005).

The unacceptability of adverb intervention between the clause-initial constituent and the finite verb in e.g. German (or between the subject and the finite verb in e.g. French) can be accounted for by a constraint that prohibits adverb adjunction to bar-level projections (*X'-ADJUNCTION) and its dominance over any constraint that might favor adjunction to X'. The fact that adverbs may intervene between the subject and the finite auxiliary in English points out that there are higher ranking constraints that motivate adverb attachment to I', as e.g. the prohibition against adverb placement to the immediate left of an ellipsis site, ADJCON introduced in (13) below. On other constraints that might prefer pre-auxiliary adverb positions, see Engels (2005).

Adjunction to X'-level projections has often been taken to be strictly prohibited for reasons of restrictiveness, limiting adverb adjunction to XPs. However, the renunciation of X'-adjunction necessitates the postulation of a cluster of functional projections and optional movement. Consequently, approaches allowing for X'-adjunction permit a more restrictive theory of empty functional heads and movement triggers - as captured by OBHD and STAY in the present analysis.

[5] Note that an adverb that is within the scope of a question cannot occur in a position c-commanding C^0 (i.e. adjoined to C' or CP). Clause-initial placement of an adverb in questions is only possible if the adverb takes scope over the question, as e.g. the discourse-oriented adverb in (iii) does.

(i)   a. ***Apparently** the dog had gone.*   (Ernst 2004: 429)
        b. ****Apparently**, where had the dog gone?*
        c. **Where **apparently** had the dog gone?*
        d. *Where had the dog **apparently** gone?*

(ii)   a. ***Often** John eats cornflakes for breakfast.*
        b. ****Often**, what does John eat for breakfast?*
        c. **What **often** does John eat for breakfast?*
        d. *What does John **often** eat for breakfast?*

(iii)   a. ***Briefly**, Sebastian held the pistol.*   (Ernst 2004: 427)
        b. ***Briefly**, why did Sebastian hold the pistol?*
        c. **Why **briefly** did Sebastian hold the pistol?*   (Ernst 2004: 429)
        d. **Why did Sebastian **briefly** hold the pistol?*

This contrast follows from the restriction to merge adverbs according to their scopal properties and the requirement of SCMA (see (16) below).

Moreover, adverb placement in front of the subject is unacceptable in questions and other clauses with subject-auxiliary inversion. The fact that topics cannot be placed in this position either suggests that there is a general prohibition against IP-adjunction in these contexts in English which might be accounted for by a corresponding violable constraint and its relative ranking.

(iv)   a. ***At the party**, Mary said nothing.*
        b. **Did **at the party** Mary say anything?*   (Rochemont 1989: 148)

(v)   a. *If **yesterday** John had done that, ...*   (Rizzi 1997: 303)
        b. **Had **yesterday** John done that, ...*

(vi)   a. ***John**, Mary likes.*
        b. **Does, **John**, Mary like?*   (Rochemont 1989: 148)

(vii)   a. ***That book**, I will read.*
        b. **On no account will **that book** I read.*

[6] "Scope matching holds if the lexical material is identical except for "presupposed tense" and the base position copy of the adjunct." (Ernst 2004: 420)

The constraint SCMA may not be violated by adverb topicalization in English: Although a manner adverb can be topicalized, its movement to clause-initial position may not cross a scopal element such as negation, another adverb, or a modal verb (i) nor may it cross a clause-boundary (ii). By contrast, SCMA can be violated by *wh*-movement of an adverbial: *wh*-adverbials may be moved across other scopal elements and clause boundaries (iii), suggesting the ranking WH >> SCMA >> TOPIC.

(i)   a.   ***Icily**$_i$, he spoke to the lieutenant t_i.*   (Ernst 2004: 420)

        b.   *****Icily**$_i$, he didn't speak to the lieutenant t_i.*   (Ernst 2004: 421)

        c.   *****Icily**$_i$, he probably / craftily / always / still spoke to the lieutenant t_i.*

        d.   *****Icily**$_i$, you should speak to the lieutenant t_i.*

(ii)   a.   ***Carefully**$_i$, he eased the violin out of its case t_i.*   (Ernst 2004: 423)

        b.   *****Carefully**$_i$, they saw him ease the violin out of its case t_i.*

        c.   *****Carefully**$_i$, they said that he eased the violin out of its case t_i.*

(iii)   a.   ***How loudly**$_i$ does she usually scream t_i?*

        b.   ***How fast**$_i$ can you run t_i?*

        c.   ***How quietly**$_i$ did you say that he had come in t_i?*   (Ernst 2004: 423)

        d.   ***When**$_i$ do you think that he will be there t_i?*   (Nakajima 1991: 343)

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