Remarks
and
Replies

On Certain Adjacency Effects in Ellipsis Contexts

Duk-Ho An

In this article, I show that crosslinguistically, there is a recurring pattern in various ellipsis constructions (e.g., fragment answers, right-dislocation, right-node raising, VP-ellipsis), to the effect that parts of a remnant can be additionally deleted under adjacency to a deletion site, often ignoring constituency. I argue that the phenomenon in question follows from the fact that PF deletion, being an operation in the component determining linear order, targets linearized strings, similarly to the fact that movement, being an operation in the component determining hierarchical relations, targets constituents.

Keywords: PF deletion, Extra Deletion, linear order, adjacency, nonconstituent deletion

1 Introduction

The goal of this article is to show that there is a recurring pattern concerning omission of certain elements in diverse constructions involving ellipsis—in particular, PF deletion. The relevant contexts include, but are not limited to, such diverse constructions as fragment answers, right-dislocation, right-node raising, and VP-ellipsis, in languages like Korean, Japanese, English, Serbo-Croatian, and Chinese. To be more concrete, what we find is a kind of adjacency effect that can be represented as follows (where Δ stands for a deletion site):

(1) *(X) (Y) Δ

This schema means that Y, but not X, can be optionally deleted (up to independent restrictions[1]) under adjacency to a set of elements that are independently deleted. This is as if the deletion of Y piggybacks on the deletion of other elements. (In An 2016a, I call this situation *Extra Deletion*, to which I return in section 7.) One of the most striking aspects of deletion in the configuration

[1] For instance, deleted elements should be recoverable. It is also reasonable that focused elements cannot be deleted. See below for further discussion.

in (1) is that it is iterable. That is, once Y is deleted, it becomes part of Δ for X, making X deletable in turn. As I show below, the surface form of sentences in such contexts often leads to the dramatic impression that deletion progresses incrementally into a remnant.

The article is organized as follows. In sections 2–6, I illustrate the adjacency effect in question using data from various constructions and languages. I discuss a possible account of the phenomenon in question in section 7 and conclude the discussion in section 8.

2 Fragment Answers

It is well-known that in fragment answer (FA) constructions in Korean, NP remnants can surface without a case marker and that the distribution of such bare NPs is restricted to final position (see An 2016a for further discussion and references). (2) and (3) illustrate the basic pattern. (All the examples in this section are taken from An 2016a unless otherwise indicated.)

(2) Q: Nwu-ka   John-ul   manna-ss-ni?
      who-NOM John-ACC meet-PAST-Q
      'Who met John?'
   A: Cho-**(ka)**.
      Cho-NOM
      'Cho (met John).'

(3) Q: Nwu-ka   nwukwu-lul manna-ss-ni?
      who-NOM who-ACC   meet-PAST-Q
      'Who met whom?'
   A: Cho-***(ka)** John-(ul).
      Cho-NOM   John-ACC
      'Cho (met) John.'

It is worth pointing out that the omission of case markers above has nothing to do with the phenomenon of case marker drop, which is independently available in Korean. (For relevant discussion and references on case marker drop, see Ahn 1999, Ahn and Cho 2007, An 2009, 2014, Bak 2006, Choi 2009, Hong 1994, 2004, and Kim 1998, among others.) That is, as shown in An 2016a, there are contexts where case marker drop is impossible, while the relevant NPs can nevertheless be caseless when used as FA remnants. For instance, while the indefinite subject in (4) resists case marker drop, it can be caseless in FAs, as in (5).

(4) Chayk-***(i)** seysang-ul pakkwu-ess-ta.
   book-NOM   world-ACC change-PAST-DEC
   'Books changed the world.'
   (Hong 1994:299, adapted)

(5) Q: Mwues-i   seysang-ul pakkwu-ess-ni?
      what-NOM world-ACC change-PAST-Q
      'What changed the world?'

A: Chayk-**(i)**.
book-NOM
'Books (changed the world).'

Besides case markers, postpositions can be omitted from FA remnants, provided that the remnants are in final position, as in (2) and (3). This is illustrated by the contrast between (6) and (7). Of course, outside of ellipsis contexts, postpositions cannot easily be omitted, as shown in (8).

(6) Q: Cho-ka   eti-eyse cenhwa-lul   ha-ess-ni?
       Cho-NOM where-at phone.call-ACC do-PAST-Q
       'Where did Cho make a phone call?'
    A: Pang-**(eyse)**.
       room-at
       '(Cho made a phone call) in the room.'

(7) Q: Cho-ka   eti-eyse nwukwu-eykey cenhwa-lul   ha-ess-ni?
       Cho-NOM where-at who-to   phone.call-ACC do-PAST-Q
       'Where did Cho make a phone call to whom?'
    A: Pang-*****(eyse)** Yang-(eykey).
       room-at   Yang-to
       '(Cho made a phone call) to Yang in the room.'

(8) Cho-ka   pang-*****(eyse)** cenhwa-lul   ha-ess-ta.
    Cho-NOM room-at   phone.call-ACC do-PAST-DEC
    'Cho made a phone call in the room.'

Several researchers have argued that in FAs, remnants undergo focus movement to the left periphery, followed by PF deletion of the rest of the clause, as illustrated in (9).[2]

(9) [$_{FocP}$ [**Cho-ka**] ~~[t John-ul   manna-ss-e]~~]   (= (2))
        Cho-NOM   John-ACC meet-PAST-DEC

Assuming this, the omission of case markers and postpositions in FAs seems to pattern like the schema in (1), repeated here.

(1) *(X) (Y) Δ

When applied to the FA contexts examined above, (1) can be reinterpreted as in (10).

(10) *(case marker/postposition) (case marker/postposition) Δ

In other words, the omission phenomenon above is subject to an adjacency condition between the relevant case markers (or postpositions) and the set of elements that are independently deleted to derive FAs.

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[2] The deletion analysis of FAs is not the only analysis available in the literature, though I will not go into them here. See An 2016a, Merchant 2004, B.-S. Park 2005, 2013, and B.-S. Park and Oh 2014, among many others, for relevant discussion and references.

In An 2016a, I argue that the missing case markers and postpositions are "deleted" under adjacency to a set of elements that are independently deleted in PF, as illustrated in (11).

(11) a. [$_{FocP}$ [**Cho**-ka] [t John-ul   manna-ss-e]]   (= (2))
            Cho-NOM   John-ACC meet-PAST-DEC
    b. [$_{FocP}$ [**pang**-eyse] [Cho-ka   t cenhwa-lul   ha-ess-e]]   (= (6))
            room-at   Cho-NOM   phone.call-ACC do-PAST-DEC

The ungrammaticality of cases like (3) and (7) is attributed to the fact that the deleted case marker and postposition are not adjacent to a deletion site; that is, they correspond to X in (1), as illustrated in (12).

(12) a. *[$_{FocP}$ [**Cho**-ka] [Yang-ul] [t t manna-ess-e]]
            Cho-NOM   Yang-ACC   meet-PAST-DEC
    b. *[$_{FocP}$ [**pang**-eyse] [Yang-eykey] [Cho-ka   t t cenhwa-lul   ha-ess-e]]
            room-at   Yang-to   Cho-NOM   phone.call-ACC do-PAST-DEC

Furthermore, recall that an indefinite subject, which normally resists case marker drop, can be caseless when adjacent to a deletion site, as shown in (4) and (5). It is significant that even in question-answer contexts, an indefinite subject cannot be caseless if it is not adjacent to a deletion site.[3] This is illustrated by (13) and (14). In (13A), the subject cannot be caseless at all, as the answer involves a full sentence without deletion. In (14A), although the answer does involve deletion, the subject is not adjacent to a deletion site and thus cannot be caseless.

(13) Q: Mwues-i   seysang-ul pakkwu-ess-ni?
        what-NOM world-ACC change-PAST-Q
        'What changed the world?'

    A: Chayk-*(i) seysang-ul pakkwu-ess-e.   (cf. (5A))
        book-NOM   world-ACC change-PAST-DEC
        'Books changed the world.'

(14) Q: Mwues-i   mwues-ul pakkwu-ess-ni?
        what-NOM what-ACC change-PAST-Q
        'What changed what?'
    A: Chayk-*(i) seysang-(ul).
        book-NOM   world-ACC
        'Books (changed) the world.'

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[3] It seems worth mentioning that clause-initial caseless NPs are often assumed to be topics (see Ahn 1999, Hong 2004, Kim 1998, and Saito 1985 for relevant discussion). Given this, one might argue that the deviance of (4) stems from the fact that the indefinite subject is not good as a topic, while that in (5A) can be caseless, since FA remnants are foci. While this argument sounds plausible, (13) and (14) clearly show that it cannot be maintained, because the indefinite subjects are foci here, while they are still ungrammatical if caseless.

Of course, an obvious question that arises is why deletion takes place as suggested above. That is, the omission of subparts of a remnant can only piggyback on independently motivated deletion under adjacency. Before I discuss this question (see section 7), I will focus on showing that a similar adjacency effect is attested in a variety of unrelated constructions in several languages, an observation that has not been made in the literature so far.

3 Right-Dislocation

In this section, I discuss the gapless right-dislocation construction (RD) in Korean, illustrated in (15), in relation to the adjacency effect in (1).[4] (Examples in this section are taken from An 2016b unless otherwise indicated.)

(15) John-i   Mary-lul coaha-e, Mary-lul.
     John-NOM Mary-ACC likes-DEC Mary-ACC
     'John likes Mary, Mary.'

What is of interest here is the fact that the postverbal right-dislocated element can be bare.

(16) John-i   Mary-lul coaha-e, Mary-**(lul)**.
     John-NOM Mary-ACC likes-DEC Mary-ACC
     'John likes Mary, Mary.'

As in FAs, besides case markers, postpositions can be omitted from right-dislocated elements.

(17) John-un Mary-eytayhayse malha-ess-e, Mary-**(eytayhayse)**.
     John-TOP Mary-about   say-PAST-DEC Mary-about
     'John talked about Mary, about Mary.'

Furthermore, recall that indefinite subjects resist case marker drop (see (4)). When an indefinite subject occurs in postverbal position in RD, it can be bare, as shown in (18). Significantly, its correlate in the preceding clause cannot be bare.

(18) Chayk-***(i)** seysang-ul pakkwu-ess-e,   chayk-**(i)**.
     book-NOM   world-ACC change-PAST-DEC book-NOM
     'Books changed the world, books.'

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[4] There are different types of RD. For instance, in one type of RD, the preceding clause contains a gap corresponding to the postverbal right-dislocated element, as shown in (i).

(i) John-i   *e* coaha-e, Mary-lul.
    John-NOM   likes-DEC Mary-ACC
    'John likes (Mary), Mary.'

This is in fact the type of RD that has received the most attention in the literature (e.g., Abe 2015, 2016, Ahn and Cho 2016, Chung 2012, Ko 2015, 2016, J.-S. Lee 2013, W. Lee 2010, M.-K. Park 2017, Takita 2014). The analyses that have been proposed for this type of RD are usually different from those proposed for the gapless type discussed in the main text. I am only concerned with the gapless RD here. (For convenience, I use the term *RD* to refer to this particular type of RD in the main text.)

Crucially, when there are multiple elements in postverbal position, only the final element can omit its case marker or postposition.

(19) Chelswu-ka   Yenghi-lul ttayli-ess-e, Chelswu-*(ka) Yenghi-(lul).
     Chelswu-NOM Yenghi-ACC hit-PAST-DEC Chelswu-NOM   Yenghi-ACC
     'Chelswu hit Yenghi, Chelswu Yenghi.'
     (Ko 2015)

(20) John-i   cencayng-eytayhayse chayk-ul   ss-ess-e,
     John-NOM war-about   book-ACC write-PAST-DEC
     cencayng-*(eytayhayse) chayk-(ul).
     war-about   book-ACC
     'John wrote a book about war, a book about war.'

Moreover, a caseless indefinite subject is again prohibited if it is not the final element in postverbal position.

(21) Chayk-i   seysang-ul pakkwu-ess-e,   chayk-*(i) seysang-?(ul).
     book-NOM world-ACC change-PAST-DEC book-NOM world-ACC
     'Books changed the world, books the world.'

It is clear that the distribution of case markers and postpositions in RD is exactly the same as that in FAs. Ko (2015, 2016) independently argues that RD involves two underlying clauses conjoined by a covert conjunction and that the right-dislocated element undergoes leftward movement within the second clause, followed by PF deletion of the rest of the clause, as in (22).

(22) [John-i   Mary-lul   coaha-e] & [$_{XP}$ Mary-lul ~~[John-i t coaha-e]~~]   (= (15))
     John-NOM Mary-ACC likes-DEC   Mary-ACC

Assuming Ko's analysis of RD, the omission of case markers and postpositions in RD patterns precisely with that in FAs. That is, these elements can be deleted under adjacency to a deletion site.

(23) a. . . . & [$_{XP}$ **Mary**-~~lul John-i   t coaha-e~~]]   (= (16))
              Mary-ACC John-NOM   likes-DEC
     b. . . . & [$_{XP}$ **Mary**-~~eytayhayse [John-un   t malha-ess-e]~~]]   (= (17))
              Mary-about   John-TOP say-PAST-DEC

Given this, as in FAs, the impossibility of (19) and (20) can also be attributed to the fact that the deleted case marker and postposition are not adjacent to a deletion site; that is, they correspond to X in (1). The derivation of (19) and (20) is shown in (24).

(24) a. * . . . & [[**Chelswu**-~~ka~~] [Yenghi-lul] ~~[t t ttayli-ess-e]~~]
                Chelswu-NOM Yenghi-ACC   hit-PAST-DEC
     b. *. . . & [[**cencayng**-~~eytayhayse~~] [chayk-ul] ~~[John-i   t t ss-ess-e]~~]
                war-about   book-ACC John-NOM   write-PAST-DEC

4 VP-Ellipsis

In this section, I examine the distribution of clitics in contexts of VP-ellipsis (VPE) in Serbo-Croatian (SC)—especially when the sentence contains multiple clitics.[5] Note first that when a given sentence contains multiple clitics, they form a cluster, as in (25).[6]

(25) Tu knjigu **su mi** dali.
that book.ACC are me.DAT given
'They gave that book to me.'
(Stjepanović 1998:528)

Separating clitics usually leads to ungrammaticality.

(26) *Mi **smo** Marijinoj prijateljici **ga** dali.
we are Marija's friend.DAT it.ACC given
'We gave it to Mary's friend.'
(Stjepanović 1998:528)

With this in mind, consider the example of VPE given in (27). Following Stjepanović (1998), I assume that in VPE contexts in SC, we are dealing with PF deletion (Chomsky and Lasnik 1993, Lasnik 1995, Tancredi 1992).

(27) Oni *su* kupili novine, a i vi **ste** ~~kupili novine~~, (takodje).
they are bought newspaper and also you are bought newspaper too
'They bought the newspaper, and you did, too.'
(Stjepanović 1998:529)

Interestingly, when there are multiple clitics, VPE can split up a clitic cluster.

(28) Mi *smo mu* *ga* dali, a i
we are him.DAT it.ACC given and also
vi **ste mu** ~~ga dali~~, (takodje).
you are him.DAT it.ACC given too
'We gave it to him, and you did, too.'
(Stjepanović 1998:532)

(29) Mi *smo mu* *ga* dali, a i
we are him.DAT it.ACC given and also
vi **ste** ~~mu ga dali~~, (takodje).
you are him.DAT it.ACC given too
'We gave it to him, and you did, too.'
(Stjepanović 1998:530)

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[5] I thank Željko Bošković for drawing my attention to the SC data.
[6] As is well-known, SC clitics are subject to a second-position requirement, which roughly means that they must be in the second position within their sentence. How to define the second position has been a topic of much debate, details of which I will not go into here. See Stjepanović 1998 for relevant discussion.

Furthermore, eliding a clitic that is not adjacent to a VPE site leads to ungrammaticality.

(30) *Mi *smo mu   ga*   dali, a   i
     we are him.DAT it.ACC given and   also
     vi **ste** ~~mu~~ **ga** ~~dali~~, (takodje).
     you are him.DAT it.ACC given too
     'We gave it to him, and you did, too.'
     (Stjepanović 1998:532)

Stjepanović (1998) suggests that the relevant clitics are located in different syntactic positions and that in (28) and (29), deletion targets different projections.[7] In (30), assuming that the dative clitic occupies a higher position than the accusative clitic, it is impossible to delete the former while leaving the latter intact. Although this is quite plausible, the pattern we observe in (28)–(30) is also consistent with the current analysis. That is, in (29), the dative clitic may be deleted under adjacency to a deletion site. In (30), it may not undergo deletion, as it is not adjacent to a deletion site.

Note that Stjepanović's analysis differs from the current analysis in that it retains the usual assumption that deletion targets constituents, while it has to allow VPE to target different projections. On the other hand, the current analysis does not have to allow VPE to target different projections, while it does allow nonconstituent deletion. Given this, it is significant that prepositions can be a remnant in VPE contexts in SC.

(31) Ona iznad mosta   spava a   on **ispod**.
     she above bridge.GEN sleeps and he below
     'She sleeps above the bridge, while he sleeps below the bridge.'
     (Miloje Despić, pers. comm., 15 January 2017)

Here, what is deleted in the second conjunct is *mosta spava* 'bridge sleeps', that is, the complement of the preposition and the verb. Obviously, these elements do not form a constituent. Regardless of which projection VPE targets, there does not seem to be any way to delete these elements. Therefore, the availability of (31) is unaccounted for on Stjepanović's analysis (or, more generally, under the assumption that only constituents can be deleted). On the other hand, (31) can be straightforwardly captured by the current analysis. Since the complement of P is adjacent to the verb, and since there does not seem to be an independent reason to disallow deletion here,[8] the complement of P can undergo deletion along with the verb.

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[7] Stjepanović leaves the precise identities of these projections open, but she speculates (1998:532n7) that they might be $Agr_{IO}P$ and $Agr_{DO}P$.

[8] For instance, monosyllabic prepositions in SC are typically proclitics on their complements. In such contexts, applying deletion only to the complement of P would not be possible. The prediction is in fact borne out.

(i) a. *Ona u kući   spava a   on **na**.
        she in house.LOC sleeps and he on
        'She sleeps in the house and he on the house.'
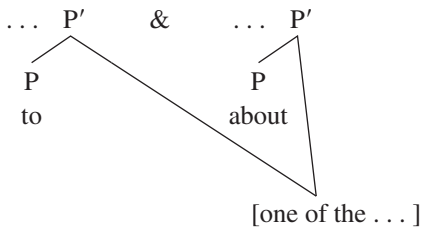
5 Right-Node Raising

In (31), I showed that in VPE in SC, a preposition can surface without its complement. Given this, consider the following example of right-node raising (RNR) in English:[9]

(32) Mary found a solution **to** and John will write a book about *one of the great unsolved problems of syntax.*
(Abels 2004:47)

Here, the preposition *to* is without a complement on the surface, and the complement in question is overtly realized only in the second conjunct. In this respect, (32) is similar to (31). Concerning (31), I suggested above that the complementless preposition is a result of deletion. The question is whether the same suggestion can be extended to RNR.

Various analyses have been proposed for RNR. Among them, two have received the most attention: the multidominance analysis and the deletion analysis, under which the relevant portion of the sentence in (32) can be represented very roughly as in (33).[10]

(33) a. *Multidominance*

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    . . . P′        &       . . . P′
       /\                      /\
      P                       P
     to                     about


                    [one of the . . . ]
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b. *Deletion*
. . . to ~~[one of the . . .]~~ & . . . about [one of the . . .]

On the multidominance analysis, the complement of *to* in (32) is not missing on the surface. Rather, it is dominated by the projections of *to* and *about* simultaneously in the multidominance configuration.[11] On the deletion analysis, the complement of *to* is indeed missing on the surface, as it undergoes deletion. What shows up in the second conjunct is the complement of *about* only.

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b. *Ona na kući   spava a   on **u**.
she on house.LOC sleeps and he in
'She sleeps on the house and he in the house.'
(Miloje Despić, pers. comm., 6 February 2017)

Incidentally, it should be noted that the auxiliary and pronominal clitics discussed in the main text are enclitics.

[9] In RNR examples, elements undergoing RNR are italicized.

[10] There are also different versions of each approach. I will not be concerned with this here.

[11] In some sense, the two prepositions literally share a single complement in the multidominance configuration.

Now, recall that in Korean, case markers and postpositions can be omitted in FAs and RD when they are adjacent to a deletion site. Significantly, as noted in An 2016a, case markers and postpositions can also be omitted when they are adjacent to an RNR site (indicated by Ø).[12]

(34) John-un   Mary-**(lul)**, Ø kuliko
     John-TOP Mary-ACC   and
     Tom-un   Mini-lul, *pan-eyse ceyil yeyppu-tako sayngkakhan-ta.*
     Tom-TOP Mini-ACC class-in   most pretty-COMP thinks-DEC
     'John (thinks) Mary (is the prettiest in the class), and Tom thinks Mini is the prettiest
     in the class.'
     (An 2016b)

(35) John-un   Susan-i   salang-**(eytayhayse)**, Ø kuliko
     John-TOP Susan-NOM love-about   and
     Bill-un   Susan-i   cencayng-eytayhayse
     Bill-TOP Susan-NOM war-about
     chayk-ul ss-ess-tako   malha-ess-ta.
     book-ACC write-PAST-COMP say-PAST-DEC
     'John (said that) Susan (wrote a book) about love, and Bill said that Susan wrote a
     book about war.'

Recall also that indefinite subjects can be bare when adjacent to a deletion site. They can also be bare when adjacent to an RNR site, as shown in (36).[13]

(36) Cho-nun chayk-**(i)**, Ø kuliko Yang-un   intheneys-*****(i)**
     Cho-TOP book-NOM   and   Yang-TOP Internet-NOM
     seysang-ul pakkwu-ess-tako   malha-ess-ta.
     world-ACC change-PAST-COMP say-PAST-DEC
     'Cho (said that) books (changed the world), but Yang said that the Internet changed
     the world.'
     (An 2016a:335)

Furthermore, if the adjacency between these case markers (or postpositions) and the RNR site is disrupted by an intervening element, they can no longer be omitted.

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[12] Two observations are in order here. First, note that in (31) and (32), a preposition remains on the surface after the deletion of its complement. In (35), what is deleted is the postposition itself, leaving its complement on the surface. This difference stems from the head parameter. In (31) and (32), what is adjacent to a deletion site is the complement of the preposition, while in (35), it is the postposition that is adjacent to a deletion site.

Second, it should be noted that the RNR examples from Korean in this section are carefully constructed in a way that rules out the possibility of moving the remnants and the elements undergoing RNR. In all these examples, what remains in the first conjunct and the elements undergoing RNR do not form a constituent. In some cases, there may be ingenious ways to technically allow them to form a constituent or undergo multiple individual movements; however, I believe such analyses are highly unlikely to be well-motivated. See An 2007 for relevant discussion.

[13] It is important to notice that the indefinite subject in the second conjunct cannot be bare, as it is not adjacent to an RNR site. This asymmetry is unexpected under the multidominance analysis because the structural relation between the two subjects and the material undergoing RNR should be identical.

(37) John-un   Mary-*(**lul**) co-eyse, Ø kuliko   (cf. (34))
     John-TOP Mary-ACC   group-in   and
     Tom-un   Mini-lul   pan-eyse, *ceyil yeyppu-tako sayngkakhan-ta.*
     Tom-TOP Mini-ACC class-in   most pretty-COMP thinks-DEC
     'John (thinks) Mary (is the prettiest) in the group, and Tom thinks Mini is the prettiest
     in the class.'

(38) John-un Susan-i   salang-*(**eytayhayse**) si-lul,   Ø kuliko   (cf. (35))
     John-TOP Susan-NOM love-about   poem-ACC   and
     Bill-un   Susan-i   cencayng-eytayhayse chayk-ul,
     Bill-TOP Susan-NOM war-about   book-ACC
     ss-ess-tako   malha-ess-ta.
     write-PAST-COMP say-PAST-DEC
     'John (said that) Susan (wrote) a poem about love, and Bill said that Susan wrote a
     book about war.'

(39) Cho-nun chayk-*(**i**) seysang-ul, Ø kuliko   (cf. (36))
     Cho-TOP book-NOM world-ACC   and
     Yang-un intheneys-i   uysasothong pangpep-ul,
     Yang-TOP Internet-NOM ways.of.communication-ACC
     pakkwu-ess-tako   malha-ess-ta.
     change-PAST-COMP say-PAST-DEC
     'Cho (said that) books (changed) the world, and Yang said that the Internet changed
     the ways of communication.'
     (An 2016a:336, adapted)

The above data show clearly that the distribution of case markers and postpositions in RNR
conforms to the pattern in (1). In this respect, RNR behaves exactly like the other constructions
discussed above, which have all been independently argued to involve PF deletion. This points
to the conclusion that Ø is Δ in the examples above. Therefore, the fact that RNR behaves on a
par with the other constructions examined above provides a strong argument for the deletion
approach to this construction.[14]

6 VP-not-VP Questions

Before discussing a possible analysis of the behavior of deletion examined above, I would like
to briefly mention another construction whose surface form apparently conforms to the pattern

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[14] Note for instance that the multidominance configuration cannot be extended to FAs and RD (or any other phenomena
discussed in this article), though these constructions behave exactly like RNR in relevant respects. Given this, I should
also note for the sake of fairness that there are some RNR constructions that have been argued to be difficult to capture
in terms of deletion, while they are amenable to a multidominance analysis (see, e.g., Bachrach and Katzir 2009, Chung
2004, M.-K. Park 2007, Postal 1998). Given this, researchers like Barros and Vicente (2011) pursue an eclectic approach
to RNR, where both multidominance and deletion are argued to be necessary, while Larson (2012) argues against such
an eclectic approach. Given this, it seems to me that the jury is still out. The discussion in the main text can be considered
to provide an additional argument for the deletion approach.

in (1): namely, types of questions in Mandarin Chinese where certain elements of a sentence are repeated. The most well-known type of such questions is the so-called A-not-A question construction.[15] In discussing A-not-A questions, Hagstrom (2006) briefly mentions the availability of variants like the following:

(40) a. Ta xihuan zheben shu **bu xihuan zheben shu**?
      he like   this   book not like   this   book
      'Does he like this book or doesn't (he) like this book?'

    b. Ta xihuan zheben shu **bu xihuan**?
      he like   this   book not like
      'Does he like this book or doesn't (he) like (it)?'

    c. Ta xihuan zheben shu **bu**?
      he like   this   book not
      'Does he like this book or not?'
      (Hagstrom 2006:175)

Here, what appears to be a negative VP seems to be reduced incrementally. Furthermore, a question like (41) is totally ungrammatical.

(41) *Ta xihuan zheben shu **bu Ø zheben shu**?
      he likes   this   book not   this   book
      'Does he like this book or doesn't (he like) this book?'
      (Johnny Hsu-Te Cheng, pers. comm., 3 February 2017)

The surface form of these sentences suggests that we may be dealing with deletion here. I speculate that what underlies the questions in (40) and (41) is the constructions in (42).

(42) a. Ta xihuan zheben shu [**bu** [**xihuan zheben shu**] ~~[ta t]~~]?   (= (40a))
        he like   this   book not like   this   book he

    b. Ta xihuan zheben shu [**bu** [**xihuan** ~~zheben shu~~] ~~[ta t]~~]?   (= (40b))

    c. Ta xihuan zheben shu [**bu** [~~xihuan~~ ~~zheben shu~~] ~~[ta t]~~]?   (= (40c))

    d. *Ta xihuan zheben shu [**bu** [~~xihuan~~ **zheben shu**] ~~[ta t]~~]?   (= (41))

Obviously, this suggestion is at best tentative, though I believe it opens up an interesting path to explore further.

7 Extra Deletion

Now, the natural question is why (1) holds.

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[15] An example of an A-not-A question in Mandarin Chinese is given in (i).

(i) Ta xihuan-bu-xihuan zheben shu?
   he like-not-like   this   book
   'Does he like or not like this book?'
   (Hagstrom 2006:174)

(1) *(X) (Y) Δ

Here, Y, which is originally a subpart of the remnant, is deleted under adjacency to a deletion site. In An 2016a, I call this phenomenon *Extra Deletion* (ED).[16] One of the most striking aspects of deletion in the configuration in (1) is that it is iterable. That is, once Y is deleted, it becomes part of Δ for X, making X deletable in turn. The surface form of sentences in such contexts often leads to the dramatic impression that deletion progresses incrementally into a remnant. This was illustrated by the SC VPE data in (28) and (29), repeated here.

(28) Mi *smo mu*   *ga*   dali, a   i
     we are him.DAT it.ACC given and also
     vi   ***ste mu***   ~~*ga*~~   ~~*dali*~~, (takodje).
     you are him.DAT it.ACC given too
     'We gave it to him, and you did, too.'
     (Stjepanović 1998:532)

(29) Mi *smo mu*   *ga*   dali, a   i
     we are him.DAT it.ACC given and also
     vi   ***ste*** ~~*mu*~~   ~~*ga*~~   ~~*dali*~~, (takodje).
     you are him.DAT it.ACC given too
     'We gave it to him, and you did, too.'
     (Stjepanović 1998:530)

Other constructions manifest the same kind of behavior. For instance, the question in (43) can be answered by any of four FAs.[17]

(43) Q: John-i   [nwukwu-uy tongsayng-ul] manna-ss-ni?
      John-NOM who-GEN   brother-ACC meet-PAST-Q
      'Whose brother did John meet?'
    A1: Mary-uy   tongsayng-ul.
      Mary-GEN brother-ACC
      '(John met) Mary's brother.'
    A2: Mary-uy tongsayng.
    A3: Mary-uy.
    A4: Mary.
      (An 2016b)

The derivation of the four FAs in (43) proceeds as in (44).

(44) a. [**Mary-uy tongsayng-ul**] ~~[John-i   t manna-ss-e]~~
       Mary-GEN brother-ACC   John-NOM meet-PAST-DEC

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[16] It should be noted that ED is a not a brand-new deletion operation. The term refers to a situation where deletion is extended into a remnant.
   [17] Chung (2014) and M.-K. Park (2016) make a similar observation.

b. [**Mary-uy tongsayng**-ul] [John-i t manna-ss-e]

c. [**Mary-uy** ~~tongsayng-ul~~] [John-i t manna-ss-e]

d. [**Mary**-uy ~~tongsayng-ul~~] ~~[John-i t manna-ss-e]~~

RD also allows incremental deletion. The derivation of the right-dislocated elements in (45) is given in (46).

(45)   John-i   [Yenghi-uy   cha-lul] hwumchi-ess-e,
       John-NOM   Yenghi-GEN car-ACC steal-PAST-DEC

   a. Yenghi-uy   cha-lul.
      Yenghi-GEN car-ACC
      'John stole Yenghi's car, Yenghi's car.'

   b. Yenghi-uy cha.

   c. Yenghi-uy.

   d. Yenghi.
      (An 2016b)

(46) a. . . . [**Yenghi-uy   cha-lul**] ~~[John-i   t hwumchi-ess-e]~~
            Yenghi-GEN car-ACC   John-NOM   steal-PAST-DEC

   b. . . . [**Yenghi-uy cha**-lul] [John-i t hwumchi-ess-e]

   c. . . . [**Yenghi-uy** ~~cha-lul~~] [John-i t hwumchi-ess-e]

   d. . . . [**Yenghi**-uy ~~cha-lul~~] ~~[John-i t hwumchi-ess-e]~~

RNR also behaves like this. The derivation of the relevant portion of the sentences in (47) is given in (48).

(47) a. John-un Bill-i   Mary-uy   catongcha-lul,
        John-TOP Bill-NOM Mary-GEN car-ACC

   b. John-un Bill-i   Mary-uy   catongcha,

   c. John-un Bill-i   Mary-uy,

   d. John-un Bill-i   Mary,
      kuliko Tom-un Bill-i   Jane-uy catongcha-lul
      and   Tom-TOP Bill-NOM Jane-GEN car-ACC
      mol-ass-tako   malha-ess-ta.
      drive-PAST-COMP say-PAST-DEC
      'John (said that) Bill (drove) Mary's car and Tom said that Bill drove Jane's car.'

(48) a. John-un Bill-i   **Mary-uy catongcha-lul** ~~mol-ass-tako   malha-ess-ta~~
        John-TOP Bill-NOM Mary-GEN car-ACC   drive-PAST-COMP say-PAST-DEC

   b. John-un Bill-i **Mary-uy catongcha**-lul ~~mol-ass-tako malha-ess-ta~~

   c. John-un Bill-i **Mary-uy** ~~catongcha-lul   mol-ass-tako malha-ess-ta~~

   d. John-un Bill-i **Mary**-uy ~~catongcha-lul   mol-ass-tako malha-ess-ta~~

Note that in these examples, the deleted elements do not form a constituent, while they invariably form a single continuous linear string, satisfying the adjacency condition. The pattern

of incremental deletion is hard to capture in purely syntactic terms without making reference to linear order and without allowing PF deletion to target nonconstituents.[18] I suggest that this reflects, or follows from, the way PF deletion operates. As an operation in the component determining linear order, deletion targets strings of elements, which are defined in terms of linear order. Thus, elements undergoing deletion should form a single continuous string, similarly to the fact that elements undergoing a syntactic operation should form a single constituent. I assume that syntax initially determines what is to be deleted, which is why deleted elements often correspond to a single constituent. However, when deletion actually takes place in PF, it deals with linearized strings, and (1) is a special consequence of that.

The fact that syntactic constituency can be ignored in certain deletion contexts should not be taken to mean that deletion is free. It is in fact constrained by various independent factors: elements undergoing deletion should be recoverable; they should form a linear string, regardless of whether they correspond to a syntactic constituent or not;[19] focused elements arguably cannot be deleted; certain morphophonological dependencies may not be overridden by ED;[20] other independent prosodic factors may also play a role; and so on. On the other hand, it is also reasonable that what happens in PF can be subject to crosslinguistic variation. That is, it seems

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[18] For some of the individual cases, it might be possible to devise a technical solution in purely syntactic terms. For instance, for some examples of RNR, one might be able to construct a complex multidominance configuration to derive the surface form. However, it is clear that such an approach cannot be extended to other constructions. We are dealing with a very general pattern that is found in many different constructions in diverse languages, but such solutions, if available at all, are very likely to be ad hoc and more importantly, fail to capture the broader generalization.

[19] Although the current analysis allows deletion of nonconstituents, deleted elements are basically expected to be constituents outside of ED contexts. An anonymous reviewer draws my attention to alternative analyses that also allow deletion of nonconstituents, albeit in a different way. That is, researchers like Abe (2015, 2016) and Ott and Struckmeier (2016) propose that in-situ deletion is involved in some of the constructions examined in this article. (See also Ott and Struckmeier 2018 for similar arguments based on constructions not covered here.) For instance, on their analyses the FA construction is derived as in (iA).

(i) Q: Who did Mary talk to yesterday?
    A: ~~She talked to~~ John ~~yesterday~~.
       (Ott and Struckmeier 2016:225)

Note that it is not clear how the adjacency effect can be captured if deletion of nonadjacent elements is permitted this way. Recall also that in those cases involving multiple remnants, the remnants should all front first, so that only the last one is eligible for ED under adjacency to a deletion site. It seems difficult to capture this under the in-situ deletion analyses. However, I should also mention that these researchers provide several arguments against the Merchant (2001)-style move-and-delete approach, which also poses a potential challenge to the current analysis (of some of the constructions above). In any case, since all that ED requires is adjacency to a deletion site (up to independent constraints), such in-situ deletion might not be inherently incompatible with it. Whether or how these approaches should be reconciled is a task that I leave for future research.

[20] For instance, in FAs in Korean, it is impossible to delete into a verbal complex, targeting a tense marker or a sentence type marker, even though these elements are standardly assumed to be independent functional heads. This is illustrated by (iA2) and (iA3). The reason for this is that deleting such elements necessarily leads to an unsupported affix. (In Korean, tense markers, sentence type markers, and verb stems are all affixal in nature.)

(i) Q: Yang-i   [pro mwue sa-ss-ta-ko]   malha-ess-ni?
        Yang-NOM   what buy-PAST-DEC-COMP say-PAST-Q
        'What did Yang say (he) bought?'
    A1: [pro chayk sa-ss-ta-ko]   ~~[Yang-i   t malha-ess-e]~~
            book buy-PAST-DEC-COMP   Yang-NOM say-PAST-DEC
    A2: *[pro chayk sa-ss-~~ta-ko] [Yang-i t malha-ess-e]~~
    A3: *[pro chayk sa-~~ss-ta-ko] [Yang-i t malha-ess-e]~~

possible that a property that blocks ED in one language does not do so in another language. Given this, it is desirable to see what other constructions and what other languages behave like those examined here.[21] Exploring these and other related issues is crucially required to better understand the nature of ED and that of the syntax-PF interaction, which is a task that I put aside for future research.

8 Concluding Remarks

In this article, I have argued that there is a recurring pattern in various constructions that have been independently argued to involve PF deletion. More specifically, I have argued that elements not initially marked for deletion can nevertheless be deleted under adjacency to a deletion site, sometimes ignoring syntactic constituency. The latter property may appear striking at first, but it is understandable once we take into consideration the fact that such deletion operations take place in the component of grammar that deals with linear order. Of course, in many cases, what is deleted corresponds to a constituent, but that is because syntax is primarily responsible for marking the target of deletion. However, when deletion actually takes place in PF, it operates on linearized strings and under certain circumstances it can delete more than it is initially instructed to by the syntax, a situation I have called Extra Deletion.

A fundamental question that arises here is why ED exists. My general thoughts are as follows: Syntax is strictly confined to hierarchical relations. Therefore, its operations can only target constituents, which is also the case when it marks elements for deletion. On the other hand, deletion basically targets given elements. Sometimes, such elements may lie outside the constituent that syntax marks for deletion. The element not marked for deletion, which is what we call the remnant, may contain given and hence deletable items. In other words, there can be a mismatch between hierarchical relations and information-structural relations, which is where ED comes in. Furthermore, when PF actually executes deletion, it may also consult other types of information relevant to the interface such as linear order, focus, and prosody, which is why it can be constrained in various ways, as suggested above. This sounds to me like a plausible direction to explore, though a more precise understanding of the nature of ED requires further research.

Finally, it should be emphasized that the constructions examined here are for the most part quite different from one another; as a consequence, the analyses that have been proposed for

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[21] An anonymous reviewer points out that sluicing in English, especially the contrast between (i) and (ii), may be another case where ED is relevant.

  (i) Jack met with either Sally or Christine, but I don't know which *(one) he met with.

  (ii) Jack met with either Sally or Christine, but I don't know which (one).

As the reviewer notes, the option of omitting *one* seems to depend on adjacency to a deletion site, which is consistent with the predictions of the current analysis.

On the other hand, a different reviewer points out that there are also cases that appear to be inconsistent with the current analysis. For instance, according to the reviewer, P-stranding in ellipsis contexts in some postpositional languages such as Basque and Hindi is not as easy as it is in Korean. At the moment, I do not know what leads to this crosslinguistic variation. However, I suppose that there are potentially similar cases in various languages. What is important is to figure out what the relevant factors are and what they tell us about the architecture of grammar, which is a question I must put aside for future research.

them are also quite different and cannot easily be extended to others. What they have in common is that they have all been argued to involve PF deletion. I have argued that that is the main source of the systematic pattern we find in these constructions. Thus, the parallelism we find among these distinct constructions provides strong support for deletion-based analyses of them. As mentioned above, for some of the constructions examined here (e.g., FA and RNR), non-deletion-based analyses have also been pursued by many researchers. It is clear that if these constructions are left exclusively to these analyses, the robust generalization observed in this article will have to be relegated to a mere accident. This also comes at the cost of enriching the theory with much machinery. The fact that the current analysis provides a way to unify these distinct constructions and capture the generalization in a simple and straightforward way indicates that it is superior to existing analyses both conceptually and empirically.

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Department of English
Konkuk University
120 Neungdong-ro
Gwangjin-gu
Seoul, Korea

andukho@konkuk.ac.kr