Chapter 7

A Romance perspective on gapping constructions*

Anne Abeillé,1 Gabriela Bîlbîie,1 and François Mouret2
1 CNRS-University of Paris-7 Diderot, France / 2 University of Rennes 2, France

Focusing on two Romance languages, French and Romanian, we provide a detailed analysis of gapping and present several empirical arguments for preferring a construction-based approach of gapping (with semantic reconstruction of ellipsis) over alternative accounts that rely on movement or deletion. We then study parallelism constraints and show that syntactic parallelism is less strict than what is usually assumed, while discourse parallelism is clearly required. Syntax is not completely ignored though, as each remnant is required to match some subcategorization frame of the verbal predicate its correlate depends on. We show how those core properties can be accounted for within a construction-based framework relying on inheritance hierarchies of typed feature structures, such as HPSG in its more recent versions.

1. Introduction

Since Ross (1967), the phenomenon of verb gapping in clausal coordinate structures has received a lot of attention in languages such as English, German and Japanese. By contrast, it has by and large been overlooked in Romance. This

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chapter aims at providing a detailed analysis of gapping in two Romance languages: French (F) and Romanian (R).¹

(1) F  
Paul viendra lundi et Jean mardi.
Paul will come Monday and Jean Tuesday
‘Paul will come on Monday, and Jean will come on Tuesday.’

R  
Ion mănăncă mere, iar Maria pere.
Ion eats apples, and Maria pears
‘Ion eats apples and Maria eats pears.’

As the examples in (1) illustrate, gapping allows a sequence of “remnant” phrases to be interpreted as arguments or adjuncts within a saturated clause-type content recovered from some preceding conjoined sentence. As such, it falls under the general class of elliptical phenomena: some linguistic resources that are not given by pronounced words and phrases must be recovered from a source (Dalrymple et al., 1991). Three kinds of analyses have been explored to account for this unusual mapping, as schematized in (2): (a) the first appealing to some deletion process, preceded in some approaches by extraction of remnants in the left periphery (see among others Ross, 1967, 1970; Sag, 1976; Neijt, 1979; Merchant, 2001, 2004; Hartmann, 2000; Chaves, 2005), (b) the second appealing to a dedicated meaning-form rule, namely a ‘construction’, that maps a headless structure to a clausal meaning (see among others Sag et al., 1985; Chao, 1987; Steedman, 1990; Gardent, 1991, and, more recently, Culicover & Jackendoff, 2005), (c) the third, without ellipsis, appealing to some leftward movement process that combines across-the-board extraction of the shared head verb out of each conjunct and asymmetric extraction of non-shared constituents preceding the head verb out of the first conjunct (Johnson, 1994, 1996, 2009).

(2) a. Deletion-based analysis

[Diagram]

¹ Throughout this chapter, we provide simplified glosses rather than translations, relying on the closeness between English, French and Romanian. For the sake of clarity, the material in the source clause that serves to interpret the gap in the elliptical clause is systematically underlined. Unless specified, the data considered are constructed. For corpus studies, see Bîlbîie (in prep.) and Rigaud (2010).
Here we argue in favor of the construction-based analysis on the grounds of empirical adequacy. We then provide additional evidence against the standard assumption, first challenged by Sag et al. (1985), that strong syntactic parallelism should hold between the gapped clause and its source. While discourse parallelism is clearly required, syntactic parallelism is less strict than what is usually assumed in terms of category, word order or number of realized dependents, as Romance makes it especially clear. Syntax is not completely ignored though, as each remnant is required to match some subcategorization frame of the verbal predicate its correlate depends on. We show how those core properties can be represented within a construction-based framework that relies on rich inheritance hierarchies of typed feature structures. We stick to a Head-driven Phrase Structure Grammar style formalization along the line of Ginzburg and Sag (2000) (see also Sag, 1997), but nothing hinges on that particular choice: our analysis could as well be incorporated within the recent Sign-Based Construction Grammar framework advocated by Ivan Sag and colleagues (see Boas & Sag, 2012; Sag,

2. Basic data on gapping

Typical examples of gapping involve binary coordinate structures of any clause-type, namely declarative (3a, e), imperative (3b), interrogative (3c) or exclamative (3d), provided that the head is verbal (compare (3e) and (3f)).

(3)  a. *Paul a____offert un disque à Marie et [Jean un livre à Pierre].
Paul has offered a record to Marie and Jean a book to Pierre.

2. As is well-known, the position of the gapped clause depends on the basic word order of the language: it must follow its source in head-initial languages such as French or Romanian, while it must precede it in head-final languages such as Japanese or Korean (cf. Ross, 1970). A tempting solution to derive this contrast would be to analyze the gapped clause marked by a conjunction as an adjunct to the source clause (see Munn, 1992). Unfortunately, this does not give the right results elsewhere. First, it predicts extraction should be allowed in the source clause without parallel extraction in the gapped clause, contrary to the facts (see example (i)).

(i)  a. *C’est un auteur dont Paul a lu tous les romans et Marie ses nouvelles.
This is an author from whom Paul has read all the novels and Marie some short-stories.

Second, it predicts that either omnisyndetic coordination should be ruled out, or else that the source clause introduced by a conjunction should be able to stand alone as a grammatical sentence, since adjunction is optional. As illustrated in (ii), neither of those predictions is borne out.

(ii) a. *Ou bien Paul dormira chez Marie ou bien Marie chez Paul.
Either Paul will sleep at Marie or else Marie at Paul.

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R  Ion a cumpărat o carte pentru Dana, iar [Petre un stilou pentru Maria].

Ion bought a book for Dana, and Petre a pen for Maria.

b.  F  Demain va à la piscine et [après-demain au stade]!

‘Tomorrow go to the swimming pool and after-tomorrow go to the stadium.’

R  Mâine găsteşte o pizza, iar [poimâine o friptură de vitel]!

‘Tomorrow cook a pizza, and after-tomorrow cook a roast-beef.’

c.  F  Qui va à Rome et [qui à Florence]?

‘Who goes to Rome and who to Florence?’

R  Cine vine azi şi [cine mâine]?

‘Who comes today and who tomorrow?’

d.  F  Quelle patience Paul a avec son fils et [Marie avec sa fille]!

‘What patience Paul has with his son and Mary has with her daughter!’

R  Ce oameni sârâci a întâlnit Ion in Dolj şi [Maria in Vaslui]!

‘What poor people Ion encountered in Dolj and Maria in Vaslui!’

e.  F  Paul étant pris le matin et [Marie l’après-midi],

Paul being tied up the morning and Marie the afternoon, the meeting is postponed.

‘Paul being tied up in the morning and Marie in the afternoon, the meeting is postponed.’
R Ambii au reacționat urât: unul dominat de frică, celălalt de rușine.
by shame
‘They both reacted badly: one dominated by fear, the other dominated by shame.’

f. F Les grands dans le jardin et [les petits *(dans) leur
the older in the garden and the younger in their chambre]!
room
‘The older children in the garden and the younger children in their room!’

R Ploi în vestul țării, [caniculă *(în) sud].
rains in the west of country, heatwave in south
‘Rain in the west of country, heatwave in the south.’

There may, however, be more than two conjuncts, and therefore more than one source clause and/or one gapped clause (4a). Furthermore, each conjunct may result from coordination, leading to complex recursive coordinate structures such as (4b).

(4) a. F [Paul dormira chez Marie], [Anne dormira chez Jean], [Luc Paul will.sleep at Marie, Anne will.sleep at Jean, Luc chez Léa] et enfin [Jeanne chez Ivan].
    at Léa and finally Jeanne at Ivan
    ‘Paul will sleep by Mary’s, Anne will sleep by Jean’s, Luc by Léa’s and finally Jeanne by Ivan’s.’

R [Mama vrea o casă], [tata vrea o mașină], [Ion un câine],
    Mum wants a house, Dad wants a car, Ion a dog,
    iar [Maria o pisică],
    and Maria a cat
    ‘The mother wants a house, the father wants a car, Ion a dog, and Maria a cat.’

b. F Soit [Paul dormira chez Marie et Anne dormira chez
either Paul will.sleep at Marie and Anne will.sleep at Jean], soit [Marie chez Paul et Jean chez Anne].
Jean, or Marie at Paul and Jean at Anne
    ‘Either Paul will sleep by Marie’s and Anne by Jean’s, or Marie will
    sleep by Paul’s and Jean by Anne’s.’
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R Fie [Ion va merge cu Maria și Dan va merge cu Ana], fie [Ion cu Ana și Dan cu Maria].

Anna, or Ion with Ana and Dan with Maria

'Either Ion will go with Maria and Dan with Ana, or Ion will go with Ana and Dan with Maria.'

As is well-known, the main head verb (or verb complex) must be omitted. Accordingly, a gapped clause cannot be embedded within the conjunct it belongs to (5a), and tense auxiliaries must be gapped whenever past participles are (5b):

(5)

a. F *Paul a mangé une pomme et on m’a dit que Marie une orange.

Paul has eaten an apple and one me-has told that Marie an orange.

Paul ate an apple and one told me that Marie ate an orange.'

R *Ion predă spaniola și mi s-a spus că Maria italiană.

Ion teaches the Spanish and me cl-has told that Maria the Italian

'Ion teaches Spanish and one told me that Maria teaches Italian.'

b. F Jean a mangé des pommes et Marie (a) des bananes.

Jean has eaten INDEF apples and Marie has INDEF bananas

'Jean has eaten apples and Marie has bananas.'

3. Embedding is possible in Romanian with some epistemic verbs like a crede (‘to think’), and impersonal verbs such as a părea (‘to seem’), which are best analyzed as ‘syntactic amalgams’ in the sense of Lakoff (1974) in these contexts (see Bilbiie, 2011).

(i) R Andrei a luat cartea și cred că Marga atlasul.

Andrei has taken the book and I think that Marga the atlas

'Andrei took the book and I think that Marga took the atlas.'

(ii) R Ion are trei copii și pare-se că Maria doar unul.

Ion has three children and it seems that Maria only one

'Ion has three children and it seems that Maria has only one.'

4. English differs in this respect from Romance by allowing what has been called ‘pseudo-gapping’ (i). Presumably, the contrast follows from the existence in English, but not in French or Romanian, of VP ellipsis (ii)–(iii):

(i) John ate the apple, and Mary did the orange.

(ii) John ate an apple, and Mary did too.

(iii) F *Jean a mangé une pomme, et Marie a aussi.

Jean has eaten an apple, and Marie has too

R *Ion a mâncat un măr, iar Maria a de asemenea.

Ion has eaten an apple, and Maria has too

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This is not to say, however, that the gap is always solely the verbal head: it may include, beside that constituent, various nonconstituent and/or discontinuous strings of words (6a), including strings belonging to different clauses (6b).

(6)  a.  F Pour un salaire de 20 000F, le coût d’emploi serait for a wage of 20 000F, the cost of-employment would be majoré de 300F par mois et for a wage of 50 000F, increased by 300F per month and for a wage of 50 000F, de 1 500F.

b.  F Jean pense que la France va gagner et [Marie Jean thinks that def France will win and Marie l’Argentine].

now consider remnants. As the following examples illustrate, not all constituents are allowed: predicative uses left aside, singular count nouns (or N’) do not stand as appropriate remnants without their specifier in Romance (7a), nor do oblique NPs without their head preposition (7b) and more generally XPs whose correlates in the source clause depend on some non verbal heads (7c, d), except for those found in complex predicates (8), which are (re)analyzed as complements of the light verb (Abeillé & Godard, 2003).

5. Capital letters mark prosodic focus.
(7) a. F Paul _mangé_ une pomme et Marie *_(une)_ orange.
Paul has eaten an apple and Marie an orange
'Paul ate an apple and Marie ate an orange.'
R Paul _mâncat_ o portocală, iar Maria *_(o)_ banană.
Paul has eaten an orange, and Marie a banana
'Paul ate an orange, and Maria ate a banana.'

b. F Marie _parle_ avec un avocat et Jean *_(avec)_ une actrice.
Marie is.talking with a lawyer and Jean with an actress
'Marie is talking to a lawyer, and Jean to an actress.'
R Maria _vorbește_ cu un avocat, iar Ion *_(cu)_ o actriță.
Marie is.talking with a lawyer, and Ion with an actress
'Maria is seeing a lawyer and Ion is seeing an actress.'

(c) F Jean _a_ lu la fin du livre bleu et Marie *(la fin)_
Jean has read the end of.the book blue and Marie the end
of.the book red
'Jean read the end of the blue book and Marie read the end of the red one.'
R Ion _citește_ introducerea unui roman, iar Ana
Ion is.reading the.introduction to.a novel, and Ana
*(introducerea) unui eseu.
the.introduction to.an essay
'Ion is reading the introduction to a novel, and Ana read the introduction to an essay.'

d. F Jean _a vendu_ sa voiture noire et Marie *(sa voiture)_
Jean has sold his car black and Marie her car
red
'Jean sold his black car and Maria sold her red one.'
R Ion _s-a vândut_ mașina albastră, iar Maria
Ion *_(mașina)_ roșie.
the.car red
'Ion sold his blue car and Maria sold her red one.'

(8) a. F Paul _est très fier_ de sa fille et Marie (très fière)
Paul is very proud of his daughter and Marie very proud
_of son fils.
of her son
'Paul is very proud of his daughter and Marie is very proud of her son.'
R Tata e foarte mândru de fiul lui, iar mama (foarte
dad is very proud of the son his, and mum very
mândră) de fica ei.
proud of the daughter her
'The father is very proud of his son, and the mother is very proud of
her daughter.'

b. F Paul a peur du noir et Marie (peur) du vide.
Paul has fear of the dark and Marie fear of the void
'Paul fears the dark and Marie (fears) the void.'

R Criminalii au teamă de polițiști, iar polițiștii (teamă)
criminals have fear of police, and police fear
de criminali.
of criminals
'Criminals fear police and police (fear) criminals.'

We conclude that gapping in French and Romanian abides by Hankamer’s (1971) Major Constituent Condition: each remnant in the gapped clause must be paired with some “major” correlate in the source clause, namely some correlate that depends on a verbal head (be it matrix or embedded).

3. The case for a construction-based analysis of gapping

3.1 Against Johnson’s movement-based analysis

Consider first Johnson’s (1994, 1996, 2009) movement-based analysis. According to this approach, gapping constructions do not result from ellipsis, but rather from some movement process that extracts the head verb “across-the-board”, namely out of each conjunct. Note that several non-shared constituents belonging to the first conjunct may linearly precede that verb. Some additional movement rule must therefore be posited that extracts those constituents, which, according to Johnson, accounts in turn for the fact, discussed by Siegel (1984), that negations, modals or quantifiers in the first conjunct may take semantic scope over the coordination as a whole when gapping operates (9).

(9) a. F Paul n’est pas venu hier, ni Marie avant-hier.
Paul ne-has not come yesterday, nor Marie before yesterday
'It is not the case that Paul came yesterday or Marie came before
yesterday.'
b. F Jean peut difficilement avoir obtenu 15/20 et Marie seulement 10.
Jean can with.difficulty have obtained 15/20 and Marie only 10.

'It is unlikely that Jean obtained 15 and Marie obtained only 10’

R Ion nu poate locui intr-un palat și Maria într-o cocioabă.
Ion neg can live in-a palace and Maria in-a dump.

Must mrk.subj do.3 something for to-cl.refl help sora!
the.sister

'It can’t be the case that Ion lives in a palace and Maria in a dump; he must do something to help his sister.’

c. F Peu de Français parlent l’anglais et d’Anglais
few de French.people speak def-English and de-English.people le français.
defFrench

'There are few x such that French x speak English and English x speak French.’

Leaving aside its transformational flavor, this analysis does not immediately extend to naturally occurring examples such as those illustrated in (6) above, where the gap includes not only the head verb, but also various elements which do not form continuous strings of words (see Huddleston & Peterson, 2002 for similar examples in English). Moreover, it wrongly predicts that initial conjunctions, which arguably mark the left edge of the first conjunct in Romance (see Mouret, 2005, 2007; Bîlbîie, 2008), should be realized after the alleged moved material, and not before, compare (10)–(11).

(10) a. F Ou bien Paul dormira chez Marie ou bien Marie chez Paul.
either Paul will.sleep at Marie or Marie at Paul

‘Either Paul will sleep at Marie’s or Marie at Paul’s.’

R Fie Dan va cânta la chitară, fie Maria la pian.
either Dan will play at guitar, or Maria at piano

‘Either Dan will play the guitar, or Maria the piano.’

b. F *Paul dormira ou bien chez Marie ou bien Marie chez Paul.
Paul will.sleep either at Marie or Marie at Paul

R *Dan va cânta fie la chitară, fie Maria la pian.
Dan will play either at guitar, or Maria at piano
(11) a. F Ni le compromis ne me paraît justifié, ni
neither the compromise nē me seems justified, nor
l’acceptation pure et simple nécessaire.
the-acceptance pure and simple necessary

‘Neither the compromise seems to me justified, nor the pure and
simple acceptance seems to me necessary.’ (Dictionnaire du Français
Contemporain, cited by Grévisse & Goosse, 1991)

b. F *Le compromis ne me paraît ni justifié, ni
the compromise nē me seems neither justified, nor
l’acceptation pure et simple nécessaire.
the-acceptance pure and simple necessary

We conclude that movement creates more problems than it solves.

3.2 Against deletion-based analyses

Deletion-based analyses of gapping and other related verbal ellipsis come in
two varieties. Classical accounts such as Sag (1976), which may be stated in a
declarative fashion (see Chaves, 2005), assign to the gapped clause the syntactic
structure of an ordinary sentence with some material including the head verb left
unpronounced. More recent accounts within derivational frameworks furthermore
consider remnants to be extracted in some functional projections in the left
periphery (Coppock, 2001; Konietzko & Winkler, 2010; Molnár & Winkler, 2010,
etc.). Culicover and Jackendoff (2005) present several arguments against both. We
review each of them, extending the data to French and Romanian.

3.2.1 Problems for extraction-based accounts

First, consider extraction-based accounts. As Culicover and Jackendoff (2005)
observes, remnants do not obey island constraints in English, contrary to what has
been claimed since Ross (1967) (see for example Neijt, 1979, and more recent-
ly Merchant, 2001). When more than the head is deleted, remnants can appear
in what would be an island for extraction, for example a circumstantial adjunct
(compare (12a, b) and (13a, b)) or a relative clause (compare (12c) and (13c)):

(12) a. Robin knows a lot of reasons why dogs are good pets, and Leslie cats.
(Culicover & Jackendoff’s example (63e), p. 273)

b. Robin believes that everyone pays attention to you when you speak
French, and Leslie, German. (Culicover & Jackendoff’s example (62e),
p. 273)

c. In the past, it has been the husband who has been dominant and the wife
passive. (Brown Corpus – 21990, in Bilbiie, in prep.)
(13) a. *[Which animals] does Robin know a lot of reasons why -i are good pets?  
b. *[Which language] does Robin believe that everyone pays attention to you when you speak -i?  
c. *[How dominant] has it been the husband who has been -i in the past?

As the following examples illustrate, similar data obtain in French and Romanian: remnants may occur not only in circumstantial adjuncts (14), but also in infinitival subjects (15) or relative clauses (16), out of which nothing can be extracted (17).

(14) F *Quand tu parles chinois, tout le monde t’admire, mais when you speak Chinese, everyone you-admires, but anglais personne. English nobody
‘When you speak Chinese, everyone admires you, but when you speak English, nobody does.’
R *Ion mănâncă uitându-se la documentare, iar Maria at documentary at documentary, and Maria
ion eating-cl.refl at documentary at documentary, and Maria la telenovele.
at soap.opera
‘Ion eats while watching documentaries, and Maria eats while watching soap operas.’

(15) F *Comprendre le texte traduit est laborieux et le texte original encore plus laborieux. to.understand the text translated is painstaking and the text original yet more painstaking
‘Understanding the translated text is painstaking and understanding the original text is all the more painstaking.’
R *Să înveți la pian e greu, dar la vioară și learn.2sg at piano is difficult, but at violin yet mai greu.
more difficult
‘Learning the piano is difficult, but learning the violin is all the more difficult.’

(16) F *C’est Paul qui fait la vaisselle et Marie la lessive. it’s Paul who does the dishes and Marie the washing
‘It’s Paul who does the dishes and Marie the washing.’
R *Sunt oameni care preferă singurătatea, iar alții, contrariul. exist people who enjoy the solitude, and others, the opposite
‘There are some people who enjoy solitude, and others, the opposite.’
(17) a. *C’est [chinois] que tout le monde t’admire quand tu parles -i,
    it’s Chinese that everyone you-admires when you speak
R *[La documentaire], mânâncă Ion uitându-se -î,
at documentaries eats Ion watching-CL.REFL
b. *C’est [le texte traduit] que comprendre -î est laborieux.
it’s the text translated that to understand is painstaking
R *[La pian], să înveți -î e greu.
at piano MRK.SUBJ learn.2sg is difficult
c. *C’est [la lessive] que c’est Marie qui fait -î,
it’s the washing that it’s Marie who does
R *[SingurăTatea], sunt oameni care preferă -î,
the.solitude exist people who enjoy

Extraction of remnants in the left periphery is therefore not empirically supported. As a result, deletion, if it is adopted as the source of gapping, must be allowed to target non-constituent strings.

3.2.2 Problems for accounts without extraction
Turning to the deletion process itself, there are two sets of problems that arise. First, consider identity conditions. As is well-known, the alleged deleted verb may differ from its source with respect to its agreement specifications (see (18a) and (19a)), while tense specifications must be preserved, as in (18b, c) and in (19b, c).

(18) a. His brother lives in Boston and his parents ((live / *lives)) in New York.
    b. John arrived yesterday, and Bill (arrived) this morning.
    c. John arrived yesterday, and Bill *(will arrive) tomorrow.

    Paul goes to Paris and his children {go.3pl / go.3sg} to Rome
    ‘Paul goes to Paris and his children to Rome.’
R Eu iubesc animalele, iar Ioana ((iubeşte / *iubesc)) floriile.
    I like the.animals, and Ioana {like.3sg / like.1sg} the.flowers
    ‘I like animals and Ioana flowers.’
b. F Paul est arrivé hier et Marie (est arrivée) ce matin.
    Paul has arrived yesterday and Marie has arrived this morning
    ‘Paul has arrived yesterday and Marie this morning.’
R Ion a sosit ieri, iar Maria (a sosit) azi-dimineaţă.
    Ion has arrived yesterday, and Maria has arrived this-morning
    ‘Ion has arrived yesterday and Maria this morning.’
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Moreover, the verb may differ from its source in French and Romanian with respect to clitics (20). As shown by the examples in (20a), pronominal clitics hosted by the source verb may differ from those required when the alleged deleted verb is reconstructed. Moreover, while absent in the source, some clitics, such as negative particles or subject weak pronouns, may be required in the reconstructed clause given the form of remnants. The n-word _aucun_ (‘none (of them)’) in (20) requires, for example, the particle _ne_ (‘not’) on the reconstructed verb in French, and the n-word _niciuna_ (‘none (of them)’) asks for the particle _nu_ (‘not’) in Romanian. Similarly, the strong pronoun _moi_ (‘me’) is not easily used as subject in the reconstructed form in (20c), unless it is doubled by the pronominal clitic _je_ (‘I’).

It seems then that identity conditions required as a trigger for deletion, though admittedly amenable to formalization (see in particular Chaves, 2005), cannot be stated in a simple way.

(20)

a. F _Luc en a lu_ seulement certains, mais Max _Lucl_ has read only some(of.them), but Max _{cl.3pl/en} a lu_ presque tous.

‘Luc has read only some of them, but Max has read almost all of them.’

R Ana _îl iubeşte pe Ion, iar Dan _{cl.3sg.fem/masc} iubeşte_ pe Maria.

‘Ana loves Ion and Dan loves Maria.’

b. F _Paul en a lu_ peu et Marie (*(n’)en a lu)_

Paul _en_ has read few(of.them) and Marie _neg-en_ has read _absolument aucun._

‘Paul has read few of them and Marie has read absolutely none of them.’

R Ion _a _căteva dintre ele, dar Maria _*(nu) a citit_._

‘Ion has read some of them, but Maria _neg_ has read _absolut niciuna._ absolutely none’

‘Ion has read some of them, but Maria has read absolutely none of them.’

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c.  F  Marie aime les pommes et moi (*j’aime) les oranges.
    Marie likes the apples and me  I-like the oranges
    ‘Marie likes apples and I like oranges.’

A second and stronger piece of evidence against deletion relies on the fact that
Gapped clauses do not have the same distribution as their complete counterpart.
As noted by Culicover and Jackendoff (2005), there are contexts where gapped
clauses are allowed and complete clauses excluded. In other words, syntactic re-
construction is not always warranted. This is illustrated in (21) for English (adapt-
ed from Morgan, 1973) and (22) for French and Romanian: a gapped clause may
be introduced by functors such as constituent negation adverbs or lexicalized comparative
connectives, which do not combine with finite sentences.

(21)  a.  Bill invited Jane and not Jane (*invited) Bill.
       b.  Bill wanted to meet Jane as well as Jane (*wanted to invite) him.

(22)  a.  F  Paul dormira chez Marie et non pas Marie (*dormira)
       Paul will.sleep at Marie and not Marie will.sleep
       chez Paul
       ‘Paul will sleep at Marie’s and not Marie at Paul’s.’
        R  ION tipă la Maria şi nu ea (*tipă) la el.
        Ion is.shouting to Maria and not her is.shouting to him
        ‘Ion is shouting to Maria and not her to him.’
       b.  F  Paul a cueilli des framboises ainsi que Marie
       Paul has picked INDEF raspberries as well as Marie
        (*a cueilli) des fraises.
       has picked INDEF strawberries
       ‘Paul picked raspberries as well as Marie strawberries.’
        R  Ion se comportă cu Maria la fel ca
        Ion cl.refl behaves towards Maria in the same way as
        fratele lui (*se comportă) cu Ana.
        the.brother his cl.refl behaves towards Ana
        ‘Ion behaves towards Maria in the same way as his brother towards
        Ana.’

To our knowledge, such data stand as a serious challenge for any deletion-based
account. On the other hand, they immediately fall out from a construction-based
analysis, which does not derive the unusual meaning-form mapping in the

6.  In Romanian, the constituent negation nu1 and the sentential negation nu2 are homonyms:
    they have different distributional properties and thus different syntactic status (adverbial mod-
    ifier vs. affix in the verbal complex). For more details, see Barbu (2004) and Ionescu (2004).
gapped clause from hidden syntactic structure: if there is no head verb in the
gapped clause, then the gapped clause itself is not finite and thus appropriate for
combination with functors selecting some non finite constituent. We conclude
that deletion-based accounts are not empirically supported and must therefore
be rejected.

4. Parallelism constraints on gapping

An alternative analysis to deletion is what Elugardo and Stainton (2005) call 'se-
monic ellipsis', which induces, from a syntactic perspective, the recourse to a spe-
cific licensing construction. A recent proposal is given in Culicover and Jackendoff
(2005) along the lines of Ginzburg and Sag (2000)’s account of short questions and
answers. Under this approach, semantic reconstruction is paired with discourse
and syntactic parallelism constraints.

4.1 Discourse parallelism constraints

First consider discourse. As it is the case for English (cf. Kehler, 2002), some sym-
metric relation (viz. preserved when the order of the conjuncts is reversed) must
hold between the source clause and the gapped clause in French and Romanian.
As the following examples illustrate, gapping is felicitous with relations such as
parallelism (23a) or contrast (23b), while it is excluded with cause-effect rela-
tions, such as concession (23c) or condition (23d).

7. Gapping with symmetric relations such as exemplification (i) or generalization (ii) is more
difficult, probably due to the lack of appropriate contrast between remnants and their correlates
in these contexts (see Abeillé and Mouret, 2010).

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th></th>
<th></th>
</tr>
</thead>
</table>
| (i) | Un président flatter son électorat et ainsi Chirac ?!(flatte) les
|     | a president flatters his voters and so Chirac flatters the
|     | électeurs de droite.
|     | voters of the.right
|     | ‘A president flatters his voters and so Chirac flatters the voters of the right.’
| (ii) | Chirac flatte les électeurs de droite et généralement les
|     | Chirac flatters the voters of the.right and generally the
|     | hommes politiques ?!(flattent) leur électorat.
|     | men politician flatter their voters
|     | ‘Chirac flatters the voters of the right and, more generally, the politicians flatter
|     | their voters.’

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Paul likes Marie and reciprocally Marie Paul
‘Paul likes Marie, and vice versa.’

R Ion o iubeste pe Maria și și Maria pe Ion.
Ion cl. likes PE Maria and also Maria PE Ion
‘Ion likes Maria and Maria likes Ion, too.’

b. F Mes amis ont voté aujourd’hui. Jean a voté pour
my friends have voted today. Jean has voted for
Sarkozy, mais (par contre) Michel pour Royal.
Sarkozy, but by contrast Michel for Royal
‘My friends voted today. Jean voted for Sarkozy, but Michel voted for
Royal.’

R Amândoi prietenii au fost azi la vot. Ion a votat
both def.|friends have been today to vote. Ion has voted
cu Băsescu, insă Mircea cu Antonescu.
for Băsescu, but Mircea for Antonescu
‘Both the friends voted today. Ion voted for Băsescu, but Mircea voted for
Antonescu.’

c. F D’habitude, Jean agit de la même façon que Michel, mais pas
usually, Jean does the same thing as Michel, but not
aujourd’hui. Jean a voté pour Sarkozy, mais (#étonnament)
today Jean has voted for Sarkozy, but surprisingly
Michel pour Royal.
Michel for Royal
‘Jean usually does the same thing as Michel, but not today. Jean voted
for Sarkozy, but, surprisingly, Michel voted for Royal.’

R Ion era supărat și (#totuși) prietena lui foarte voioasă.
Ion was upset and yet girlfriend his very happy
‘Ion was upset and, surprisingly, his girlfriend was very happy.’

d. F Jean ira à Londres ou (#sinon) Paul à Berlin.
Jean will go to London or else Paul to Berlin
‘Jean will go to London or else Paul will go to Berlin.’

R Ioan va pleca la Paris sau (#în caz contrar) Maria la Roma.
Ion will go to Paris or else Maria to Rome
‘Ion will go to Paris or else Maria will go to Rome.’

This immediately explains why gapping occurs neither in comparative correlatives (24a) (which involve an if...then interpretation, cf. Beck, 1997), nor in causal coordinations (24b) or subordinated contexts (24c).
(24) a. F *Plus* Marie *lira* de romans et *plus* Jean
the more Marie will read de novels and the more Jean
*(lira) de BD.
will.read de comics
'The more novels Marie will read, the more comics Jean will (read).'
R *Cu cât* Ion *citeşte* mai multe cărţi, *cu atât* Maria
correl. Ion reads more.fem.pl. books, correl. Maria
*(citeşte) mai multe reviste.
reads more.fem.pl magazines
'The more books Ion reads, the more magazines Maria will (read).'

b. F *Jean a mis* un costume, *car* Marie *(a mis) une
Jean has put a suit, because Marie has put a
jolie robe.
nice dress
'Jean dressed in a suit, because Marie dressed in a nice dress.'
R Ion *cl.refl* has put a shirt brown, because Maria
*(şi-a luat) o fustă crem.*
cl.refl-has put a skirt cream
'Ion dressed in a brown shirt, because Maria dressed in a cream skirt.'

c. F *Jean a persuadé* Marie que Pierre *(a persuadé) Jeanne.*
Jean has persuaded Marie that Pierre has persuaded Jeanne.
'Jean persuaded Marie that Pierre has persuaded Jeanne.'
R Maria *cântă* la vioară, *pentru că* Ion *(cântă) la pian.*
Maria plays at violin, because Ion plays at piano
'Maria plays the violin, because Ion plays the piano.'

For symmetry to hold, each remnant must stand in semantic contrast with respect to a correlate in the source, as discussed by Sag (1976), and more recently by Hartmann (2000) and Repp (2009). 8 An appropriate contrast can only be

8. Since Kuno (1976), semantic contrast is commonly conflated with informational focus or topic. As far as French and Romanian are concerned, this does not stand. Remnants and their correlates may correspond to narrow foci as in (i), or narrow topics as in (ii), but they may correspond as well to subparts of an all-focus utterance as in (iii).

(i) F L1: *Qui veut quoi ce soir?*
who wants what tonight
'Who wants what tonight?'
L2: *Marie veut des pâtes et moi du riz.*
Marie wants indef pasta and I indef rice
'Marie wants pasta and I want rice.'
established between elements of a well-defined alternative set (different agents, different locations, different times, etc.). Consequently, contrasting elements from different sets (25b) or contrasting only one pair (26b) results in unacceptability. Such constraints do not apply, on the other hand, when the missing material is restored (25c)–(26c).

(25)  
a. F Jean mange des pommes et Marie des bananes.  
Jean eats INDEF apples and Marie INDEF bananas  
Jean eats apples and Marie bananas.’
R Ioana a mâncat un măr, iar Maria o pară.  
Ioana has eaten an apple, and Maria a pear  
Ioana ate an apple and Maria a pear.

b. F #Jean mange des pommes et Marie à minuit.  
Jean eats INDEF apples and Marie at midnight  
R#Ioana mâncă mere, iar Maria la miezul nopţii.  
Ioana eats apples, and Maria at midnight  
Ioana eats apples and Maria eats at midnight.

c. F Jean mange des pommes et Marie mange à minuit.  
Jean eats INDEF apples and Marie eats at midnight  
Jean eats apples and Marie eats at midnight.’  
R Ioana mâncă mere şi Maria mâncă la miezul nopţii.  
Ioana eats apples and Maria eats at midnight  
Ioana eats apples and Maria eats at midnight.’

(26)  
a. F Léa a composé le numéro de Paul et ensuite Jean  
Léa has dialed the number of Paul and then Jean  
le numéro d’Anne.  
the number of-Anne  
‘Léa dialed the Paul’s number and then Jean dialed the Anne’s number.’

(ii) F L1: Est-ce que tes enfants aiment les fruits?  
INTERROG your children like the fruits  
‘Do your children like fruits?’
L2: Paul apprécie les oranges et Marie les bananes.  
Paul appreciates the oranges and Marie the bananas  
‘Paul likes oranges and Marie likes bananas.’

(iii) F L1: Qu’est-ce qui ne va pas?  
what’s wrong  
‘What’s wrong?’
L2: Paul veut aller au cinéma et son frère à la piscine!  
Paul wants to go to the cinema and his brother to the swimming-pool  
‘Paul wants to go to cinema and his brother to the swimming pool.’
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R  Maria a căștigat concursul de fotografie și Ioana pe cel de pictură.

‘Maria won the photography competition and Ioana the painting one.’

b.  F  ??[Léa], a composé le numéro de Paul et ensuite [cette
cruche]i  son propre numéro.

stupid.womani  her own number

R  ??[Maria], a căștigat concursul de fotografie și [proasta asta]i  și pe cel de pictură.

stupid.womani  this also pe the.one of painting

c.  F  [Marie], a composé le numéro de Paul et ensuite Mariei  a composé son propre numéro

this stupid.womani  has dialed her own number

‘Marie dialed the Paul’s number and then this stupid woman dialed
his own number.’

R  [Maria], a căștigat concursul de fotografie și [proasta asta]i  l-a căștigat și pe cel de pictură.

stupid.womani  this cl.-has won also pe the.one of painting

‘Maria won the photography competition, and this stupid woman has
also won the painting one.’

Romanian distinguishes itself from French and other Romance languages in this
respect by having a special ‘contrastive’ conjunction iar (‘and’),9 which is the most
used conjunction in gapping coordinations, as in Slavic languages which have
equivalent connectives, e.g. a in Russian and Polish (27) (Jasinskaja & Zeevat,
2009; Repp, 2009):

(27) Rom.  Ion adoră fotbalul, iar Maria baschetul.

‘Ion likes football, and Maria basketball’

Russ.  Oleg ljubit futbol, a Maria basketbol.

‘Oleg likes football, and Maria basketball’

---

9.  For more details on the behavior of iar in Romanian, see Bîlbîie and Winterstein (2011).
4.2 Syntactic parallelism constraints

Now consider syntax. Contrary to what is commonly assumed (see for example Hartmann, 2000), gapping does not require strong syntactic parallelism. As first noted by Sag et al. (1985) for English, the order of remnants in the gapped clause does not necessarily need to parallel that of their correlates in the source clause (28a), provided that this order is licit in the grammar. Moreover, remnants may differ from their correlates with respect to their category, see (28b). Still, syntax is not left completely unconstrained: besides being “major” (see Section 1 above), each correlate must match a subcategorization frame that could also be met by its parallel remnant, hence the ungrammaticality of (28c) given the selection properties of the verb become as in (28d).

\[(28)\]
\begin{enumerate}
\item a. A policeman walked in at 11, and at 12, a fireman.
\item b. Pat has become [crazy]_{AP} and Chris [an incredible bore]_{NP}.
\item c. *Pat has become [crazy]_{AP} but Chris [in good spirit]_{PP}.
\item d. He became [crazy / an incredible bore / *in good spirit].
\end{enumerate}

(from Sag et al., 1985, pp. 156–158)

In other words, remnants and their correlates in gapping constructions obey the same syntactic constraint than conjuncts in ordinary constituent coordinations: each must match some subcategorization of the shared predicative material, though not necessarily the same one (cf. (29)).

\[(29)\]
\begin{enumerate}
\item a. He has become [crazy]_{AP} and [an incredible bore]_{NP}.
\item b. *He has become [crazy]_{NP} but [in good spirit]_{PP}.
\end{enumerate}

As the examples in (30) and (31) illustrate, French and Romanian parallel English in this respect: order and category asymmetries are allowed, provided the syntactic constraints mentioned above are observed.

\[(30)\]
\begin{enumerate}
\item a. F De nombreuses familles habitent dans le 19ème, mais dans le 2ème, très peu.
\item R Mulți adolescenți merg la film, dar la operă, foarte puțini.
\end{enumerate}

'Many families live in the 19th district, but in the 2nd district, very few.'

'A lot of teenagers go to cinema, but to opera, very few.'
b. F **Certains réclament** [des augmentations]_{NP} d'autres
some demand **INDEF increases**, others
[qu'on leur garantisse la sécurité]_{S}.
that-one **CL** warrants the safety
'Some demand some increases, others demand that one warrants their safety.'

R **La meeting-ul de azi, unii cereau** [demisia]
at the.meeting of today, some were.demanding the.resignation
**Preşedintelui**_{NP} alţii, [să li se mărească]
of.the.President, others **MRK.SUBJ CL CL.REFL INCREASE
saliile]_{S}.
the.salaries
'At the today's meeting, some were demanding the resignation of the
President, others were demanding that one increases their salaries.'

c. F *Certains réclament* [des augmentations]_{NP} d'autres
some demand **INDEF increases**, others
[être mieux protégés]_{VPinf}.
be better protected

R??La meeting, unii cereau [demisia]
at meeting, some were.demanding the.resignation
**Preşedintelui**_{NP} alţii, [a avea salarii mai mari]_{VPinf}.
of.the.President, others to have wages higher

d. F Ils **réclament** [des augmentations / qu'on leur garantisse
they demand **INDEF increases / that-one CL warrants
la sécurité / *être mieux protégés**].
the safety / be better protected
'They demand {some increases / that one warrants their safety / to be
better protected}.'

R **La meeting, unii cereau** [demisia]
at meeting, some were.demanding {the.resignation
**Preşedintelui** / să li se mărească salariile /}
of.the.President / **MRK.SUBJ CL CL.REFL INCREASE the.salaries/
?a avea salarii mai mari**].
to have wages higher}
'At the meeting, some were demanding {the resignation of the
President / that one increases their salaries / to have higher wages}.'
(31) a. F Ils réclament [des augmentations]NP et [qu\'on leur
they demand indef increases and that-one cl.
garantisse la sécurité]S.
warrants the safety
'They demand some increases and that one warrants their safety.'
R Manifestanții cer [demisia Președintelui]NP și
demonstrators demand the.resignation of.the.President and
[să li se mărească salariile]S.
MRK.SUBJ CL CL.REFL increase the.salaries
'Demonstrators demand the resignation of the President and that one
increases their salaries.'
b. F *Ils réclament [des augmentations]NP et [être mieux
they demand indef increases and be better
protégés]VPinf'
protected
R??Manifestanții cer [demisia Președintelui]NP și
demonstrators demand the.resignation of.the.President and
[a avea salarii mai mari]VPinf
to have wages higher

Still, Romance languages provide more striking asymmetries, as mainly shown by
Romanian data below. First, given its relatively free word order, there are many
ways to linearize remnants and correlates in Romanian:

(32) a. R Dimineața (EU) spăl (EU) vesela (EU), iar
in.the.morning (I) wash (I) the.dishes (I), and
seara IOAna.
in.the.evening Ioana
'In the morning I wash the dishes, and in the evening Ioana does.'
R a. R Dimineața spăl eu vesela, iar seara, IOAna.
in.the.morning wash I the.dishes, and Ioana in.the.evening
'In the morning I wash the dishes, and Ioana does.
I
I

Moreover, remnants may differ from their correlates not only with respect to their
basic category (33a), but also with respect to case marking, as in (33b), where the
second remnant tuturor copiilor (‘to all the children’) bears an affix marking a dative
form, while its correlate in the source la trei dintre copii (‘to three of the children’) is introduced by a prepositional marker la (‘to’) asking for an accusative form.

(33) a. R Marian citeşte [ziua]_{NP} iar Maria [pe-ntuneric]_{PP}. Marian reads the.day, and Maria at.night
‘Marian reads during the day and Maria at night.’

b. R Ion oferă mere [la trei dintre copii], iar Maria [tuturor copii]_{ART} children.def.dat
‘Ion gives apples to three of the children, and Maria to all of them.’

Finally, the number of remnants may differ from the number of realized correlates, as shown by the subject pro-drop phenomenon in (34) for Romanian and Italian, or the object pro-drop in (35) for Romanian and French (see Bilbiie, 2011 for discussion):

(34) R Lunea merge la film, iar sora mea la muzeu. on.Mondays, PRO_{subj}-go to cinema, and the.sister my to museum
‘On Monday, I go to the cinema, and my sister goes to the museum.’

I Mangio la pasta e Giovanni il riso. PRO_{subj}-eat DEF pasta and Giovanni DEF rice
‘I eat pasta and Giovanni eats rice.’

(35) R Ion tot mai citeşte, dar Maria nici măcar ziarul. Ion cl.adv cl.adv reads, but Maria not even the.newspaper
‘Ion still reads, but Maria doesn’t read anything, not even the newspaper.’

F Paul nage comme un poisson, mais Marie seulement la breaststroke
‘Paul swims very well, while Mary only swims the breaststroke.’

We conclude that syntactic parallelism operates neither at the level of phrase structure, nor at the level of word order, but rather at the more abstract level of grammatical functions, as listed in the argument structure of predicates.

5. A construction-based analysis in HPSG

In this section, we sketch a formal analysis of gapping within a construction-based version of Head-driven Phrase Structure Grammar (henceforth HPSG) that relies on rich inheritance hierarchies of lexical and phrasal constructional types
(Sag, 1997; Ginzburg & Sag, 2000). We follow previous work for the syntactic analysis of coordination in Romance (see Abeillé, 2003, 2005; Sag, 2003; Mouret, 2006, 2007; Bilbiie, 2008). We then build on Ginzburg and Sag (2000) as well as Culicover and Jackendoff (2005) to represent gapping constructions at the syntax-semantics-discourse interface.

5.1 General architecture

Linguistic expressions in HPSG are modeled as feature structures of type sign that encode phonological, syntactic and semantic information of words and phrases:

(36) Simplified hierarchy of signs

Words, unlike phrases, have an argument structure (ARG-ST) which encodes as a list of synsem objects the subcategorization properties of lexical items. Canonical synsem descriptions occurring in the argument structure of a word also occur in its valence. Non canonical synsems, on the other hand, do not project as signs in syntax: they occur in the argument structure of lexical items, but not in their valence, as illustrated by the Argument Conservation Principle in (37). Non canonical synsems fall under four classes in Romance (38): (i) extracted elements, typed as gap, (ii) ‘empty’ pronouns, typed as pro (to account for subject or object pro-drop), (iii) pronominal clitics, analysed as verbal affixes, typed as pron-affix (cf. Miller & Sag, 1997; Monachesi, 1999), and (iv) adverbial clitics, such as Romanian tot (‘still’), mai (‘still’) in (35) or the Romanian sentential negation nu (‘not’) in (20b), which behave like verbal affixes, typed as adv-affix.
(37) Argument Conservation Principle

\[
\text{word} \Rightarrow \begin{bmatrix}
\text{VALENCE} \\
\text{SUBJ} & 1 \\
\text{SPR} & 2 \\
\text{COMPS} & 3 \\
\text{ARG-\text{ST}} & 1 \oplus 2 \oplus 3 \odot \text{list (non-canonical)}
\end{bmatrix}
\]

(38) Hierarchy of \textit{synsem} values

\[
\text{synsem} \\
\text{canonical} \quad \text{non-canonical} \\
\text{affix} \quad \text{null} \\
\text{pron} \quad \text{adv} \quad \text{pro} \quad \text{gap}
\]

Phrases, unlike words, have a feature daughters (dtrs) that lists immediate constituents. Following Sag (1997) and Ginzburg and Sag (2000), we assume a cross-classification along two dimensions: clausality and headedness (cf. (39)). The clausality dimension is used to distinguish phrases with a clause type-content (namely a message) such as declaratives, interrogatives, imperatives, etc. from non-clauses, while headedness is used to distinguish headed phrases from non-headed phrases. Headed phrases obey the Generalized Head Feature Principle (Ginzburg & Sag, 2000): the \textit{synsem} value of the mother of a headed phrase and that of its head daughter must be identical by default (/).

(39) Cross-classification of phrases

\[
\text{phrase} \\
\text{CLAUSALITY} \quad \text{HEADEDNESS} \\
\text{clause} \quad \text{non-clause} \quad \text{headed-ph} \quad \text{non-headed-ph} \\
\text{SYNSEM} / 5 \\
\text{HEAD-DTR} (\text{SYNSEM} / 5) \\
\text{DTRS} (1) \oplus \text{list(sign)}
\]
5.2 A formal analysis of coordinate constructions

We represent coordinate phrases as a subtype of non-headed phrase,\(^{10}\) consisting of two or more immediate constituents, which may each be introduced by a conjunction (cf. Abeillé, 2003, 2005; Mouret, 2006, 2007):

\[(40) \text{General rule of coordination} \quad \text{coord-phrase} \Rightarrow \text{non-headed-ph} \& \begin{bmatrix} \text{SYNSEM} \\ \text{DTRS} \end{bmatrix} \left[ \begin{bmatrix} \text{CONJ nil} \\ \text{list} \end{bmatrix} \oplus \text{list} \left[ \begin{bmatrix} \text{CONJ 1} \\ \neg \text{nil} \end{bmatrix} \right] \right] \]

Conjunctions are analyzed as weak heads that inherit most of their syntactic properties from the complement with which they combine, except for the \textit{CONJ} feature they introduce. Consequently, [\textit{Conj} XP] phrases share their syntactic category with the XP that the conjunction combines with.

\[(41) \text{Simplified lexical entry for a conjunction} \quad \text{conj-word} \Rightarrow \begin{bmatrix} \text{HEAD MARKING} \\ \text{CATEGORY} \end{bmatrix} \left[ \begin{bmatrix} \text{1} \\ \text{2} \\ \text{3} \\ \text{4} \end{bmatrix} \oplus \begin{bmatrix} \text{1} \\ \text{2} \\ \text{3} \\ \text{4} \end{bmatrix} \right] \]

According to the distribution of conjunctions, three main subtypes of coordinate constructions may be distinguished for Romance languages (cf. Mouret, 2006, 2007; Bilbiie, 2008): (i) simplex coordinations (with at least one conjunction, before the last conjunct) (42a, b), (ii) omnisyndetic coordinations (with the conjunction repeated on each conjunct, including the first one) (43a, b), and (iii) asyndetic coordinations (with no overt conjunction) (44a, b):

\[(42) \begin{align*} \text{a.} \quad & \text{simplex-coord-ph} \Rightarrow [\text{DTRS} \text{ nelist}([\text{CONJ} \text{ nil}]) \oplus \text{nelist}([\text{CONJ} \text{ 1} \neg \text{nil}])] \\ \text{b.} \quad & \text{F Paul, (et) Jean et Bernard} \\ & \text{Paul, (and) Jean and Bernard} \\ & \text{‘Paul, Jean and Bernard’} \end{align*} \]

\(^{10}\) For a detailed discussion on the advantages of this kind of approach over an Xbar ConP analysis, see Borsley (2005).
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(43) a.  \textit{omnisyndetic-coord-ph} \Rightarrow [\text{DTRS nelist}([\text{CONJ} \{\neg \text{nil}\}])]
   
b.  \textit{F} et Paul et Jean  
       \textit{CORREL} Paul \textit{CORREL} Jean  
       ‘both Paul and Jean’

(44) a.  \textit{asyndetic-coord-ph} \Rightarrow [\text{DTRS nelist}([\text{CONJ} \text{nil}])]  
b.  \textit{F} Paul, Jean, Bernard  
       Paul, Jean, Bernard  
       ‘Paul, Jean, Bernard’

Turning to feature constraints, we follow Sag (2003) in assuming that lexical entries do not fix the type of their \textit{HEAD} value, but rather put an upper bound on it as illustrated in (45), where \(\leq\) means ‘equal or a supertype of’. Coordinate structures, on the other hand, require not only identity of \textit{SLASH} and \textit{VALENCE} features between the conjuncts and their mother node (which prevents asymmetric extraction, as well as the coordination of predicates with different subcategorization requirements), but also, by default, identity of \textit{HEAD} features, as represented in (46):

(45) a.  \textit{naïf} (‘naive‘): [\text{HEAD} 1 \leq \text{adj}]
   
b.  \textit{imbécile} (‘fool‘): [\text{HEAD} 2 \leq \text{noun}]

(46) Parallelism constraints in coordinate constructions

\[
\begin{align*}
\text{coord-phrase} & \Rightarrow \\
\text{SYNSEM} & \left[ \begin{array}{c}
\text{HEAD} & \text{H} \\
\text{VALENCE} & \text{V} \\
\text{SLASH} & \text{S}
\end{array} \right] \\
\text{DTRS} & \left[ \begin{array}{c}
\text{HEAD} & \text{H} \\
\text{VALENCE} & \text{V} \\
\text{SLASH} & \text{S}
\end{array} \right], \ldots, \\
\end{align*}
\]

From (45) and (46), it follows that one may coordinate conjuncts of different categories, in which case the \textit{HEAD} value of the coordinate phrase will be left underspecified, as illustrated in (47). The coordinate construction \textit{s\oe t naïf soit un imbécile} (‘either naïve or a fool‘) which combines an AP with an NP receives by unification an underspecified category \textit{nominal}, which is a common supertype for nouns and adjectives. As such, it may unify with the predicative complement selected by verbs such as \textit{être} (‘to be’) or \textit{devenir} (‘to become’) (whose category may correspond to an NP or an AP, among others), but not, for instance, with the complement selected by a complex predicate such as \textit{avoir l’air} (‘to seem’) (whose category can correspond to an AP but not to an NP), hence the contrast in (48) which is similar in this respect to those illustrated above in (29) and (31).
(47) Simplified tree for a coordination of unlikes

XP

\[ \text{omnisyndetic-coord-ph} \]

\[ \text{CONJ} \text{ nil} \]

\[ \text{HEAD} [H_1, H_2, H_3] \]

AP

\[ \text{head-comps-ph} \]

\[ \text{CONJ} \]

\[ \text{HEAD} [H_1, H_2, H_3] \leq \text{adj} \]

NP

\[ \text{head-comps-ph} \]

\[ \text{CONJ} \]

\[ \text{HEAD} [H_1, H_2, H_3] \leq \text{noun} \]

soit

naïf

soit

\text{un imbécile}

\& unify \([H_1, H_2, H_3] = \text{nominal}\)

(48)

a. F Paul est soit naïf soit un imbécile.
Paul is either naïve or an idiot
‘Paul is either naïve or an idiot.’

b. F* Paul a l’air soit naïf soit un imbécile.
Paul has the appearance either naïve or an idiot

c. F Paul est {naïf / un imbécile}.
Paul is {naïve / an idiot}
‘Paul is {naïve / an idiot}.’

d. F Paul a l’air {naïf / *un imbécile}.
Paul has the appearance {naïve / an idiot}
‘Paul seems to be {naïve / an idiot}.’

5.3 A formal analysis of gapping

5.3.1 Clusters and fragments
As argued for in Section 2, we adopt a “what you see is what you get” syntactic structure for elliptical constructions. A similar approach is given in Ginzburg and Sag (2000) who posit a head-only fragment construction to account for short answers and short questions, such as (49a, b), where the NPs John and who
receive a clausal interpretation without having the internal structure of an ordinary sentence.

(49)  a.  \(L_1 – \text{Who came?} \)
      \(L_2 = [[\text{John}]_{NP}]_S\)
    b.  \(L_1 – \text{Someone called.} \)
      \(L_2 = [[\text{Who}]_{NP}]_S?\)

In line with Culicover and Jackendoff (2005), we extend here the analysis in order to integrate the variety of fragments, which may involve more than one remnant (50a), and may be used not only as stand-alone utterances, but also as conjuncts, complements or adjuncts in various elliptical constructions among which gapping constructions (50b), which differ from other types such as “stripping” as in (50c), “comparative ellipsis” as in (50d), or “circumstantial ellipsis” as in (50e), by featuring both coordination and multiple remnants.

(50)  a.  \(F \ L_1 – \text{Qui d’autre compte venir?} \)
      \(\text{Who else is planning to come?} \)
      ‘Who else is planning to come?’
      \(L_2 = \text{Paul (avec Marie).} \)
      Paul (with Marie)
      ‘Paul (with Marie).’
    b.  \(F \text{ Paul aime les pommes et Marie *(les oranges).} \)
      Paul likes the apples and Marie the oranges
      ‘Paul likes apples and Marie oranges.’
    c.  \(F \text{ Paul viendra, } \{\text{ou (peut-être) Anne / mais *(pas) Anne /} \)
      Paul will come, {or (maybe) Anne / but not Anne /}
      \(et \text{ Anne *(aussi)}]. \)
      and Anne too
      ‘Paul will come, {or maybe Anne / but not Anne / and Anne too}.’
    d.  \(F \text{ Paul aime autant les pommes que Marie (les oranges).} \)
      Paul likes as much the apples than Marie (the oranges)
      ‘Paul likes apples as much as Marie (oranges).’
    e.  \(F \text{ Ses enfants l’appellent régulièrement, quoique (Marie) assez peu.} \)
      his children him-call regularly, though (Marie) not so often
      ‘His children call him regularly, though (Marie) not so often.’

We represent fragments as a subtype of head-only-phrase whose single head daughter corresponds to a “cluster”, namely to a subtype of non-headed-phrase with some underspecified category and one immediate daughter or more registered in a cluster head feature (cf. Mouret, 2006). This cluster phrase has been proposed
independently to account for non-constituent coordinations as in *I’ll give* [Mary a book and John a record].

(51)  Representation of a fragment with its cluster daughter

\[
\begin{align*}
&\text{XP} \\
&\quad [\text{head-fragment-ph}] \\
&\quad \quad [\text{CAT} \ 1] \\
&\quad \quad \text{HD-DTR} \\
&\quad \text{XP} \\
\end{align*}
\]

\[
\begin{align*}
&[\text{cluster-ph}] \\
&\quad [\text{CAT} \ 1] \quad \text{HEAD} \\
&\quad \quad [\text{head} \quad \text{cluster} \quad \text{nelist(synsem)} \quad \langle 1, \ldots, n \rangle] \\
&\quad \text{N-HD-DTR} \\
&\text{XP}_1 \\
&\text{N-HD-DTR} \\
&\text{N-HD-DTR} \\
&\text{XP}_n \\
\end{align*}
\]

The fragment phrase inherits from its daughter its underspecified category and may as such combine with functors selecting some non finite category, such as the conjunction *ainsi que* (‘as well as’) or the sentential adverb *non pas* (‘(and) not’) in French, as illustrated in (52) (from example (22b) above, Section 2.2.2).
To account for the amount of syntactic parallelism required, we further constrain remnants to unify their head features with the head features of some contextual correlates, using the context sal(ient)-(sub)utt(erance) introduced by Ginzburg and Sag (2000), which we consider here to take a list of synsem objects as its value:

(53) Syntactic constraints on head-fragment-ph

\[
\text{head-fragment-}_{ph} \Rightarrow \left[ \text{context} \mid \text{sal-utt} \left( \begin{array}{c}
      \text{head} [H_1] \\
      \text{major} + \\
      \ldots \\
      \text{head} [H_n] \\
    \end{array} \right) \right]
\]

As abbreviated by the [MAJOR+] specification, correlates must match synsem objects on the arg-st list of some verbal predicate in the source, in accordance with Hankamer’s ‘Major constituent condition’ (see Section 1 above). However, they are not necessarily instantiated in the syntax: they can be typed as non-canonical and therefore realized as verbal affixes (as in (60) below) or as null pronouns (as in (34)–(35) above).

---

11. See Ginzburg (2012) for a similar approach in terms of “focus establishing constituents.”
Assuming, as stated above, that lexical entries and the phrases they project only put an upper bound on the value of their head feature, it follows that remnants and their correlates in elliptical constructions may differ with respect to their syntactic category, as long as the underspecified result of the unification of their head features matches the subcategorization requirements of the source predicative material. This correctly accounts for contrasts such as the one in (54), similar to those in (28b, c, d) and (30b, c, d) above, as illustrated in (55) and (56).

(54) a. F Paul est naïf (et) Jean un imbécile.
    Paul is naive and Jean an idiot
    ‘Paul is naive and Jean an idiot.’

     b. F *Paul a l’air naïf et Jean un imbécile.
    Paul has the.appearance naive and Jean an idiot

(55) Simplified tree for (54a)

(56) Simplified tree for (54b)
Turning to semantic reconstruction, there are several possible routes. For example, Dalrymple et al. (1991) propose to define the content of fragments by applying to the content of remnants some function \([F]\) resulting from higher-order unification (U) of two lambda-terms: (i) the semantic representation of the source clause, (ii) the semantic representation resulting from applying some property \(P\) to the content of correlates in the source. While this account provides the right results for several types of ellipsis including gapping, as shown in (57), its extension to the full array of elliptical constructions remains controversial (see Ginzburg, 2012 for discussion).

(57)  
\begin{align*}  
a. & \text{John invited Sue and Bill Jane.} \\
& \text{John invited Sue} = \text{invited}'(\text{john}', \text{sue}') \\
& \text{[F]} = U(\text{invited}'(\text{john}', \text{sue}'), P(\text{john}', \text{sue}')) = \lambda x. \lambda y. \text{invited}'(x,y) \\
& \text{Bill Jane} = [F][\text{(bill}', \text{jane}')] = \lambda x. \lambda y. [\text{invited}'(x,y)](\text{bill}', \text{jane}’) \\
& = \text{invited}'(\text{bill}', \text{jane}’) \\
\end{align*}

We leave aside here the resolution of this issue, only requiring fragments’ content to be built from the meaning of the source, the remnants and their correlates by some placeholder relation \(R_{sem}\).

(58) Semantic constraint on head-fragment-ph

\[
\text{head-fragment-ph} \Rightarrow \begin{bmatrix} \text{source message } M \\ \text{sal-utt } \left( [\text{content } C_1], \ldots, [\text{content } C_n] \right) \\ \text{cluster } [\text{content } C_1], \ldots, [\text{content } C_n] \\ \text{content } R_{sem}(M, C_1), \ldots, (C_n, C_n) \end{bmatrix}
\]

5.3.2 Gapping constructions

To account for the specific properties of gapping over other types of ellipsis, we posit a subtype of coordinate phrase, which combines a non-empty list of \(n\)-ary fragments (each consisting in at least two remnants) to some preceding non-empty list of verbal clauses, the last of which is analyzed as the source:
As registered in the background contextual feature, some symmetric discourse relation must hold between conjuncts. In addition, the coordinate phrase must share its head value (i.e. its category) with the head value of its non-elliptical daughters, but not with that of its fragment daughters, hence overriding the default constraint in (46) above. We thus avoid underspecification of the gapping construction as a whole, since its distribution, contrary to fragments, is clearly that of a verbal clause.

Leaving open how exactly contextual correlates should be formally accessed within complete clauses, we provide to conclude an example of gapping structure in Romanian, which combines the three kinds of syntactic asymmetries considered in this chapter (category, word order and number of realized dependents), as shown in (60) and (61).

(60) R Mai merg acasă, dar la socri niciodată. adv-cl go at.home, but at parents-in-law never ‘I sometimes go home, but I never go to my parents-in-law.’
(61) Simplified tree for (60)
6. Conclusion

Focusing in this chapter on two Romance languages, French and Romanian, we presented several empirical arguments for preferring a construction-based approach of gapping (with semantic reconstruction of ellipsis) over alternative accounts that rely on movement or deletion. We then proceeded to study parallelism constraints, which prove stronger at the discourse level than at the syntactic level. Interestingly though, syntax is not completely overridden by semantics and discourse. While remnants may differ from their correlates with respect to their category, their position or their surface realization, each must still match a possible subcategorization of the verbal predicate its correlate depends on. We showed how this generalization, which is identical to the generalization governing the so-called coordination of “unlikes”, can be accounted for within a construction-based framework relying on inheritance hierarchies of typed feature structures such as HPSG in its more recent versions.

A construction-based approach enables gapping sentences to inherit properties from related constructions. We analyze the overall construction as a particular type of asymmetric coordination with the main conjunct as being non elliptical and verbal, and the gapped one as fragmentary and non verbal. The gapped sentence inherits both from the fragment type (used in short answers and short questions) for its contextual constraints, and from the cluster type (used for non-constituent coordinations) for its internal n-ary structure. While this goes beyond the scope of this chapter, we believe such analysis could be translated into other constructional frameworks such as Sign-Based Construction Grammar, provided that care is taken to ensure the non local feature checking between remnants and their correlates.

References


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