On timing of ellipsis: Evidence from extra deletion processes[*]

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In this paper, I introduce a hitherto undescribed ellipsis variety present in a number of head-final languages including Eastern Armenian, Digor and Iron Ossetic, and Turkish. The material deleted under this type of ellipsis demonstrably does not form a constituent. I show that this phenomenon cannot be analyzed as a series of constituent deletions. I propose that this ellipsis variety involves extra deletion of some material adjacent to a gapping site (specifically, a part of a DP or a PP) rather than mere deletion of a constituent. I proceed to argue that the existence of extra deletion necessarily implies that deletion must take place after linearization.

1. Introduction

In the literature pursuing deletion-based approaches to ellipsis, for all the differences between specific proposals, deletion is standardly assumed to occur at PF, see e.g. Chomsky (1995); Merchant (2001), Aelbrecht (2010), Thoms (2010); Lipták & Griffiths (2014); Weir (2014); Abe (2015); Bruening (2015); Ott & Struckmeier (2018), and Griffiths (2018). The PF stage of derivation, however, has been shown to possess a rather complex structure, with various phenomena, such as some kinds of movement and agreement, being relegated to the postsyntactic stage, see e.g. Arregi & Nevins (2012); Bobaljik (2008), Bhatt & Walkow (2013), Embick & Noyer (2001), and Harbour (2003). Possible "landmarks" that designate various stages of the PF derivation include (but are not limited to) Vocabulary Insertion, linearization, establishing agreement (if the latter is assumed to occur at the PF) and various types of PF-level movement. It bears asking therefore at which stage of postsyntactic derivation deletion occurs. While it is impossible to order deletion with respect to every conceivable postsyntactic operation, I will provide here an argument in favor of placing it after linearization and Vocabulary Insertion, whatever the relative order of these two operations.

An (2016, 2019), on the basis of several ellipsis constructions in Korean (and putatively, in other languages) proposed that deletion occurs after linearization and operates on contiguous strings. His evidence comes from what he called *extra deletion* processes. These are situations when an instance of ellipsis demonstrably licensed in syntax, such as formation of fragment answers, can actually delete a slightly larger amount of material than expected. The condition being that extra deleted material is linearly adjacent to the "main" ellipsis site. Given that adjacency is only established after linearization, this can be taken as evidence for a specific timing of deletion.

In this paper, I introduce a previously undescribed type of ellipsis in Digor and Iron Ossetic (Iranian, Indo-European), Eastern Armenian (Indo-European), and Turkish. I argue that this construction requires an extra deletion analysis, thus strengthening the conjecture that ellipsis occurs after linearization. It remains to be seen whether all instances of ellipsis are amenable to this kind of analysis.

Specifically, I explore extra deletion associated with gapping. Gapping is an ellipsis variety that mainly occurs in coordinations, and deletes the verb in one of the coordinands (1).

(1) a. Mary keeps a dragon, and John ~~keeps~~ a unicorn.
    b. Dutch
    | Karel | schrijft | met | een | | potlood | en |
    | K. | writes | with | a | | pencil | and |
    | John | ~~schrijft~~ | met | een | pen | | |
    | J. | writes | with | a | pen | | |
    'Karel writes with a pencil and John with a pen.' Neijt (1979: 19)

The process to be discussed in this paper occurs in head final languages and deletes the verb and a non-subconstituent of a noun phrase or of an adpositional phrase adjacent to the verb, as is schematized in (2). Purely for presentational purposes, I will call this phenomenon *slending*: SLightly Extended Noun Deletion.

(2)   [Verb] &   … [$_{YP}$ Z ~~W Y⁰] Verb~~]

The sentences in (3) illustrate slending for Digor Ossetic. In (3a), regular forward gapping is shown; (3b) and (3c) schematically illustrate two instances of slending, while (3b') and (3c') show actual language data. In (3b) the case-marked NP head *χedzar-i* house-LOC is deleted together with the verb, while the modifying adjective *dorgin* 'made of stone' is retained. In (3c), slending targets the verb and the PP 'about European languages.' Besides the verb, it deletes the postposition *tuχχej* 'about' and the head of its complement DP, *ɐvzag-t-i* language-PL-GEN. The modifying adjective 'European' is retained.

(3)   a.   Digor Ossetic
            ɐz   tʃikola-j   tsɐrun   soslan=ba   leʃken-i   ~~tsɐruj~~
            I   Chikola-LOC   I.live   Soslan=CTR   Lesken-LOC   lives
            'I live in Chikola, and Soslan, in Lesken.'

      b.   […   ] …   [….   [$_{DP}$ Adj. ~~N⁰-CASE]~~   ~~V~~   (XP)]
                 Antecedent clause   Ellipsis Clause

      b'.   ɐz   [jetʃi   ʁedin   χedzar-i]   tsɐr-un
            I   that   wooden   house-LOC[1]   I.live
            soslan=ba   [atʃi   dorgin ~~χedzar-i]~~   ~~tsɐr-uj~~
            Soslan=CTR   this   stone ~~house-LOC~~   ~~lives~~
            'I live in that wooden house, and Soslan lives in this stone house.'

      c.   […   ] …   [….   [$_{PP}$[$_{DP}$ Adj ~~N⁰-CASE]P⁰]~~ ~~V~~   (XP)]
                 Antecedent clause   Ellipsis Clause

      c'.   soslan kavkazzag   ɐvzag-t-i   tuχχej radzurdta
            Soslan Caucasian   language-PL-GEN   about   told
            mɐdinɐ=ba   jevropag   ~~ɐvzag-t-i   tuχχej radzurdta~~
            Madina=CTR   European   ~~language-PL-GEN   about   told~~
            'Soslan told about Caucasian languages, and Madina told about
            European languages.'

Although not all the speakers of the respective languages accept such sentences, a significant proportion of the speakers I have consulted do so. The existence of this type of speaker is sufficient for the main theoretical purpose of the paper.

The paper is organized as follows. In Section 2, I provide the necessary background about the languages this paper deals with, and two ellipsis varieties slending is similar to, N'-deletion and gapping. In Section 3, I lay out the basic properties of slending. In Section 4, the key technical part of the paper, I present the main proposal and show that it predicts the properties of slending. In Section 5, I discuss alternative proposals and show that they fail to derive the properties of slending. In Section 6, I briefly discuss the conditions under which slending can be observed and putative instances of slending in other languages. Section 7 concludes.

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[1] Glosses: ABL ablative; ACC accusative; ALL allative; AUX auxiliary; COM comitative; COMP complementizer; CTR contrastive topic; CVB converb; DAT dative; DEF definite; EP epistemic; GEN genitive; INS instrumental; LOC locative; MP modal particle; PL plural; SUP superessive.

2. Background

In this section, I provide some necessary background about the languages under discussion and about the ellipsis varieties slending is interestingly similar to, specifically, about N'-deletion and gapping.

2.1 Background on the languages of the study

My evidence comes from Iron and Digor Ossetic (Iranian; Indo-European), Eastern Armenian (Armenian; Indo-European), and Turkish (Oghuz; Turkic)[2]. They all are head-final languages with moderately rich case systems. While scrambling is fairly free in all these languages, they tend to have verb-final clauses.

The crucial evidence will come from deletions that reach into noun phrases, and therefore I will briefly overview the structure of the noun phrase in these languages. I stay agnostic as to the existence of DP in Ossetic and Turkish[3], as this does not seem to be directly relevant for the present study. Eastern Armenian has an overt article[4] =ə/=an, Dum-Tragut (2009), and therefore I assume it to project the DP. For a sustained argument in favor of the DP in Eastern Armenian, see Megerdoomian (2008), and in the closely related Western Armenian, Sigler (1996). The exact nature of the maximal projection of a noun is not relevant for my present purposes, however, and I will refer to it as the extended noun phrase (xNP).

Extended noun phrases in all these languages are rigidly head-final and do not exhibit concord of any kind. Case and number marking (and, in the case of Eastern Armenian, also definiteness marking, and in the case of Turkish, possession marking) only appears on the head noun at the right edge of the xNP. The relevant morphological marking is highlighted with bold in (4).

(4)   a.   Digor Ossetic
        soslan-i   atʃi   ragon limɐn-**t-ɐn**
        Soslan-GEN   this   old   friend-PL-DAT
        'to these old friends of Soslan's'

        b.   Armenian
        Aɾam-i   ajt   eɾek   hin   ənkeɾ-**neɾ=ə**
        Aram-DAT   this   3   old   friend-PL=DEF
        'three old friends of Aram's'

        c.   Turkish   Bošković & Şener (2014)
        Can-ın   şu   (eski)   üç   (eski)   bisiklet-**i**
        John-GEN   that   old   three   bicycle-3SG.POSS
        'those three old bicycles of John's'

While in all the languages under consideration the neutral order of main constituents is SOV, they allow non-verb-final sentences, see Kornfilt (1997: 91) for Turkish, Erschler (2018a: 876) for Ossetic, and Dum-Tragut (2009: 555) and Kahnemuyipour & Megerdoomian (2011: 157; 2017:

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[2] A remark on presentation of the data is in place here. For Turkish, I use the standard orthography; and for Ossetic and Armenian, IPA-based transcriptions. For descriptions of the transcriptions used here, see Vaux (1998) for Armenian; and Erschler (2018) for Ossetic.

[3] For Turkish, much of the literature argues for existence of the DP, see e.g. Öztürk & Taylan (2016), Kornfilt (2018), and the references there. However, Bošković & Şener (2014) argue that Turkish only projects the NP. For Ossetic, Erschler (2019) provides evidence in favor of the DP.

[4] I mark it here as an enclitic and gloss it DEF. It is irrelevant for my purposes whether it is a suffix or a clitic, and what its precise semantics is.

81) for Eastern Armenian[5]. Accordingly, in the elliptic clauses throughout this paper, I show the deleted verb in the clause-final position.

2.2 Case marking in xNPs without overt heads

It is well known that extended noun phrases may lack an overt head noun. Whether it is a result of some deletion (usually called N'-deletion in the literature), or an occurrence of a null noun, is not easy to determine, see a discussion in Saab (2018) and the references there. At any rate, whenever xNPs without an overt head noun are used in sentences, the relevant case marking normally appears at the right edge of the xNP[6]. In all the sentences in (5), the head 'dog(s)' is missing from the ablative-marked xNP in the second conjunct. Case and number marking is then carried by the respective adjective.

(5)   a.   Iron Ossetic
          mɛdinɛʃaw   kʷəj-tɛ warӡə   **urʃ-ət-*(ɐj)**=ta   tɛrʃgɛ   kɛnə
          Madina black   dog-PL loves   white-PL-ABL=CTR   fear.CVB   does
          'Madina likes black dogs, and fears white ones.'

      b.   Armenian
          vartʰan=ə   spitak ʃan=ən=e   siɾum
          Vartan=DEF   white dog.DAT=DEF=AUX.3SG love.PRTC
          isk/bajc   **sev-*(itsʰ)**=e   vaxenum
          CTR/but   black-ABL=AUX.3SG   fear.PRTC
          'Vartan likes the white dog, and fears the black one.'

      c.   Turkish
          Ayşe siyah köpeğ-i   seviyor **beyaz-*(dan)** ise   korkuyor
          Ayshe black dog-ACC   loves   white-ABL   CTR   fears
          'Ayshe likes a black dog, and fears a white one.'

Furthermore, in Ossetic fragment answers, the case marking must be retained on the adjective. Armenian and Turkish[7] speakers, on the other hand, vary in their judgments about such contexts.

(6)   a.   Digor Ossetic
          A: kɛtʃi   kuj-ɐj   tɛrʃi?
               which dog-ABL   you.fear
               'Which dog are you afraid of?'
          B: wors-*(ɐj)
               white-ABL
               'The white (one)'

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[5] In Eastern Armenian, the frequency of SVO clauses is particularly high.
[6] See also Saab & Lipták (2016) on the role of morphological inflection in the licensing of NP-ellipsis.
[7] At least for Turkish, a caseless fragment answer can plausibly have a pseudocleft source. An answer to the question 'What does Ali fear?' could be such as shown in (i).

(i)   Ali-nin kork-tuğ-u   beyaz köpek-(Ø-tir)
      Ali-GEN fear-NMZ-POSS white dog-COP-EP
      'What Ali fears is white dog.'

Now, the caseless fragment *beyaz* can be the result of ellipsis in (i).

    b.   Armenian
        A: Vahan=ə   voɾ   ʃən-itsʰ=e   vaxenum?
              Vahan=DEF   who   dog-ABL=AUX.3SG   fear.PRTC
              'Which dog does Vahan fear?'
        B: sev-ʔ(itsʰ)
              black-ABL
              'The black (one)'

    c.   Turkish
        A: Ali   hangi köpek-ten   korkuyor?
              Ali   which dog-ABL   fears
        B: siyah-ʔ(dan)
              black-ABL
              'A: Which dog does Ali fear? B: The black one.'

To recapitulate, xNPs without overt noun heads typically bear the morphological marking that the respective xNP with an overt head would bear.

2.3 Gapping

Slending closely resembles a well-studied ellipsis variety, gapping, see an overview of its properties and of available proposals in Johnson (2018), and a specific analysis in Erschler (2018b). Recall that under gapping, the lexical verb and the auxiliary, if there is any, are missing, but the sentence would remain grammatical should they be reconstructed. This is illustrated by the English sentence in (7a), and the Russian and Dutch ones in (7 b-c). In more commonly studied cases, this construction occurs in coordinations.

(7)   a.   Some will eat beans, and others ~~will eat~~ rice.

       b.   Russian
            Vasʲa pʲjot   vodku   a   Oleg   ~~pʲjot~~ samogon
            Vasya drinks vodka.ACC   CTR   Oleg   drinks moonshine.ACC
            'Vasya drinks vodka and Oleg moonshine.'

       c.   Dutch
            Karel schrijft met   een   potlood   en
            K.   writes with   a   pencil   and
            John ~~schrijft~~ met een   pen
            J.   writes with   a   pen
            'Karel writes with a pencil and John with a pen.' Neijt (1979: 19)

Gapping is attested in all of the languages under discussion here (8). In the Armenian sentence in (8c), the antecedent can have either SOV or SVO order. As was discussed in Section 2.1, I assume that the SOV order is basic and accordingly treat the ellipsis site as verb-final.

(8)   a.   Iron Ossetic
            ʃoʃlan fətʃʧən   baχordta   χetɐg=**ta**   wɐlibɐχ   ~~baχordta~~
            Soslan meat.pie   eat.PST.3SG   Khetag=CTR   cheese.pie   eat.PST.3SG
            'Soslan ate a meat pie and Khetag a cheese pie.'

       b.   Turkish   İnce (2009)
            Burak kütüphane-ye gitti,   Mustafa   (da)   hastane-ye   ~~gitti~~
            Burak library-DAT   went   Mustafa   also   hospital-DAT   went
            'Burak went to the library and Mustafa to the hospital.'

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c. Eastern Armenian
petʁos-ə   <spaneʦʰ>   gajl-i-n,   <spaneʦʰ>
Peter-DEF   killed   wolf-GEN-DEF   killed
isk   poʁos=ə   aʁves-i-n   ~~spaneʦʰ~~
CTR   Paul=DEF   fox-GEN-DEF   killed
'Peter killed the wolf, and Paul the fox.'

As first explicitly noticed by Kuno (1976), remnants under gapping must contrast with their correlates in the antecedent. In Ossetic, if two conjuncts contrast, the first XP in the second clause has to be overtly marked as a contrastive topic by the enclitic =ta (Iron Ossetic)/=ba (Digor Ossetic). The presence of this marking is a necessary prerequisite for gapping in coordinations. The conjuncts are usually coordinated asyndetically (9a). The Iron Ossetic sentences in (9b-c) show that gapping is impossible without contrast marking with overt coordinators – ɐmɐ 'and' in (9b), and fɐlɐ 'but' in (9c).

(9)   Iron Ossetic
a.   šošlan fɐččən   baχordta   χetɐg=**ta**   wɐlibɐχ   ~~baχordta~~
       Soslan meat.pie   ate   Khetag=CTR   cheese.pie   ate
       'Soslan ate a meat pie and Khetag a cheese pie.'

b.   *šošlan fɐččən   baχordta   **ɐmɐ**   χetɐg wɐlibɐχ   ~~baχordta~~
       Soslan meat.pie   ate   and   Khetag cheese.pie   ate
       'Soslan ate a meat pie and Khetag a cheese pie.'

c.   *šošlan   fɐččən   baχordta   **fɐlɐ**   χetɐg wɐlibɐχ
       Soslan   meat.pie   ate   but   Khetag cheese.pie
       ~~baχordta~~
       ate
       'Soslan ate a meat pie but Khetag a cheese pie.'

In Eastern Armenian, gapping requires the contrastive conjunction *isk* (10), Dum-Tragut (2009: 421-422).

(10)   Eastern Armenian
kujɾ=ə   kʰəgna dəpɾoʦ   **isk**   inkʰe mankʰapʰartʰez   ~~kʰəgna~~
sister=DEF   will.go school.NOM   CTR   he.NOM kindergarten.NOM   will.go
'The sister will go to school, and he to kindergarten.' Dum-Tragut[8] (2009: 421)

In Turkish, however, gapping is possible without overt contrastive marking, Kornfilt (1997: 120).
      In the gapping sentences above, the verb was deleted in the second conjunct. Some languages, including Ossetic and Turkish (11), allow what ostensibly looks like a mirror image of gapping. In this construction, the verb goes missing in the first conjunct.

(11)   a.   Iron Ossetic
           ɐz   fɐtʃtʃən   ~~baχordton~~   maχar=ta   wɐlibɐχ   baχordta
           I   meat.pie   eat.PST.1SG   Maxar=CTR   cheese.pie   eat.PST.3SG
           'I (ate) a meat pie, and Maxar ate a cheese pie.'

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[8] The glosses and transcription were modified to conform to the conventions used in the present paper.

b. Digor Ossetic

ɐz	fidgun	~~baχʷardton~~	maχar=ba	welibɐχ	baχʷardta
I	meat.pie	eat.PST.1SG	Maxar=CTR	cheese.pie	eat.PST.3SG

'I (ate) a meat pie, and Maxar ate a cheese pie.'

c. Turkish, based on İnce (2009)

Hasan	karides-i	~~yedi~~,	Mehmet	te/ise	istiridye-yi
Hasan	shrimp-ACC	ate	Mehmet	also/CTR	oyster-ACC
yedi					
ate					

'Hasan (ate) the shrimp, and Mehmet ate the oyster.'

Although forward and backward verb deletion look superficially similar, it has been argued in the literature that at least in some languages these phenomena have different properties and different derivations. İnce (2009) argues that in Turkish, backward deletion is an instance of Right Node Raising[9]. In Ossetic, on the other hand, there are reasons to assume that backwards verb deletion is not an instance of RNR, but rather has the same derivation as gapping, Erschler (2018b). Most importantly, RNR involving DPs is impossible in the Ossetic languages (12).

(12) Iron Ossetic

*alan	fɐʃʃɐ	~~k'randaʃ-ɐj~~	mɐdinɐ=ta	nɐv	kɐnɐ	k'randaʃ-ɐj
Alan	writes	pencil-ABL	Madina=CTR	picture	makes	pencil-ABL

'Alan is writing, and Madina is drawing, with pencil.' (intended)

While I will show below that slending may be associated both with forward and backward verb deletion, I will focus on forward slending and gapping, where the question about the status of backward deletion does not arise. That will suffice for my theoretical purposes.

3 Slending

In this section, I describe the phenomenon my argumentation is based upon. In Section 3.1, I discuss the simplest cases of slending. In Section 3.2 I show that slending deletes non-constituents. In Section 3.3 I explore the relationship between slending and gapping.

3.1 Basic properties

Now let us systematically describe the phenomenon under discussion in this paper. Slending occurs in coordinations and deletes the verb along with a part of an adjacent XP.

Although not all the speakers of the respective languages accept such sentences, a significant proportion of the speakers do. In Eastern Armenian, the construction is restricted to the dialects spoken in (the southernmost) Syunik Province of Armenia, and Iran. In the rest of the languages of this study, the variation appears to be purely idiolectal.

In the simplest case, slending deletes, besides the verb, the head noun of an xNP with its case marker. The remaining part of the xNP does not bear case marking, which is surprising in the view of the discussion in Section 2.2. This is illustrated in (13) for Digor and Iron Ossetic, Eastern Armenian, and Turkish. Normally, we would expect the case marking to appear on the fragment xNP, that is to say, we would expect *dorgin* 'made of stone' to be marked with the locative *-i* in (13a); *wurʃ* 'white' to be marked with the ablative *-ɐj* in (13b); *mets* 'big' to be marked with the ablative *-itsʰ* in (13c); and *beyaz* 'white' to be marked with the ablative *-dan* in (13d). To repeat, I assume that clauses in Armenian are underlyingly verb-final.

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[9] See Citko (2017) for an overview of approaches to RNR.

(13) a. Digor Ossetic
ez [jetʃi ʁedin χedzar-i] tʙer-un
I that wooden house-LOC live
soslan=ba [atʃi dorgin ~~χedzar-i~~ ~~tʙer-uj~~
Soslan=CTR this stone ~~house-LOC~~ ~~lives~~
'I live in that wooden house, and Soslan lives in this stone house.'

b. Iron Ossetic
ʃoʃlan [alan-ə [ʃaw kʷəz-ʙj]] tɐrʃə
Soslan Alan-GEN black dog-ABL fears
alan=ta [ʃoʃlan-ə [wurʃ ~~kʷəz-ʙj]]~~ ~~tɐrʃə~~
Alan=CTR Soslan-GEN white dog-ABL fears
'Soslan fears Alan's black dog, and Alan (fears) Soslan's white (dog).'

c. Eastern Armenian
Vahan=ə <jekav> pʰokʰəɾ gjuʁ-itsʰ <jekav>,
Vahan=DEF arrived small village-ABL arrived
isk Aɾa=n [mets ~~gjuʁ-itsʰ]~~ ~~jekav~~
CTR Ara=DEF big village-ABL arrived
'Vahan arrived from a small village, and Ara from a big village.'

d. Turkish
Cem siyah kopekten korkuyor,
Cem black dog.ABL fears
Can ise [beyaz ~~kopekten]~~ ~~korkuyor~~
Can CTR white dog.ABL fears
'Cem fears a black dog, and Can, a white one.'

The variants of the sentences in (13) with case marking retained on the rightmost remnant are all grammatical, compare (13a) with (14a), and (13e) with (14b). In such cases, they are indistinguishable from regular gapping[10].

(14) a. Digor Ossetic
ez [jetʃi ʁedin χedzar-i] tʙer-un
I that wooden house-LOC live
soslan=ba [atʃi dorgin-i ~~tʙer-uj~~
Soslan=CTR this stone-LOC ~~lives~~
'I live in that wooden house, and Soslan lives in this stone house.'

b. Turkish
Cem siyah kopekten korkuyor,
Cem black dog.ABL fears
Can ise [beyaz-dan ~~kopekten]~~ ~~korkuyor~~
Can CTR white-ABL dog.ABL fears
'Cem fears a black dog, and Can, a white one.'

In (13), it is the expected case marking that is missing from the remnant. More generally, the remnant under slending appears without any morphological marking that would have been inherited from the head noun. For instance, in Digor Ossetic, numerals trigger dedicated morphology on head nouns, see Erschler (2018a) for details.

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[10] That is to say, the case-marked xNP fragments in sentences such as in (14) can be generated independently of gapping, in the same way as they are generated in (5) above. The nature of the mechanism that generates case-marked xNP fragments is irrelevant for my present purposes.

(15) Digor Ossetic
fɐtk'u   duwwɐ fɐtk'u-j   duwwɐ fɐtk'u-je(m)-ɐn
                              2   apple-NUM.NOM   2   apple-NUM-DAT
'appple'   '2 apples' (nominative)   '2 apples' (dative)

In a DP without an overt head noun, the numeral marking will appear on the right edge.

(16) Digor Ossetic
duwwɐ ts'ɛχ-**i**   duwwɐ ts'ɛχ-**em**-ɐn
2   green-NUM.NOM   2   green-NUM-DAT
'two green ones'   'for two green ones'

Now, DPs with numerals can participate in slending, and the numeral-induced marking disappears under slending, exactly like case marking. In (17), the remnant *ts'ɛχ* 'green' does not carry the expected numeral morphology.

(17) Digor Ossetic
soslan duwwɐ surχ   fɐtk'u-j   baχʷardta
Soslan 2   red   apple-NUM   ate
mɐdinɐ=ba   ɐrtɐ   ts'ɛχ   ~~fɐtk'uj~~   ~~baχʷardta~~
Madina=CTR   3   green   apple-NUM   ate
'Soslan ate 2 red apples, and Madina, 3 green (ones).'

The same holds true for regular plural marking (18) – in neither of the sentences (18a-c) is the reading possible where the singular of 'dog' is reconstructed in the second conjunct.

(18) a.   Digor Ossetic
                 soslan saw   kuj-t-ɐj   tɐrsuj
                 Soslan black   dog-PL-ABL   fears
                 χetɐg=ba   wors   ~~kuj-t-ɐj~~   ~~tɐrsuj~~
                 Khetag=CTR   white   dog-PL-ABL   fears
                 'Soslan fears black dogs, and Khetag, white ones.'

      b.   Eastern Armenian
                 Context[11]: In the neighborhood, there is a pack of black dogs,
                 and a pack of white dogs.
                 Varthan=ə   spitak   ʃən-er-itsʰ=e   vaxenum,
                 Vartan=DEF   white   dog-PL-ABL=AUX.3SG   fear.PRTC
                 isk   Vahan=ə   sev   ~~ʃən-er-itsʰ=e~~   ~~vaxenum~~
                 CTR   Vahan=DEF   black   dog-PL-ABL=AUX.3SG   fear.PRTC
                 'Vartan fears the white dogs, and Vahan, the black (ones).'

      c.   Turkish
                 Ayşe   beyaz   köpek-ler-i   seviyor
                 Ayshe   white   dog-PL-ACC   loves
                 Ali   ise   siyah   ~~köpek-ler-i~~   ~~seviyor~~
                 Ali   CTR   black   dog-PL-ACC   loves
                 'Ayshe likes the white dogs, and Ali the black (ones).'

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[11] The context is needed to ensure that the dogs in the sentence be referential. In a generic statement such as 'Vahan fears white dogs', it would be more natural to have 'dog' in the singular.

As in gapping (see the discussion in Section 2.3 above), the remnants under slending must contrast[12] with the syntactic material in the antecedent. The contrast manifests in the obligatory use of an overt contrastive marker in the sentence. In Ossetic, it is the enclitic =*ba* in Digor (18a) and =*ta* in Iron; in Armenian, it is the contrastive conjunction *isk* (18b); and in Turkish, slending requires the contrastive marker *ise* (18c). In Ossetic and Armenian, the contrastive marking is identical with the one used under regular gapping, see the discussion in Section 2.3. In the case of plain coordination, the one that uses the conjunction 'and', slending is ungrammatical in all the languages under discussion (19).

(19) a. Iron Ossetic
      *mɛdinɛ   gətstsəl   wəndʒ-ə   sɛrə
      Madina   small   street-LOC   lives
      ɛmɛ   ʃoʃlan ʃtər   ~~wəndʒ ə~~   ~~sɛrə~~
      and   Soslan big   street-LOC   lives
      'Madina (lives) on a small (street) and Soslan lives on a big street.' (intended)

    b. Eastern Armenian
      *Vahan=ə   <jekav>   pʰokʰər   gjuʁ-itsʰ   <jekav>,
      Vahan=DEF   arrived   small   village-ABL   arrived
      jev   Aɾa=n   mets   ~~gjuʁ-itsʰ~~   ~~jekav~~
      and   Ara=DEF   big   village-ABL   arrived
      'Vahan arrived from a small village, and Ara from a big one.' (intended)

    c. Turkish
      *Cem büyük ev-de   yaşıyor   (ve)   Can   küçük
      Cem   big   house-LOC   is.living   (and) Can   small
      ~~yaşıyor~~
      is.living
      'Cem lives in a big house, and Can in a small one.'

3.2 Slending deletes non-constituents

The material deleted in the simplest examples of slending in (13), that is, the verb and the head of the adjacent xNP obviously don't form a constituent. Moreover, in more complicated instances of slending, the deleted part of the adjacent XP does not need to be a subconstituent of it either. For instance, a postposition with the head noun of its complement may be deleted, stranding a case-unmarked modifier of the noun (20).

(20)   Digor Ossetic
    a. soslan [[kavkazzag   ɛvzag-t-i]   tuχχɐj] radzurdta
      Soslan Caucasian   language-PL-GEN   about   told
      mɛdinɛ=ba [[jevropag   ~~ɛvzag-t-i]~~   ~~tuχχɐj] radzurdta~~
      Madina=CTR European   language-PL-GEN   about told
      'Soslan told about Caucasian languages, and Madina told about
      European languages.'

---

[12] It requires a separate study whether this contrast is reflected in the prosody of respective utterances. Such a study is unfortunately well beyond the scope of the present paper. At any rate, under slending, the lexical items in the ellipsis site have to have contrasting lexical items in the antecedent, exactly as it is the case with plain gapping.

b. soslan [[ɐrigon ʃilgojmag-i] χɐtstsɐ] dzoruj
Soslan young woman-GEN with talks
mɐdinɐ=ba [[zɐrond ~~ʃilgojmag-i~~ ~~χɐtstsɐ]~~ ~~dzoruj~~
Madina=CTR old woman-GEN with talks
'Soslan is talking with a young woman, and Madina, with an old (one).'

c. Eastern Armenian
Vahan=ə \<kangarav\> [[mets tan] dimatsʰ]
Vahan=DEF stopped big house.DAT in.front.of
\<kangarav\>,
stopped
isk Ara=n [[pʰokʰəɾ ~~tan]~~ ~~dimatsʰ]~~ ~~kangarav~~
CTR Ara=DEF small house.DAT in.front.of stopped
'Vahan stopped in front of a big house, and Ara in front of a small one.'

d. Turkish
Can [[büyük kızı-n-dan] önce] gelmiş,
Can big daughter-3SG-ABL before arrived
Ayşe ise [[küçük ~~kızı-n-dan]~~ ~~önce]~~ ~~gelmiş~~
Ayshe CTR small daughter-3SG-ABL before arrived
'Can arrived before his eldest daughter, and Ayshe before her youngest one[13].'

Likewise, the possessum and the head noun of the possessor can be deleted stranding an adjective that modifies the possessor (21).

(21) a. Iron Ossetic
ʃoʃlan [[jɐ=kɐʃtɐr fərt-ə] χezar-mɐ] ɐrbasədi
Soslan 3SG=younger son-GEN house-ALL arrived
mɐdinɐ=ta [[jɐ=χiʃtɐr ~~fərt-ə]~~ ~~χezar-mɐ]~~ ~~ɐrbasədi~~
Madina=CTR 3SG=older son-GEN house-ALL arrived
'Soslan came to the younger son's house and Madina, to the older one's.'

b. Eastern Armenian
The context: Ara and Vahan needed to talk with two Tigran's sons.
Vahan=ə \<jekav\> [[mets təʁa-ji] tun] \<jekav\>,
Vahan=DEF arrived big son-GEN house arrived
isk Ara=n [[pʰokʰəɾ ~~təʁa-ji]~~ ~~tun]~~ ~~jekav~~
CTR Ara=DEF small son-GEN house arrived
'Vahan arrived in the elder son's house, and Ara in the younger one's.'

c. Turkish
Can [[büyük kızı-n-ın] ev-in-e] gelmiş,
Can big daughter-3SG-GEN house-3SG-DAT arrived
Ayşe ise [[küçük ~~kızı-n-ın]~~ ~~ev-in-e]~~ ~~gelmiş~~
Ayshe CTR small daughter-3SG-GEN house-3SG-DAT arrived
'Can arrived in his eldest daughter's house, and Ayshe, in her youngest one's.'

Although constituency is not respected by slending, this ellipsis variety is not completely unrestricted. Specifically, strings deleted under slending must be contiguous. It is impossible to delete the heads of two separate DPs alongside with the verb, as illustrated in (22).

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[13] When asked to provide a judgment about sentences where both the antecedent DP and the DP that undergoes slending are marked for possession, speakers vary as to the preferred reference of the possessive markers. The issue does not seem relevant for my present purposes.

(22)   *[...   ] ...   [....[DP1 Adj. ~~N°-CASE~~]   [DP2 Adj. ~~N°-CASE~~   V]
              Antecedent   Ellipsis Clause

a.   Iron Ossetic
     *ʃoʃlan jɐ=χiʃtɐr   fɐrt-mɐwurʃ   maʃinɐ-jəl   fɐsədi
     Soslan 3SG=elder   son-ALL white   car-SUP   went
     alan=ta   jɐ=kɐʃtɐr   ~~fɐrt-mɐ~~   ʃərχ   ~~maʃinɐ-jəl~~   ~~fɐsədi~~
     Alan=CTR   3SG=younger   son-ALL   red   car-SUP   goes
     'Soslan went to the elder son in a white car, and Alan (went) to the younger
     (son) in a red (car).' (intended)

b.   Eastern Armenian
     *vahan=ə   <jekav>   spitak ʤi-ov   pʰokʰəɾ   gjuʁ-itsʰ,
     Vahan=DEF   arrived   white horse-INS   small   village-ABL
     <jekav>   isk   aɾa=n   sev   ~~ʤi-ov~~   mets   ~~gjuʁ-itsʰ~~
     arrived   CTR   Ara=DEF   black   horse-INS   big   village-ABL
     ~~jekav~~
     arrived
     'Vahan arrived on a white horse from a small village, and Ara (arrived)
     on a black (horse) from a big (village). (intended)

c.   Turkish
     *Ali   siyah   kedi-yi büyük oğlu-n-a   verdi,
     Ali   black   cat-ACC big   son-3SG-DAT   gave
     Ayşe   ise   [beyaz ~~kediyi~~] [küçük ~~oğluna~~]   ~~verdi~~
     Ayshe   CTR   white cat-ACC small   son-3SG-DAT   gave
     'Ali gave the black cat to the elder son, and Ayshe (gave) the white (cat)
     to the younger (son).' (intended)

3.3 Directionality of Slending

We have seen in Section 2.3 that, in some languages, verb deletion can proceed in both directions. Whatever the nature of these phenomena, the directionality of deletion under slending coincides with the directionality of verb deletion in a given language.

All the languages under discussion allow (forward) gapping (8), and, as we have already seen above in (13 - 20), they all allow forward slending. Ossetic and Turkish additionally allow backward deletion of the verb (11). Slending too may proceed backwards in these languages (23).

(23)   Digor Ossetic
a.   χetɐg   sawχelɐ   ~~kizg-en~~   ~~dedengutɐ~~   ~~ravardta~~
     Khetag   black.haired   girl-DAT   flowers   he.gave
     soslan=ba   [borχelɐ   kizg]-ɐn   dedengutɐ   ravardta
     Soslan=CTR   blond   girl-DAT   flowers   he.gave
     'Soslan gave flowers to a blond girl, and Khetag (gave flowers
     to) a black-haired (girl).'

b.   mɐdinɐ   jevropag   ~~ɐvzag-t-i~~   ~~tuχχɐj radzurdta~~
     Madina   European   language-PL-GEN   about   told
     soslan=ba   kavkazzag   ɐvzag-t-i   tuχχɐj radzurdta
     Soslan=CTR   Caucasian   language-PL-GEN   about   told
     'Soslan told about Caucasian languages, and Madina told about
     European languages.'

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Turkish
c. ben büyük ~~ev-de~~ ~~yaşıyorum~~ Can ise küçük ev-de
I big house-LOC am.living Can CTR small house-LOC
yaşıyor
is.living
'I live in a big house, and Can lives in a small house.'

d. Can siyah ~~köpek-ten~~ ~~korkuyor~~ Ayşe ise beyaz köpek-ten
Can black dog-ABL fears Ayshe CTR white dog-ABL
korkuyor
fears
'Can fears a black dog, and Ayshe, a white one.'

Armenian lacks backward verb deletion (24a); it lacks backward slending as well (24b).

(24) Eastern Armenian
a. *vartʰan=ə <spanetsʰ> gajl-i-n <spanetsʰ>,
Vartan=DEF killed wolf-DAT=DEF killed
isk poʁos=ə <spanetsʰ> aʁves-i=n <spanetsʰ>
CTR Paul=DEF killed fox-DAT=DEF killed
'Vartan (killed) a wolf, and Paul killed a fox.' (intended)

b. *aram=ə mets ~~tən-um=e~~ ~~apɾum~~,
Aram=DEF big house-LOC=AUX.PRS.3SG live.PRTC
isk vartʰan=ə pʰokʰəɾtən-um=e apɾum
CTR Vartan=DEF small house-LOC=AUX.PRS.3SG live.PRTC
'Aram (lives) in a big house, and Vartan lives in a small one.' (intended)

This is summarized in Table 1.

Table 1. Correlation in directionality between verb deletion and slending

	Verb deletion	Slending
Ossetic	Both directions	Both directions
Armenian	Forward	Forward
Turkish	Both directions	Both directions

A natural informal conclusion is that slending is somehow dependent (in a pretheoretical sense) on verb deletion. However, at least in Turkish, backward verb deletion has been argued by İnce (2009) to be a manifestation of a different phenomenon, namely, Right Node Raising[14]. RNR is known to sometimes delete non-constituents as illustrated in (25), where the material shared between the two conjuncts is *20 cakes in less than an hour*, obviously a non-constituent.

(25) Abbott (1976: 639)
Mary baked ___, and George frosted ___, 20 cakes in less than an hour.

Backward slending could then also be an instance of RNR, for example, in the sentence in (26), *kopekten korkuyor* 'dog.ABL fears' would then be the Right Node Raised part.

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[14] Right Node Raising typically receives a different analysis than gapping, see Citko (2017) for a detailed overview of the current approaches.

(26)   Turkish
        Cem   siyah   ~~kopekten~~   ~~korkuyor~~,
        Cem   black   dog.ABL   fears
        Can   ise   beyaz   kopekten   korkuyor
        Can   CTR   white   dog.ABL   fears
        'Cem fears a black dog, and Can, a white one.'

Therefore, the existence of backward slending is of weaker theoretical consequences. I stay agnostic as to whether backward and forward slending have the same derivation, and only focus on forward slending, which is definitely not reducible to Right Node Raising. This suffices for my theoretical purposes[15].

3.4 Interim conclusion

To summarize the properties of slending discussed in this section, it occurs in coordinations, and deletes the verb and a part of a DP or PP adjacent to the verb. The deleted part of the DP or PP need not be a subconstituent. Given that ellipsis is standardly assumed to target constituents, the apparent failure of slending to do so begs explanation.

4. Analysis

In this section, I lay out my analysis of slending. I propose that slending is a result of gapping, which is licensed in narrow syntax, followed by PF deletion of some material adjacent to the ellipsis site.

My proposal extends the analysis of An's (2016) initially developed for of case drop at the edge of fragment answers and extended to several other phenomena in An (2019), modulo differences in licensing conditions between the phenomena. The logic of presentation is as follows. In this section, I will lay out the proposal and show that it derives the properties of slending described in Section 2.3 above. To argue in favor of this specific analysis, I will show in Section 5 that possible alternative analyses fail to predict the observed properties of slending.

The key ingredients of the proposal concern the timing of deletion, and the manner in which deletion proceeds. As for the timing of deletion, I propose to locate deletion after linearization of the structure and vocabulary insertion of the exponents. As for the manner in which deletion proceeds, I propose that it removes a contiguous string that includes the linearization of the vP marked for deletion under gapping. Crucially, deletion may also reach into material linearly adjacent to the gapping site, without any restrictions on constituency. Such deletion of extra material was called EXTRA DELETION by An (2016).

In Section 4.1, I introduce a Move-and-Delete analysis of gapping that I adopt in my analysis. In Section 4.2, I propose a stage-by-stage derivation of slending, and in Section 4.3, show that this proposal indeed derives the properties of slending discussed in Section 3.

4.1 Move and delete analysis of gapping

In this subsection, I present an analysis of gapping that derives it by movement of remnants out of an appropriate XP with subsequent deletion of this XP.

I concur with much of the literature in that ellipsis is licensed in the narrow syntax by a dedicated E-feature, see e.g. Merchant (2001); Aelbrecht (2010), and the ensuing literature. The E-feature instructs the computational system to not pronounce a certain constituent provided some semantic identity conditions are met. After the merger of an E-feature derivation proceeds essentially in the same manner as if the E-feature were absent. At an appropriate stage of PF

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[15] For a discussion of the relationship between RNR and extra deletion in Korean, see An (2019). Under the assumption that RNR in Korean is derived by string deletion, he argues that in this language, extra deletion of case markers may accompany RNR.

derivation, however, deletion in the proper sense occurs – that is, the expected phonological content of the ellipsis site remains silent, whatever the precise mechanism of this operation. My proposal specifies the moment when deletion happens, and some properties of this operation.

To apply this kind of approach to gapping, a number of accounts[16], including Jayaseelan (1990); Lasnik (1999); Coppock (2001); Lin (2002); Baltin (2003); Takahashi (2004), Vand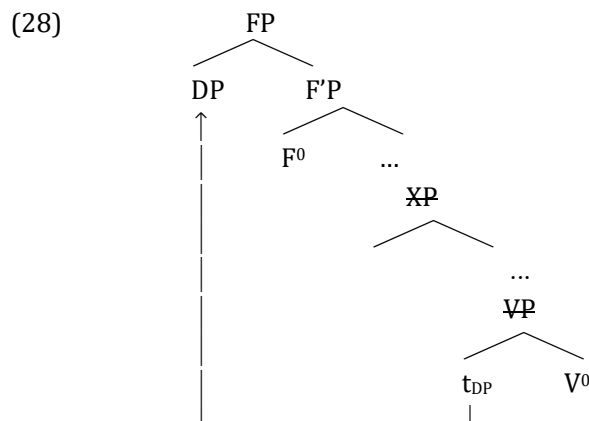en Wyngaerd (2007), İnce (2009), and Gengel (2013) assume that the material that survives gapping moves out of the constituent to be deleted, and then ellipsis proceeds, as schematically shown in (27). The nature of the evacuating movement varies across the proposals. The size of the deleted constituent may vary across languages. While for English it is typically assumed to be the VP or the vP, it can in principle be significantly larger. For instance, Ai (2014) proposes that in Mandarin Chinese, the entire IP gets deleted. Some of the accounts of this type, e.g. Aelbrecht (2007), Gengel (2013), and Farudi (2013), explicitly use the E-feature-based approach to ellipsis licensing.

(27)   Some will eat beans and [others rice [~~xP~~ ~~will~~ [~~vP~~ [~~VP~~ ~~eat t~~rice]]]
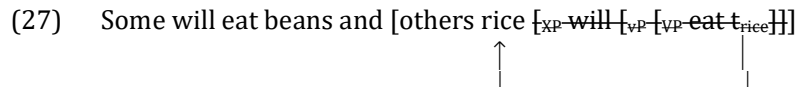
To create the remnant, the material that survives gapping moves out of the constituent to be deleted into the specifiers of some left peripheral projections, FP in (28). For the sake of simplicity, I only show the movement of one constituent. Given that all the languages under discussion countenance DP scrambling, movement of a DP out of a vP or a larger constituent is unproblematic. The remnant XP then undergoes deletion.

(28)

FP
├── DP
└── F'P
    ├── F⁰
    └── ...
        └── XP
            └── ...
                └── VP
                    ├── t_DP
                    └── V⁰

(DP moves to Spec,FP; XP and VP marked for deletion)

The precise size of the deleted XP is not important for my purposes. It is enough to take into account that minimally, it must be a vP. This follows from the fact that the antecedent and the gapping site match in voice in all known cases[17]. For Turkish, İnce (2009) argues that the deleted constituent is as large as a CP, with the remnants moving to the specifiers of ContrTopP and ContrFocP.

Analyses of this type do not specify at which stage of postsyntactic derivation deletion occurs. In principle, they are compatible with any implementation of PF deletion.

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[16] An influential alternative account of gapping in English has been proposed by Johnson (2009). Under his analysis, gapping is a result of across-the-board movement of an approximately vP-sized constituent. For arguments against applicability of this account to English, see Vicente (2010), for arguments against its applicability to a number of other languages (including Digor and Iron Ossetic), see Erschler (2018b) and references there.

[17] This follows from the assumptions that, first, the ellipsis site must match the antecedent in interpretable features, and, second, that the voice of a clause is determined on the level of the vP, see e.g. a discussion in Merchant (2013).

4.2 Derivation of slending

Now, I propose the following derivation of slending. At Step 1, gapping is licensed in syntax, as was described in Section 4.1. At Step 2, Vocabulary Insertion and linearization proceed. Their relative order is immaterial for my purposes, and cannot be established on the basis of the data addressed in this paper. At Step 3, deletion proceeds[18]. It targets the linearization of the constituent whose deletion was licensed at step 1, but may include a contiguous part of the adjacent string. What part of the adjacent string can be deleted is subject to some constraints, which are not fully clear at present.

In (29), this is illustrated for the case when the head noun of an adjacent xNP is deleted, examples of which we have seen in (13). The scheme is given in (29a), whereas the Turkish sentence in (29b) ((13e) repeated) gives a specific example. To repeat, the XP that is deleted under gapping is at least of the size of vP. Its precise size does not affect the reasoning.

(29) a. [$_{DP}$ ... Adj   ~~N^0-CASE~~   ~~[$_{XP}$ ... V]~~
                        Extra deletion   Gapping

      b. Turkish
          Cem   siyah kopekten   korkuyor,
          Cem   black dog.ABL   fears
          Can   ise   [beyaz ~~kopekten]~~   ~~korkuyor~~
          Can   CTR   white dog.ABL   fears
          'Cem fears a black dog, and Can, a white one.'

To illustrate the workings of the proposal, let us consider the derivation of (29b) in more detail. At the 1ST STEP, gapping is licensed in the second conjunct (30). The xNP *beyaz kopek-ten* white dog-ABL is evacuated from the XP marked for deletion. For the sake of concreteness, I assume that the E-feature that licenses gapping is hosted by the conjunction head &^{0}. It agrees with XP and licenses its deletion (Aelbrecht 2010; Erschler 2018b). I stay agnostic as to the syntactic status of the contrast marker *ise*. Following Ince (2009), I assume that the DP 'white dog' moves into Spec ContrTopP.

(30)   &P
                          ┌────────┴────────┐
                      &^{0}[E]   ...
                                        ContrTopP
                                    ┌───────┴───────┐
                                xNP[+Abl]   ...
                                  ┌─┴─┐   XP
                              white dog   ┌──┴──┐
                                  ↑   fears t$_{white\ dog}$
                                  └──────────────────┘

At the 2ND STEP, the structure is linearized and Vocabulary Insertion occurs (31). The linearization of the XP marked for deletion under gapping only contains the verb *korkuyor* 'fears'. The xNP 'white dog-ABL', which has moved out of the XP marked for deletion, is linearly adjacent to the verb. To repeat, the relative order of linearization and Vocabulary Insertion cannot be established on the basis of data under discussion. However, the fact that the ablative marker on the remaining

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[18] The phenomena under discussion do not provide evidence necessary to order deletion with respect to other DM operations, for instance, phonological readjustments. More research is needed to establish the relative order of deletion and of parsing into prosodic constituents.

fragment of the xNP does not surface after deletion means that Vocabulary Insertion must precede deletion.

(31)   …   [beyaz kopek-ten]   [ₓₚ korkuyor]
             white   dog.ABL   fears
                                    marked for deletion in syntax

At the 3RD STEP, the string containing the linearization of the XP and a part of the adjacent xNP is deleted (32).

(32)   Can   ise   [beyaz ~~kopekten]~~   [ₓₚ   ~~korkuyor]~~
        Can   CTR   white   dog.ABL   fears
        '… Can (fears) a white (dog).'

       The only clear constraint on the variety of extra deletion discussed here is that it cannot reach inside words. If it could, we would expect it to be able to only delete the morphological marker on the right edge of the remnant DP, e.g. the locative case marker in the sentences[19] in (33). In this respect, slending is different from extra deletion in Korean fragment answers and right-dislocated topics discussed by An (2016; 2019), where it is case markers that get extra deleted. The differences between Korean and the languages under discussion have to be left for further research.

(33)   a.   Iron Ossetic
              *ʃoʃlan ʃtər   goret-ə   sɐrə
              Soslan   big   city-LOC   lives
              alan=ta   gətstsəl qɐw-ə   ~~sɐrə~~
              Alan=CTR   small   village-LOC   lives
              'Soslan lives in a big city, and Alan, in a small village.' (intended)

        d.   Eastern Armenian
              *vahan=ə   mets   tən-um=e   apɾum,
              Vahan=DEF   big   house-LOC=AUX.3SG   live.NMLZ
              isk   aɾa=n   pʰokʰəɾ   bənakʰaɾan-~~um=e~~   ~~apɾum~~
              CTR   Ara=def   small   apartment-LOC=AUX.3SG   live.NMLZ
              'Vahan lives in a big house, and Ara, in a small apartment.' (intended)

        c.   Turkish
              *Cem   büyük ev-de   yaşıyor
              Cem   big   house-LOC   is.living
              Can   ise   küçük daire-~~de~~   ~~yaşıyor~~
              Can   CTR   small apartment-LOC is.living
              'Cem lives in a big house, and Can in a small apartment.' (intended)

4.3 Deriving the properties of slending

Let us see how the current proposal derives the properties of slending described in Section 3.
       First, the fact illustrated in (22) that slending may only target one DP automatically follows from the requirement that deletion operates on contiguous strings (34).

(34)   *[ₓₙₚ … Adj ~~N⁰-CASE]~~   [ₓₙₚ … Adj   ~~N⁰-CASE]~~   ~~[ₓₚ … V]~~

---

[19] In all the three sentences, the head nouns differ between the antecedent and the ellipsis site, to make them fully contrastive. Otherwise, the degradedness could have resulted from retention of non-contrasting material in the ellipsis site.

| | Extra deletion | Extra deletion | Gapping |

The fact that the morphological marking that normally appears on the right edge of the constituent disappears under slending (see (13) for case marking, and (18) for number marking) follows from the assumption that deletion occurs after Vocabulary Insertion. As no xNP-internal concord exists in Ossetic, Turkish, and Armenian, the remnant cannot receive the relevant morphological marking after the case or number exponent is inserted as a suffix to N^0.

Furthermore, if any substring of the linearized constituent can be deleted, we derive the facts shown in (20) and (21) above about postposition phrases (35a) and about xNPs with possessors (35b).

(35) a. [PP [xNP Adj N⁰-CASE]———— P⁰]————————————[xP ... V]
          Extra deletion   Gapping

      b. [xNP ... Adj   N⁰-CASE]———— N⁰-CASE]—————————[xP ... V]
                          Possessor   Possessum
                            Extra deletion   Gapping

4.4 An extra prediction: Slending with prepositional phrases

Additionally, this analysis makes a prediction concerning prepositional phrases. If extra deletion can reach into any type of constituent, we would expect it to be able to target preposition complements. This prediction is borne out. Out of the languages under discussion, prepositions are robustly present in Armenian, Dum-Tragut (2009). Some of the prepositions obligatorily assign a non-nominative case to their complements. This allows us to tell apart slending (which leaves behind a case-unmarked fragment) from gapping with a nominative-marked[20] independently generated xNP fragment.

Now, slending is possible into preposition complements in Armenian, as is illustrated in (36a) for the complement of the preposition *arantsʰ* 'without', which assigns the dative to its complement. As is expected under our analysis, the adjective *kɑrtser* 'youngest' surfaces without the case marker. The sentence in (36b) makes the same point for the preposition *i=dems* 'in front of'.

(36) a. vahan-ə   <jekav>   arantsʰ   avag   voɾdu   <jekav>
          Vahan-DEF   arrived   without   eldest   son.DAT   arrived
          isk   aɾa-n   arantsʰ   kɑɾtseɾ   voɾdu   <jekav>
          CTR   Ara-DEF   without   youngest   son.DAT   arrived
          'Vahan arrived without his eldest son, and Ara without his youngest one.'

      b. vahan=ə   <kangaɾav>   i=dems   mets   tan
          Vahan=DEF   stopped   in.front.of   big   house.DAT
          <kangaɾav>
          stopped
          isk   Aɾa=n   i=dems   pʰokʰəɾ   tan
          CTR   Ara=DEF   in.front.of   small   house.DAT
          kangaɾav
          stopped
          'Vahan stopped in front of a big house, and Ara in front of a small one.'

The Armenian phenomenon cannot be replicated in the other languages of my sample: Turkish lacks prepositions altogether, see e.g. Kornfilt (1997), while Ossetic has only one preposition that

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[20] The nominative has null morphological marking in Armenian. For all the other morphological cases, that is not so.

takes DPs, *ɐnɐ* 'without', which can assign null case to all lexical nominals, Erschler (2018a), so slending is indistinguishable from gapping in this case.

(37) Digor Ossetic
  soslan ɐnɐ   ɐ=kɐstɐr   furt(-ɐj)   ɐrbatsudɐj
  Soslan without   3SG=younger   son-ABL   arrived
  mɐdinɐ=ba *(ɐnɐ)   ɐ=χɐstɐr(-ɐj)   ~~furt ɐj~~   ~~ɐrbatsudɐj~~
  Madina=CTR without 3SG=elder   son-ABL   arrived
  'Soslan arrived without his younger son, and Madina without her older son.' (intended)

To recapitulate the discussion of this section, the analysis based on extra deletion successfully derives the properties of slending. However, to make the main theoretical point of this paper, namely that deletion proceeds after linearization, we need to show that reasonable alternatives to the extra deletion analysis of slending do not work.

5. Possible alternative analyses

In this section, I sketch several logically possible alternative analyses of slending and show that they cannot go through. The key properties of slending that severely restrict the range of possible analyses are the following. First, slending deletes non-constituents (29), second, the deleted part of the XP that is reached into by slending is not necessarily a subconstituent of that XP (35). Third, the XP that is reached into by slending has to be immediately adjacent to the verb (34).

  For obvious reasons, every conceivable approach to ellipsis cannot be addressed here, and I focus here only on three. First, in Section 5.1 I discuss string deletion, conceptually the simplest way to account for non-constituent deletion. Second, in Section 5.2, I address what is possibly the most widespread approach to non-constituent deletion in the current literature, namely one that decomposes non-constituent deletion into a series of constituent deletions.

  We have seen in Section 3.3 that in some pretheoretical sense slending is dependent on gapping. In Section 5.3 I address dependent ellipsis analysis – an approach to situations of this type advanced in Ackema & Szendrői (2001), who build upon a rather idiosyncratic analysis of ellipsis in Williams (1997). Finally, in Section 5.4, I address in situ deletion analyses.

5.1 String deletion

The simplest way to account for non-constituent deletion would be to assume that we are dealing here with simple string deletion – some string is deleted at the PF. Admittedly, approaches that posit string deletion of this type are rare in the literature, however, they are not fully absent: Wilder (1997) and Hartmann (2000) proposed an analysis of this type for Right Node Raising, and Hofmeister (2010), for the ellipsis involved in formation of *either … or* constructions.

  However, in our case this analysis overpredicts. If any string could be deleted, we would expect that a part of an xNP could be deleted without deleting the verb[21]. In actuality, this is impossible. The sentence in (38a) is an attempt to delete the head noun *χɐzar-ə* house-LOC when the respective DP *qɐdən χɐzar-ə* wooden house-LOC that precedes the verb, and the sentence in (38b) is an attempt to do the same with a clause-final DP.

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[21] This is not to say that the aforecited papers predict this particular kind of deletion – they deal with entirely different phenomena.

(38) Iron Ossetic

    a.   *ʃoʃlan   asə   durən χɐzar-ə   sɐrə   mɐdinɐ=ta
        Soslan   this   stone   house-LOC   lives   Madina=CTR
        wəsə   qɐdən   ~~χɐzar-ə~~   sɐrə
        that   wooden   house-LOC   lives
        'Soslan lives in this stone house, and Madina lives in that
        wooden house.' (intended)

    b.   *...   mɐdinɐ=ta   sɐrə   wəsə   qɐdən   ~~χɐzar-ə~~
             Madina=CTR   lives   that   wooden   house-LOC
   '*Idem*' (intended)

One might argue that ungrammaticality of (38) results from the fact that the verbs are identical in both conjuncts, while all the remnants need to contrast for slending to be grammatical. However, if the verbs in the antecedent and the ellipsis site don't match, it is still impossible to delete the case-marked noun (39) without marking the adjective with the respective case.

(39)   a.   Iron Ossetic
        ʃoʃlan ʃaw   kʷɐz-ej   ɐppɐlə
        Soslan black dog-ABL   praises
        alan=ta   urʃ*(-ej/kʷəz-ej)   tɐrʃə
        Alan=CTR   white(-ABL/dog-ABL) fears
        'Soslan praises the black dog, and Alan fears the white one.'

    b.   Turkish
        Cem   siyah *(köpek-ten) korkuyor   Can   da
        Cem   black dog-ABL   is.fearing   Can   &
        beyaz*(-dan/köpek-ten)   nefret ediyor
        white(-ABL/   dog-ABL)   hate   is.doing
        'Cem fears a black dog, and Can hates a white dog.'

Accordingly, simple string-based deletion cannot derive the properties of slending.

5.2 Slending as a series of constituent deletions

A standard way to account for apparent non-constituent deletion is to assume that what happens is a series of constituent deletions, each of which may be preceded by movement of the remnants out of a constituent to be deleted, see a.o. Kennedy & Merchant (2000) and Sailor & Thoms (2014).

(40)

```
            YP
          /    \
        WP      …
        ↑      XP
        |     /  \
        |   X⁰    ZP
        |       /  \
        |_____ tWP
```
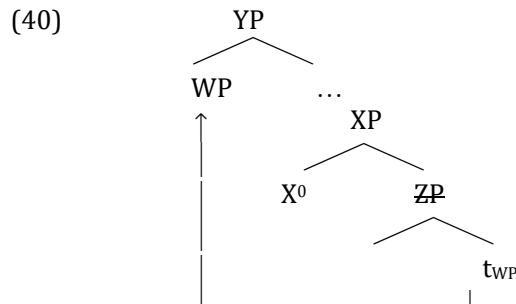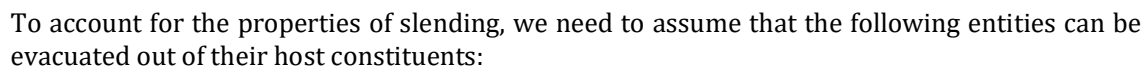
A natural way to decompose slending is into verb deletion (gapping) and some kind of deletion within the DP/PP. To account for deletion within the DP/PP, two logical possibilities exist: either some material is evacuated from the XP, after which the XP is deleted, or some subconstituent(s) are deleted within the XP.

Before we consider each of these options in more detail, let us address the difficulties faced by any of them. Specifically, first, it is unclear how to make deletion in a DP or PP conditional on gapping. Indeed, as we have seen in (38) and (39), it is impossible to delete a case-marked N^0 without deleting the verb.

Another challenge faced by any such account is to explain why such a deletion can only occur in the DP or PP immediately adjacent to the ellipsis site (41).

(41) a. *[DP ... Adj ~~N⁰-CASE~~]   [DP ... Adj   N⁰-CASE]   ~~[XP ... V]~~
          extra ellipsis   gapping

    b.   Turkish

*Ali	siyah	kedi-yi	büyük	oğlu-n-a	verdi,
Ali	black	cat-ACC	big	son-3SG-DAT	gave
Ayşe	ise	[beyaz ~~kediyi~~]	[küçük kızına]		~~verdi~~
Ayshe	CTR	white cat-ACC	small daughter-3SG-DAT		gave

       'Ali gave the black cat to the elder son, and Ayshe (gave) the white (cat) to the younger daughter.' (intended)

    c.   *[DP ... Adj ~~N⁰-CASE~~]   [DP ... Adj   ~~N⁰-CASE~~]   ~~[XP ... V]~~
           extra ellipsis   extra ellipsis   gapping
       Turkish

    d.

*Ali	siyah	kedi-yi	büyük	oğlu-n-a	verdi,
Ali	black	cat-ACC	big	son-3SG-DAT	gave
Ayşe	ise	[beyaz ~~kediyi~~]	[küçük ~~oğluna~~]		~~verdi~~
Ayshe	CTR	white cat-ACC	small son-3SG-DAT		gave

       'Ali gave the black cat to the elder son, and Ayshe (gave) the white (cat) to the younger (son).' (intended)

    e.   Armenian

*vahan=ə	jekav	spitak	~~dzi-ov~~	pʰokʰər	gjuʁ-itsʰ
Vahan=DEF	arrived	white	horse-INS	small	village-ABL
isk	Aɾa=n	sev	~~dzi-ov~~	mec	~~gjuʁ-itsʰ~~	~~jekav~~
CTR	Ara=DEF	black	horse-INS	big	village-ABL	arrived

       'Vahan arrived on a white horse from a small village, and Ara (arrived) on a white one from a big one.' (intended)

Although it is unclear how to achieve this end in a non-stipulative manner, assume for the sake of the argument that it can be done somehow. As we will see in the next two sections, constituent-deletion analyses will still overpredict.

5.2.1 Move and delete

Assume that a remnant Z of the verb-adjacent YP is extracted from it[22], after which the YP is deleted by gapping (42).

(42)   Z   [XP ~~[YP   tZ   ]~~   ~~V]~~

To account for the properties of slending, we need to assume that the following entities can be evacuated out of their host constituents:
- adjective(s) out of a DP, to account for sentences such as in (43);

_____

[22] We cannot assume that YP gets evacuated from XP prior to the extraction of Z, for the reasons of freezing, see Corver (2017) and references there.

(43)   Turkish
         Cem   siyah kopek-ten   korkuyor,
         Cem   black dog-ABL   fears
         Can   ise   [beyaz ~~kopek-ten]~~   ~~korkuyor~~
         Can   CTR   white dog-ABL   fears
         'Cem fears a black dog, and Can, a white one.'

- adjective(s) out of a possessor of a DP, to account for sentences such as in (44);

(44)   Armenian
         Vahan=ə   jekav [_DP_[_DP_ mets   təʁa-ji]   tun],
         Vahan=DEF arrived   big   son-GEN   house
         isk   Ara=n   [_DP_ [_DP_ pokəɾ   ~~təʁa-ji]~~   ~~tun]~~   ~~jekav~~
         CTR   Ara=DEF   small son-GEN   house arrived
         'Vahan arrived in the elder son's house, and Ara in the younger one's.'

- adjective(s) out of the complement DP of a postposition, to account for sentences such as in (45).

(45)   Digor
         soslan [_PP_[_DP_ɐrigon   ʃilgojmag-i]   χetstsɐ] dzoruj
         Soslan   young woman-GEN   with   talks
         mɐdinɐ=ba   [_PP_[_DP_ zerond ~~ʃilgojmag-i]~~   ~~χetstsɐ] dzoruj~~
         Madina=CTR   old   woman-GEN   with   talks
         'Soslan is talking with a young woman, and Madina, with an old (one).'

None of these extractions are attested in the languages under discussion in the absence of ellipsis. For Turkish, see Bošković & Şener (2014). The sentences in (46a-b) illustrate that extraction out of the DP is impossible in Armenian. The sentences without split DPs in (46c-d) provide the baseline.

(46)   Eastern Armenian
    a.   *sev(-itsʰ)=em   vaxenum   ʃən-itsʰ
         black-ABL=AUX.1SG   fear.PRTC   dog-ABL
         'I fear a/the black dog.' (intended)

    b.   *Vahan-i=em   vaxenum   ʃən-itsʰ
         Vahan-GEN=AUX.1SG   fear.PRTC   dog-ABL
         'I fear Vahan's dog.' (intended)

    c.   sev   ʃən-itsʰ=em   vaxenum
         black dog-ABL=AUX.1SG   fear.PRTC
         'I fear a/the black dog.'

    d.   vahan-i   ʃən-itsʰ=em   vaxenum
         Vahan-GEN   dog-ABL=AUX.1SG   fear.PRTC
         'I fear Vahan's dog.'

Likewise, extraction out of a DP is impossible in Ossetic (47 a-b) even when the DP is not embedded in a PP. The grammatical sentences in (47 c-d) provide the baseline.

(47)   Ossetic
    a.   *ʃaw(-ɐj)   tɐrʃən kʷəz-ɐj

22

	black-ABL	I.fear	dog-ABL

'I fear a black dog.' (intended)

b. *ʃoʃlan-ə   tɐrʃən k^wəz-ɐj

Soslan-gen   I.fear   dog-ABL

'I fear Soslan's dog.' (intended)

c. <tɐrʃən>   ʃaw   k^wəz-ɐj   <tɐrʃən>

I.fear   black   dog-ABL   I.fear

'I fear a black dog.'

d. <tɐrʃən>   ʃoʃlan-ə   k^wəz-ɐj   <tɐrʃən>

I.fear   Soslan-GEN   dog-ABL   I.fear

'I fear Soslan's dog.'

It is not even possible in Ossetic to move an adjective past a possessor in a DP, as the contrast between (48a) and (48b) shows.

(48)   Iron Ossetic

a. ʃoʃlan-ə   ʃaw   k^wəz-ɐj   tɐrʃən

Soslan-GEN   black   dog-ABL   I.fear

'I fear the black dog of Soslan's.'

b. *ʃaw   ʃoʃlan-ə   k^wəz-ɐj   tɐrʃən

black   Soslan-GEN   dog-ABL   I.fear

'I fear the black dog of Soslan's.' (intended)

However, ellipsis analyses often do recur to kinds of movement that are illicit without ellipsis, see e.g. Kennedy & Merchant (2000) and Arregi (2010). Again, for the sake of the argument, assume that these types of movement are possible under ellipsis.

     Slending can strand more than a single adjective (49), and given that a string of adjectives cannot form a subconstituent of a DP (or of xNP), we necessarily conclude that several extractions must be possible from a single DP.

(49)   Iron Ossetic

a. mɐdinɐ   gətstsəl qɐdən   χɐzar-ə   sɐrə

Madina   small   wooden   house-LOC   lives

ʃoʃlan=ta   ʃtər   ag^wəridur   ~~χɐzar-ə~~   ~~sɐrə~~

Soslan=CTR   big   brick   house-LOC   lives

'Madina (lives) in a small wooden (house), and Soslan lives in a big brick house.'

b. mɐdinɐ   ʒɐrond burχil ʃəlgojmag-imɐ   zurə

Madina   old   blonde woman-COM   talks

ʃoʃlan=ta   ɐrəgon ʃawuχil   ~~ʃəlgojmag-imɐ~~   ~~zurə~~

Soslan=CTR   young black-haired   woman-COM   talks

'Madina (talks with) an old blonde (woman), and Soslan talks with a young black-haired woman.'

However, then it is unclear what could prevent other combinations of these movements, for instance, extraction of adjectives out of a possessor and its possessum. In actuality, the resulting sentences are ungrammatical, as illustrated by the Eastern Armenian sentence in (50), where deletion of the heads *katv-i* cat-GEN and *tən-its^h* house-ABL is attempted in the possessor and the possessum within the same DP.

(50) Eastern Armenian
    *muk=ə   \<pʰaxt͡ʃʰetsʰ>   [$_{DP}$[$_{DP}$ spitak   katv-i]   mets   tən-itsʰ]
    mouse=DEF   fled   white   cat-GEN big   house-ABL
    \<pʰaxt͡ʃʰetsʰ>,
    fled
    isk   hamsteɾ=ə   [$_{DP}$[$_{DP}$ sev   ~~katv-i~~]   pʰokʰəɾ   ~~tən-itsʰ~~]
    CTR   hamster=DEF   black   cat-GEN small   house-ABL
    ~~\<pʰaxt͡ʃʰetsʰ>~~
    fled
    'The mouse fled from the white cat's big house
    and the hamster, from the black cat's small house.'

Furthermore, even if we assume that such types of movement are possible under ellipsis, we still need to explain the case-marking facts. As we have seen, the remnants under slending do not bear the expected case marking, while in known cases of (possible) extraction out of a DP, extracted adjectives typically bear the case of their initial host. Note that, under gapping, it is impossible to delete a case marker without deleting the head noun it is attached to. In (51), an attempt is made to delete the superessive suffix –*(j)əl* from the remnant *fetime* 'Fatima' in the gapped clause.

(51) Iron Ossetic
    [alan   \<ʃembɐlə>   mɐdinɐ-jəl   \<ʃembɐlə>]   [χetag=ta   fɐtimɐ-*(jəl)]
    Alan   meets   Madina-SUP   Khetag=CTR   Fatima-SUP
    'Alan is seeing Madina, and Khetag, Fatima.'

Accordingly, an analysis that assumes that slending is achieved by combination of gapping and movement out of the adjacent XP, followed by deletion of this XP, cannot be implemented.

5.2.2 DP or PP internal deletion

As an alternative to evacuation of remnants, we could assume that slending is a result of independent (syntactically licensed) ellipsis within the DP or PP (which I will denote by YP below). In that case, to derive slending we would need to posit the following steps of derivation. **Step 1.** Gapping and ellipsis in YP is licensed.

(52)   … [$_{XP}$ … [YP] V]
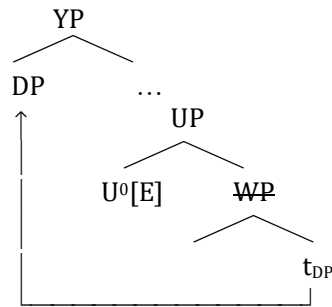
Step 2. YP evacuates from XP.

(53)   YP   [$_{XP}$… t$_{YP}$ V]

Step 3. Ellipsis occurs.

(54)   [$_{YP}$ Z ~~WP~~]   ~~[$_{XP}$… t$_{YP}$ V]~~

Under standard assumptions about constituent ellipsis, what is deleted must be the complement of some head, as is schematized in (55). The material denoted by Z in (54) corresponds to DP and U^0 in (55). The head U^0 carries the licensing E-feature, which triggers deletion of the complement WP. The remnant, which for the sake of illustration is a DP, moves into the specifier of a higher projection.
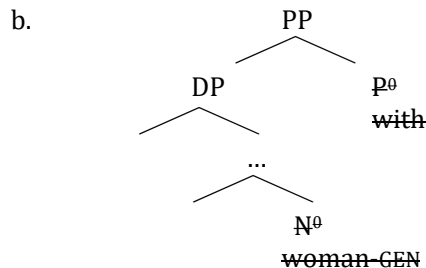
(55)

```
                    YP
                 ╱      ╲
              DP          …
              ↑             UP
              │          ╱      ╲
              │      U⁰[E]      W̶P̶
              │              ╱      ╲
              │                      t_DP
              └──────────────────┘
```
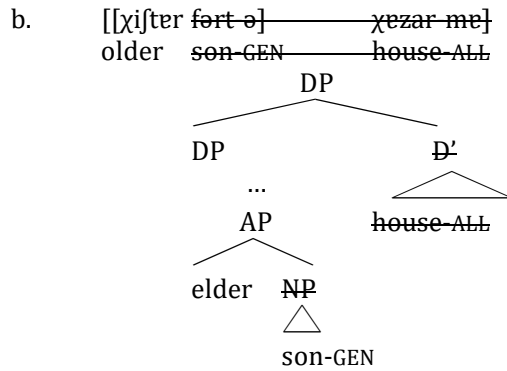
Given that what is deleted must be a subconstituent, this account will not be able to explain the facts about possessors and PPs. Neither P^0 and N^0 of its complement, nor N^0 of the possessum together with N^0 of the possessor are complements of any head. For prepositions, this is illustrated in (56). The entire sentence is given in (56a) (which is (20b) repeated), while (56b) shows the deletion that must occur within the PP.

(56) a. Digor Ossetic
          soslan ɐrigon ʃilgojmag-i   χetstsɐ dzoruj
          Soslan young   woman-GEN   with   talks
          mɐdinɐ=ba   zɐrond ~~ʃilgojmag i~~   ~~χetstsɐ dzoruj~~
          Madina=CTR old   woman-GEN   with   talks
          'Soslan is talking with a young woman, and Madina, with an old (one).'

      b.
```
                    PP
                 ╱      ╲
              DP          P̶⁰̶
           ╱      ╲        w̶i̶t̶h̶
         …
      ╱      ╲
              N̶⁰̶
          w̶o̶m̶a̶n̶-̶G̶E̶N̶
```
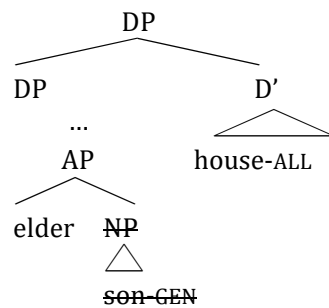
To account for slending into DPs with possessors, (21a) repeated as (57a), we could proceed along the lines of (57b). We can decompose the deletion of the possessum and of the head of the possessor into two separate steps, each of which only deletes a constituent.

(57) a. Iron Ossetic
          ʃoʃlan kɐʃtɐr   fɐrt-ə   χezar-mɐ   ɐrbasədi
          Soslan younger   son-GEN   house-ALL   arrived
          mɐdinɐ=ta   [[χiʃter ~~fɐrt-ə]~~   ~~χezar-mɐ]~~   ~~ɐrbasədi~~
          Madina=CTR older   ~~son-GEN~~   ~~house-ALL~~   ~~arrived~~
          'Soslan came to the younger son's house and Madina, to the older one's.'

b.   [[χiʃtɛr <s>fɔrt ə]</s>   <s>χɛzar mɛ]</s>
       older   <s>son-GEN</s>   <s>house-ALL</s>

```
                        DP
              ┌──────────┴──────────┐
            DP                      D'
             │                  ┌───┴───┐
            ...              △
            AP              house-ALL
         ┌───┴───┐
       elder    NP
                △
              son-GEN
```

However, if we were able to separately delete the head of the possessor (without copying the case morphology to the adjective), we would expect this to be possible without deleting the possessum too. Thus, we would expect (58) to be grammatical, which is not the case.

(58)   b.   [[χiʃtɛr <s>fɔrt ə]</s>   χɛzar-mɛ]
                older   <s>son GEN</s>   house-ALL
                *'to the elder son's house[23]' (intended)

```
                      DP
            ┌──────────┴──────────┐
          DP                      D'
           │                 ┌────┴────┐
          ...             △
          AP             house-ALL
       ┌───┴───┐
     elder    NP
              △
            son-GEN
```

To recapitulate, DP-internal subconstituent deletion cannot account for slending.

5.3 Dependent ellipsis

An alternative approach to ellipsis licensing was advanced in Williams (1997) and Ackema & Szendrői (2001). They proposed that (some varieties of) ellipsis under coordination involve dedicated null heads anaphoric to the antecedent, and furthermore, the appearance of a null head of constituent, say, of a null V^0, licenses the appearance of a null head in the complement of this constituent.

      An immediate prediction is that only constituents on the main spine can be targeted. This is not borne out: as we have seen, the head of a possessor can be deleted alongside with the possessum (21), that is, slending can reach into specifiers. Furthermore, adjuncts can be targeted as well, as the sentences with post- and prepositional phrases show, (20) and (36).

      Assume, for the sake of the argument, that the analysis of Williams (1997) and Ackema & Szendrői (2001) can be modified to account for dependent ellipsis in adjuncts and specifiers. For instance, we can posit that the specifier and adjuncts of an XP with a null head may have a null head.

      However, an additional problem will persist. In their system, a non-null head may not occur between two null ones: it will interrupt the licensing. This is contrary to what we observe in the case of Armenian prepositions (36). In the latter case, slending deletes the verb and the

---

[23] Irrelevantly for us, this phrase is grammatical under the (nonsensical) reading 'to the elder house'.

head noun of the NP embedded in the PP, but not the preposition. Accordingly, the proposal of Williams (1997) and Ackema & Szendrői (2001) cannot derive our facts.

5.4 *In Situ* Deletion Proposals

Currently, a number of proposals have been advanced where the remnant(s) are assumed to not undergo movement, see e.g. Kimura (2010), Abe (2015; 2016) and Ott & Struckmeier (2018). Such proposals[24], no matter what role syntactic constituency plays in their implementation, must countenance deletion of non-contiguous material, as illustrated in (59). What survives deletion is F-marked material and, as Ott & Struckmeier (2018) argue, possibly some other material that does not participate in the calculation of the truth value of the ellipsis site. In their specific case, it is modal particles in German.

In the Japanese fragment answer in (59a), the remnant *zibun-no gakkoo-kara* self-GEN school-from 'from self's school' is flanked on both sides by the material that must undergo deletion. Likewise, in the German fragment question in (59b), the modal particle *denn* separates two strings to be deleted.

(59) a. Japanese, Abe (2016: 236, 238)
A: dono   senseii-mo   [dono gakkoo-kara   okane-o   nusunda]
every teacher   which school-from   money-ACC   stole
doroboo-o   tukamaeta   no   desu   ka?
thief-ACC   caught   COMP   be   Q
Lit. 'Every teacher$_i$ caught a thief that stole money from which school?'
B: [$_{TopP}$ sore-wa [$_{FP}$ [$_{CP}$ ~~dono   sensei-mo~~   [[zibun-no
it-TOP   every   teacher   self-GEN
gakkoo-kara]$_F$ ~~okane-o   nusunda]   doroboo-o~~
school-from   money-ACC   stole   thief-acc
~~tukamaeta   no~~]   desu]]
caught   COMP   is
'(It) is from self$_i$'s school.'
= 'Every teacher$_i$ caught a thief that stole money from self$_i$'s school.'

b. German, Ott & Struckmeier (2018: 397, 403)
A: Peter invited a couple of people.
B: Wen$_F$ ~~hat   Peter~~ denn   ~~eingeladen~~?
who   has   Peter   MP   invited
'Who?'

A discussion of the facts that motivate the proposals of Abe's and of Ott & Struckmeier's is entirely beyond the scope of this paper. However, under this type of proposal, it is unclear how an analysis that countenances non-contiguous string deletion would rule out sentences such as the ones in (60) or (50), repeated here as (61).

---

[24] Bruening (2015) advanced a proposal according to which ellipsis targets either syntactic or prosodic constituents. Similarly to the proposals addressed here, remnants are assumed to not undergo movement. Given that slending demonstrably targets syntactic non-constituents, under Bruening's approach, the deleted material must form a prosodic constituent. The prosodic structure of the languages under discussion is not studied well enough to evaluate his proposal in the context of the phenomena addressed here, nor, admittedly, is the proposal itself worked out in sufficient detail.

(61) a. Turkish
*Ali   siyah   kedi-yi   büyük oğlu-n-a   verdi,
Ali   black   cat-ACC   big   son-3SG-DAT   gave
Ayşe   ise   [beyaz ~~kediyi~~]   [küçük kızına]   ~~verdi~~
Ayshe   CTR   white cat-ACC   small daughter-3SG-DAT   gave
'Ali gave the black cat to the elder son, and Ayshe (gave) the white (cat)
to the younger daughter.' (intended)

b. Eastern Armenian
*muk=ə   <pʰaxtʃʰetsʰ>   [DP[DP   spitak katv-i] mets   tən-itsʰ]
mouse=DEF   fled   white   cat-GEN big   house-ABL
<pʰaxtʃʰetsʰ>,
fled
isk   hamsteɾ=ə   [DP[DP   sev   ~~katv-i~~] pʰokʰəɾ   ~~tən-itsʰ~~]
CTR   hamster=DEF   black   cat-GEN small   house-ABL
~~pʰaxtʃʰetsʰ~~
fled
'The mouse fled from the white cat's big house
and the hamster, from the black cat's small house.'

Accordingly, in situ approaches to ellipsis are unable to account for slending.

To recapitulate the discussion of the last two sections, alternative proposals fail to derive the properties of slending, while the extra deletion analysis successfully does so. Consequently, extra deletion appears to be the most plausible analysis of slending at present.

6. Final remarks: Slending in other languages and other (putative) instances of extra deletion

It is natural to ask, first, whether slending occurs in a wider variety of languages, and, second, whether extra deletion occurs with other ellipsis varieties. While the second question has been addressed at some length in An (2019), I deal with the first question in Section 6.1. Specifically, I show that slending is attested in a number of head-final languages without overt concord in the DP.

6.1 Slending in other languages

For slending to be possible and observable in a given language, two conditions are necessary: first, the language must be head-final, and second, the morphological concord in the DP must different from the marking on regular fragments. Head-finalness is necessary for the verb and the head of the targeted DP to be adjacent, whereas the difference between concord and regular case/number marking is necessary to distinguish between remnants under slending, in which morphological marking is impoverished, and regular DP fragments, in which it is not.

In the Ossetic, Armenian, and Turkish examples with have seen so far, no overt morphological concord obtains. At present, I have data for two head-final languages with impoverished, but non-null concord in the DP, namely Georgian[25] (South Caucasian) and Avar[26] (Northeast Caucasian). Neither of them allows slending.

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[25] Georgian exhibits impoverished case agreement in the DP (i).

(i)   did-i   tsʼitel-i   pankr-eb-it
        big-NOM red-NOM pencil-PL-INS
        'with big red pencils'

[26] In Avar, some adjectives exhibit prefixal gender concord with the head noun. No case or number concord exists in this language, Rudnev (2015).

On the other hand, slending, at least in its simplest form, has been found in a few head final languages without overt concord in the DP, such as Lezgian (Northeast Caucasian) (62a), Standard Uzbek (Karluk; Turkic) (62b), and Tyvan (Northeastern Turkic) (62c). The available sample, however, is too small to draw any conclusions about a correlation between slending and nominal concord.

(62) a. Yargun Lezgian

ali	t͡ʃʼexi	kʼvala	jaʃamiʃ	d͡ʒezva,	amma	Musa	ʁot͡ʃt͡ʃi
Ali	big	house.LOC	living	does	but	Musa	small

~~jaʃamiʃ~~	~~d͡ʒezva~~
living	does

'Ali lives in a big house, but Musa, in a small one.'

b. Standard Uzbek

Lolæ	qɨzɨl	divan-dæ	ötɨrɨbdɨ,
Lola	red	sofa-LOC	sat

Madina(esæ)	jæʃil	~~ötiribdi~~
Madina(CTR)	green	sat

'Lola was sitting on a red sofa, and Madina, on a green one.'

c. Tyvan

men	ulug	baʒən-da	t͡ʃurttaptur-men	a	vasja	bit͡ʃi:
I	big	house-LOC	living	AUX-PRS.1SG	&	Vasya	small

~~baʒən-da~~	~~t͡ʃurttaptur~~	
house-LOC	living	AUX.PRS.3SG

'I live in a big house, and Vasya, in a small one.'

It remains to be seen whether the analysis developed in this paper is applicable to these languages as well. For Uzbek at least, this might not be the case: even the speakers who accept sentences of the type shown in (62b), reject slending in DPs with a possessor (63). For this sentence to become grammatical, the case (and possessive) morphology needs to be reconstructed on the final adjective.

(63) Standard Uzbek

lolæ	qɨzɨl	mato-nɨŋ	ɛn-ɨ-nɨ	ölt͡ʃædɨ
Lola	red	cloth-GEN	width-DEF-ACC	measured

madinaesæ	jæʃil*(-i-ni-ŋ/-i-nɨ)	~~ölt͡ʃædɨ~~
Madina(CTR)	green-DEF-3SG-GEN/-DEF-ACC	measured

'Lola measured the width of the red cloth, and Madina, of the green one.'

I am leaving this issue for further research.

7. Conclusion

In this paper, I described and analyzed a previously unknown ellipsis variety, slending. My analysis applies the general idea of An (2016; 2019) and treats slending as an instance of extra deletion – regular gapping spreads into the constituent adjacent to the verb. Furthermore, I have shown that more standard approaches to ellipsis, those that analyze it as constituent deletion (or a series of such), fail to derive the properties of slending.

Given the adjacency requirement, extra deletion is only possible if deletion occurs after linearization. Accordingly, my analysis of slending provides novel evidence in favor of locating deletion after linearization. This conclusion is compatible with a wide class of theoretical assumptions, because linearization is a stage that is necessary in any implementation of broadly generative assumptions about grammar.

Furthermore, the absence of morphological marking on the rightmost remnant under slending has implications under more specific assumptions of Distributed Morphology. Namely, deletion must take place after linearization and vocabulary insertion of case markers, whatever the relative order of the two operations.

At present, in the present paper and in An (2016; 2019), extra deletion has been shown to exist in connection with several specific ellipsis varieties. Accordingly, the conclusion about the timing is now only substantiated for the respective ellipsis varieties. It remains an open question whether other types of ellipsis all occur after linearization. Another major open question concerns the role of prosody in the licensing of extra deletion.

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