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GAPPING AND ITS MECHANISM

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Abstract

In my doctoral thesis, I discuss the mechanism of Gapping, which is an ellipsis phenomenon, in English, Russian, and Dutch. In its simplest form, Gapping elides the second occurrence of a finite verb in coordinated clauses: Sam ate an apple and Peter ~~ate~~ a pear. I propose that Gapping is derived via Parallel Merge. I also argue that Gapping is a twofold phenomenon which is derived from coordination of *v*Ps and TPs. I also consider categorial restrictions on Parallel Merge because heads and phrasal categories differ in compatibility with Parallel Merge. This compatibility is determined by uninterpretable features. The goal of Parallel Merge is to reduce the quantity of uninterpretable features in a derivation; thus, Parallel Merge can only be applied to elements that bear uninterpretable features.

Contents

Abbreviations used in the thesis

NOM	**Nominative**
GEN	**Genitive**
ACC	**Accusative**
INSTR	**Instrumental**
LOC	**Locative**
MASC	**Masculine**
FEM	**Feminine**
SG	**Singular**
PL	**Plural**

Chapter 1

Introduction

1.1 Diagnosing Gapping

The topic of the present thesis is Gapping, which is an ellipsis phenomenon taking place at a clausal level. The goal of this introductory chapter is to demonstrate that Gapping is indeed distinct from other major ellipsis phenomena.

The chapter is organized as follows. First, I discuss the crucial properties of Gapping and provide a brief history of their discovery. Then I contrast Gapping with VP-ellpsis, Pseudogapping, and Right Node Raising. The chapter concludes with a brief summary.

Before properly introducing Gapping as an ellipsis phenomenon, one must address three major questions. The first issue is to determine what is deleted (i.e. the ellipsis site). The second issue is to describe the conditions on remnants. Finally, the third issue is to find a syntactic element that triggers the deletion (i.e. the ellipsis licensor). Hence, in this section we attempt to answer the following questions:

i. What can be deleted by Gapping?

ii. What are the restrictions on the remnants of Gapping?

iii. What are the licensors of Gapping?

Gapping was initially introduced in Ross (1970). He did not attempt to give an

exhaustive account of Gapping and defines it as deletion of a reoccurring finite verb in coordinated clauses like (1):

(1) Tom has a pistol, and Dick ~~has~~ a sword.
(Ross 1970: 250)

Ross draws a conclusion that Gapping operates forwards in right-branching languages like English and applies backwards in left-branching languages like Japanese:

(2) a. **English**

I ate fish, Bill ~~ate~~ rice, and Harry ~~ate~~ roast beef. (Ross 1970: 250)

b. **Japanese**

watakusi wa sakand o ~~tabe~~, Biru wa gohan o tabeta
I (prt) fish (prt) eat, Bill (prt) rice (prt) ate
'I ate fish, and Bill ~~ate~~ rice' (Ross 1970: 251)

In (2a) , the deleted verb *ate* is situated before its complement, hence the verb *ate* is on the left branch. On the contrary, the verb *tabe* 'ate' in (2b) is placed after the verbal complement because Japanese is a head-final language. Consequently, the examples in 2 lead Ross to the next formulation:

(3) The order in which Gapping operates depends on the order of elements at the time that the rule applies; if the identical elements are on left branches, GAPPING operates forward; if they are on right branches, it operates backward.
(Ross 1970: 251)

Gapping is also available in Russian and Dutch:

(4) a. **Russian**

Petja izučaet matematiku, a Saša ~~izučaet~~
Peter.NOM studies mathematics.ACC and Alex.NOM studies
lingvistiku.
linguistics.ACC
'Peter studies mathematics, and Alex ~~studies~~ linguistics.'

b. **Dutch**

Peter studeert wiskunde, en Alex ~~studeert~~ taalkunde.
Peter studies mathematics and Alex studies linguistics
'Peter studies mathematics, and Alex ~~studies~~ linguistics.'

So far, Gapping seems to be a rule that deletes a reoccurring finite verb. However, it would be more precise to say that Gapping elides not only the verb but also all other elements that can be restored from the antecedent clause:

(5) a. **English**

Carrie gave a set of directions to me, and Will ~~gave~~ a map ~~to me~~. (Johnson 2014: 12)

b. **Dutch**

Jan stuurde Maria naar de winkel, en Peter ~~stuurde~~ zijn broer ~~naar~~
Jan sent Maria to the shop and Peter sent his brother to
~~de winkel~~.
the shop
'Jan sent Maria to the shop and Peter ~~sent~~ his brother ~~to the shop~~.'

c. **Russian**

Saša est ris po ponedel'nikam, a Petja ~~est~~ ~~ris~~
Alex.NOM eats rice.ACC on Mondays and Peter.NOM eats rice.ACC
po pjatnicam.
on Fridays
'Alex eats rice on Mondays, and Peter ~~eats rice~~ on Fridays.'

After the introduction of Gapping in Ross (1970), the next important discovery is the restriction on the ellipsis site which is known as the No Embedding Constraint. It requires that Gapping cannot be applied inside an embedded clause. Originally the No Embedding Constraint was described in Hankamer (1979). Hankamer argues that "Gapping does not "go down into" subordinate clauses" (Hankamer 1979: 19):

(6) a. **English**

*Alfonse stole the emeralds, and I think that Mugsy ~~stole~~ the pearls. (Hankamer 1979: 19)

b. **Dutch**

*Alfonse heeft de smaragden gestolen, en ik beweer dat Mugsy de
Alfonse has the emeralds stolen and I think that Mugsy the
parels ~~heeft~~ ~~gestolen~~.
pearls has stolen

'Alfonse stole the emeralds, and I think that Mugsy ~~stole~~ the pearls.'

c. **Russian**

*Al'fons ukral izumrudy, a ja polagaju, čto Magsi
Alfonse.NOM stole emeralds.ACC and I.nom think that Mugsy.nom
~~ukrala~~ žemčuga.
stole pearls.ACC

'Alfonse stole the emeralds, and I think that Mugsy ~~stole~~ the pearls.'

In (6), the finite verb *stole* is located within the TP *Alfonse stole the emaralds* and within the CP *that Mugsy stole the pearls*. However, the grammaticality of (6a) and (6b) can be dramatically improved if the conjunction *that* is also deleted:

(7) a. **English**

Alfonse stole the emeralds, and I think ~~that~~ Mugsy ~~stole~~ the pearls.

b. **Dutch**

Alfonse heeft de smaragden gestolen, en ik beweer ~~dat~~ Mugsy de
Alfonse has the emeralds stolen and I think that Mugsy the
parels ~~heeft~~ ~~gestolen~~.
pearls has stolen

'Alfonse stole the emeralds, and I think that Mugsy ~~stole~~ the pearls.'

In (7), Gapping is available under embedding since the complementizer is deleted. Although I do not provide a solution to this conundrum in my thesis, it could be hypothesized that the No Embedding Constraint should be relaxed to account for these cases.

Furthermore, Gapping does not allow its antecedent clause to be embedded (the second conjunct is not under the scope of *that*):

(8) a. **English**

*I think that Alfonse stole the emeralds, and Mugsy ~~stole~~ the pearls.

(Johnson 2014: 7)

b. Dutch

*Ik beweer dat Alfonse de smaragden heeft gestolen, en Mugsy ~~heeft~~
I think that Alfonse the emeralds has stolen and Mugsy has
de parels ~~gestolen~~.
the pearls stolen
'I think that Alfonse stole the emeralds, and Mugsy ~~stole~~ the pearls.'

c. **Russian**

*Ja dumaju čto Al'fons ukral izumrudy, a Magsi ~~ukrala~~
I.nom think that Alfonse.nom stole emeralds.ACC and Mugsy stole
žemčuga.
pearls
'I think that Alfonse stole the emeralds, and Mugsy ~~stole~~ the pearls.'

The No Embedding Constraint can also be relaxed in the following way:

(9) The No Embedding Constraint:

Let A and B be conjoined or disjoined phrases, and β be the string elided in B whose antecedent is α in A. Then α and β must contain the highest verb in A and B. (Johnson 2006: 412)

The relaxed version of No Embedding Constraint (see (9) allows the Gapping clause and its antecedent to be parallel embedded. This is indeed the case in Russian:

(10) a. *Petja kupil knigu, a ja znaju, čto Vasja ~~kupil~~
Peter.nom bought book.ACC and I.nom know that Vasja.nom bought
tetrad'.
notebook.ACC
'Peter bought a book, and I know that Vasja ~~bought~~ a notebook.'

b. Ja znaju, [$_{CP}$ čto Petja kupil knigu] i ('and') [$_{CP}$ čto Vasja ~~kupil~~ tetrad'].

Note that parallel embedding does not contradict (9). In (10), A and B are conjoined CPs and α and β are the verb *kupil* 'bought'. Since *kupil* 'bought' is the highest verb in each CP (i.e. it is not embedded in another CP), Johnson's version of the No Embedding Constraint still holds. The fact that Russian Gapping is compatible with CP-coordination demonstrates that the scope of Gapping cannot be reduced to the TP-coordination. What appears to be problematic for the unified account of Gapping is that English and Dutch disallow Gapping in parallel CPs:

(11) a. **English**

*I know that Petra bakes cookies and that Erika ~~bakes~~ chocolate cake.

b. **Dutch**

*Ik weet dat Petra koekjes bakt en dat Erika chocoladetart ~~bakt~~.
I know that Petra cookies bakes and that Erika chocolate.cake bakes
'I know that Petra bakes cookies and that Erika ~~bakes~~ chocolate cake.'

Given that English and Dutch do not allow Gapping clauses to be embedded, I conclude that the relaxed No Embedding Constraint formulated by Johnson is not universal. Otherwise, English and Dutch would accept Gapping under parallel embedding, which is not the case (see (11).

The next crucial condition is that Gapping is subject to island constraints. It was originally mentioned in Neijt (1979):

(12) a. Coordinate Structure Constraint:

*Alfonse cooked the rice, and Harry ~~cooked~~ and ate the beans.

b. Sentential Subject Constraint: *Alfonse ate the rice, and that Harry ~~ate~~ the beans is fantastic.

c. Complex NP Constraint: *Alfonse ate the rice, and I was stunned by the fact that Harry ~~ate~~ the beans.

(Neijt 1979: 23)

The fact that Gapping cannot be applied inside sentential subjects and complex NPs naturally follows from the No Embedding Constraint: in (12b) and (12c), the clause with Gapping is embedded, while its antecedent is not. What cannot be reduced to the general prohibition of embedding is the Coordinate Structure Constraint (CSC). Thus, it must be formulated as a separate restriction on Gapping. Gapping in Russian and Dutch is also subject to the CSC:

(13) a. **Russian**

*Petja prigotovil ris, a Vasja ~~prigotovil~~ i s"el boby.
Peter.nom cooked rice.ACC and Vasja.nom cooked and ate beans
Peter cooked the rice, and Vasja ~~cooked~~ and ate the beans.

b. **Dutch**

*Peter kookte de rijst, en Jan ~~kookte~~ en at de bonen.
Peter cooked the rice and Jan cooked and ate the beans
Peter cooked the rice, and Jan ~~cooked~~ and ate the beans.

Another important discovery was the contrast restriction on Gapping remnants. According to Kuno (1976), the remnants of Gapping must introduce new information. To put it differently, they must be distinct from their counterparts in the antecedent clause:

(14) Constituents deleted by Gapping must be contextually known. On the other hand, the two constituents left behind by Gapping necessarily represent new information and, therefore, must be paired with constituents in the first conjunct that represent new information. (Kuno 1976: 310)

In Winkler (2005), the contrast restriction on remnants is outlined as follows:

(15) Contrastive Focus Principle: In gapping the deleted elements must be given. The remnants must occur in a contrastive relation to their correlates.
(Winkler 2005: 192)

The validity of (15) and (14) can be justified by the next examples. In (16), all Gapping remnants are properly contrasted: John and Mary are different Agents of drinking and so are the drinks consumed by these Agents.

(16) a. **English**

John drank whisky, and Mary ~~drank~~ wine.

Dutch

Jan dronk wijn, en Peter ~~dronk~~ thee.
Jan drank wine and Peter drank tea
'Jan drank wine, and Peter ~~drank~~ tea.'

Russian

Petja pil vino, a Petja ~~pil~~ čaj.
Peter.nom pil wine.ACC and Peter.nom drank tea.ACC

'Jan drank wine, and Peter ~~drank~~ tea.'

In (17), direct objects are not properly contrasted: there is no difference between whisky in the first conjunct and the same drink in the second coordinated clause. Thus, Gapping is rendered illicit:

(17) a. **English**

*John drank whisky, and Mary ~~drank~~ whisky.

Dutch

*Jan dronk wijn, en Peter ~~dronk~~ wijn.
Jan drank wine and Peter drank tea

'Jan drank wine, and Peter ~~drank~~ wijn.'

Russian

*Petja pil vino, a Petja ~~pil~~ vino.
Peter.nom pil wine.ACC and Peter.nom drank wine.ACC

'Jan drank wine, and Peter ~~drank~~ wine.'

Another constraint on remnants prohibits any voice mismatches between contrasted clauses. The incompatibility of voice mismatches with certain ellipsis types was originally introduced in Merchant (2008):

(18) a. **VP-ellipsis and voice mismatches**

This problem was to have been looked into, but obviously nobody did. <look into this problem> (Merchant 2008: 169)

b. **Pseudogapping and voice mismatches**

*Hundertwasser's ideas are respected by architects more than most people do his work. <respect> (Merchant 2008: 170)

Gapping is identical to Pseudogapping when it comes to intolerance to voice mismatches:

(19) a. **English**

*Roses were bought by Peter, and Sam ~~bought~~ violets.

b. **English**

Peter bought roses, and Sam ~~bought~~ violets.

c. **Dutch**

*Rozen waren door Peter gekocht, en Jan ~~kocht~~ viooltjes.
roses were by Peter bought and Jan bought violets

'Roses were bought by Peter, and Jan ~~bought~~ violets.'

d. **Dutch**

Peter kocht rozen, en Jan ~~kocht~~ viooltjes.
Peter bought roses and Jan bought violets

'Peter bought roses, and Jan ~~bought~~ violets.'

e. **Russian**

*Rozy byli kupleny Petej, a Vasja ~~kupil~~ fialki.
roses.nom were bought Peter.INSTR and Vasja.nom bought violets.ACC

'Roses were bought by Peter, and Sam ~~bought~~ violets.'

f. Russian

Petja kupil rozy, a Vasja ~~kupil~~ fialki.
Peter.nom bought roses.ACC and Vasja.nom bought violets.ACC

'Peter bought roses, and Jan ~~bought~~ violets.'

The final condition defines that the remnants of Gapping do not have to be complete constituents. To put it differently, Gapping can elide sub-parts of constituents:

(20) Betsy believed Peter to be sexy, and Alan ~~believed~~ [$_{TP}$ Barbara ~~to be sexy~~].

(Sag 1976: 223)

In 20, the specifier of the *v*P *Barbara* survives the deletion, while the rest of the *v*P is elided. In this example, the contrast constraint on Gapping remnants prevails over constituent borders. Gapping in Russian and Dutch also can delete parts of constituents. In (21a), Gapping deletes the finite verb *prišel* 'came' and the complement of the preposition *bez* 'without'; the preposition itself survives deletion. In (21b), the

direct object of the verb *bestellen* 'order', which is *oesters* 'oysters', survives Gapping, although *bestellen* 'order' is deleted.

(21) a. **Russian**

Saša prišel s knigoj, a Petja ~~prišel~~ bez ~~knigi~~.
Alex.nom came with book.INSTR and Peter came without book.GEN
'Alex came with a book, and Peter ~~came~~ without ~~a book~~'.

b. **Dutch**

omdat Karel voorgesteld heeft mosselen te bestellen en Harrie
since Karel proposed has mussels to order and Harrie
~~voorgesteld~~ ~~heeft~~ oesters ~~te bestellen~~
proposed has oysters to order
'since Karel proposed has mussels to order and Harrie ~~proposed has~~ oysters ~~to order~~' (Neijt 1979: 22)

However, Gapping cannot always delete parts of constituents. For instance, it is prohibited to delete the preposition while retaining its complement:

(22) a. **English**

*I write with a pen, and Peter ~~writes~~ ~~with~~ a pencil.

b. **Russian**

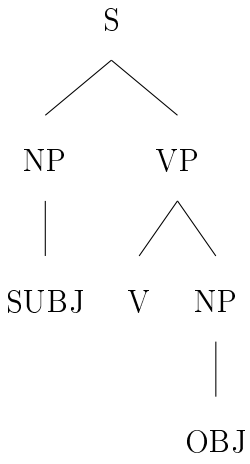
*Petja putešestvuet na lodke, a Vasja ~~putešestvuet~~ ~~na~~
Peter.nom travels on boat.LOC and Vasja.nom travels on
mašine.
car.LOC
'Peter travels by boat, and Vasja ~~travels~~ by car.'

c. **Dutch**

*Ik schrijf met een pen, en Peter ~~schrijft~~ ~~met~~ een potlood.
I write with a pen and Peter writes with a pencil
'I write with a pen, and Peter ~~writes~~ ~~with~~ a pencil.'

This problem was outlined in Hankamer (1973). He attempted to solve it via the notion of major constituents. A major constituent is "is a constituent either immediately dominated by S_O or immediately dominated by VP, which is immediately dominated by S_O" (Hankamer 1973:18). Only subjects and objects can survive ellipsis and become licit remnants:

(23)

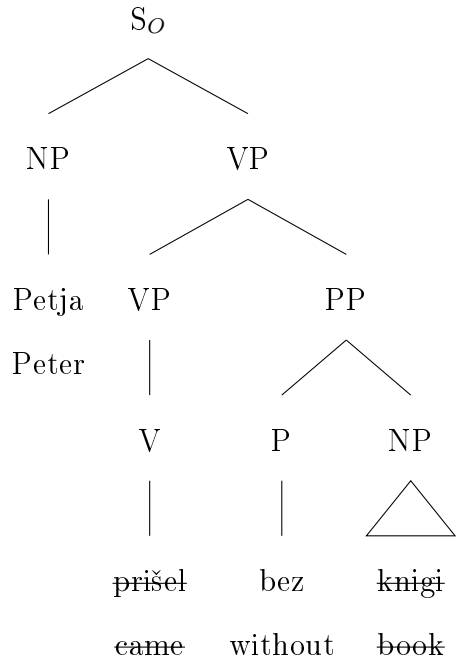


However, major constituents approach cannot account for all grammatical instances of Gapping. For instance, it actually does not allow heads of major constituents to be remnants of Gapping: even if XP is immediately dominated by S_0 or VP, its head X_O will be immediately dominated by XP, not by S_O or VP. Nevertheless, having a head as a Gapping remnant is possible (I repeat (21a) below):

(24) a. Russian

Saša prišel s knigoj, a Petja ~~prišel~~ bez ~~knigi~~.
Alex.NOM came with book.INSTR and Peter came without book.GEN
'Alex came with a book, and Peter ~~came~~ without ~~a book~~'.

b.



In (24b), which is a syntactic representation of the Gapping conjunct in (24a), the PP

bez knigi 'without a book' is major constituent dominated by VP. The head of the PP *bez knigi* 'without a book' is not a major constituent: it is immediately dominated by PP; S_O and VP do not immediately dominate the preposition. However, contrary to the prediction of Hankamer's theory, the preposition *bez* 'without' is a licit Gapping remnant. Consequently, an alternative solution must be found to account for major constituency effects.

In the next sections, I contrast Gapping with VP-ellipsis, Pseudogapping, and Right Node Raising using Gapping properties discussed above.

1.2 Gapping versus VP-ellipsis

VP-ellipsis is an ellipsis rule that results in deletion of the whole VP. VP-ellipsis can be found in Russian and English:

(25) a. Ja ne mogu igrat' na pianino, no Petja možet /$_{VP}$ ~~igrat'~~ ~~na~~ ~~pianino~~/.
I not can play on piano but Peter can play on piano

'I cannot play the piano but Peter can'

b. I cannot play the piano but Peter can [$_{VP}$ ~~play~~ ~~the~~ ~~piano~~].

Although Dutch does not have a counterpart of English and Russian VP-ellipsis, it has Modal Complement Ellipsis (henceforth MCE). MCE is more limited than standard VP-ellipsis. As demonstrated in Aelbrecht (2010), MCE can only be licensed by root modals (i.e. modals that do not indicate the event probability). In (26), *moet* 'must' expresses obligation and can delete its complement:

(26) Jessica wil niet gaan werken morgen, maar ze moet ~~gaan~~ ~~werken~~ ~~morgen~~.
Jessica wants not go work tomorrow but she must go work tomorrow

'Jessica doesn't want to go to work tomorrow, but she has to.' (Aelbrecht 2010: 47)

In (27), *wil* 'wants' expresses willingness and can delete its complement.

(27) Thomas moet dansen, maar hij wil niet ~~dansen~~.
Thomas must dance but he wants not dance
'Thomas has to dance, but he doesn't want to.' (Aelbrecht 2010: 47)

In (28), *Kan* 'can' expresses the probability of the fact that someone has done his homework. Hence, *can* 'can' cannot delete its complement:

(28) Klaas zegt dat hij al klaar is met zijn huiswerk, maar hij kan toch
Klaas says that he already ready is with his homework but he can prt
niet *(al klaar zijn met zijn huiswerk).
not already ready be with his homework
'Klaas says that he's done with his homework already, but he can't be.'

(Aelbrecht 2010: 49)

Since Dutch MCE is significantly different from VP-ellipsis, it is not further considered in the present section.

VP-ellipsis is compatible with a larger array of coordinating and subordinating conjunctions, while Gapping is not:

(29) a. **VP-ellipsis**

Ja ne mogu igrat' na pianino, no Petja možet $\lceil_{VP}$ ~~igrat'~~ ~~na~~
I not can play on piano but Peter can play on piano
~~pianino~~$\rfloor$.

'I cannot play the piano but Peter can ~~play the piano~~.'

b. **VP-ellipsis** I cannot play the piano but Peter can ~~play the piano~~.

c. **Gapping**

*Ja igraju na pianino, no Petja ~~igraet~~ na skripke.
I play on piano but Peter plays on violin
'I play the piano but Peter ~~plays~~ the violin.'

d. VP-ellipsis

Ja ne budu igrat' na pianino, poskol'ku Petja budet $\lceil_{VP}$ ~~igrat'~~ ~~na~~
I not will play on piano because Peter will play on piano
~~pianino~~$\rfloor$.

'I will not play the piano because Peter will ~~play the piano~~.'

e. VP-ellipsis

I will not play the piano because Peter will ~~play the piano~~.

f. **Gapping**

*Ja igraju na pianino, poskol'ku Petja ~~igraet~~ na skripke.
I play on piano because Peter plays on violin

'I play the piano because Peter ~~plays~~ the violin.'

g. **Gapping** *I play the piano because Peter ~~plays~~ the violin.

(29) suggests that VP-ellipsis is more compatible with subordinating conjunctions than Gapping.

Gapping is subject to the No Embedding Constraint, while VP-ellipsis is not:

(30) a. **Gapping**

*Petja kupil učebnik, a ja polagaju, čto Maša
Peter.nom bought textbook.ACC and I.nom think that Mary.nom
~~kupila~~ linejku.
bought ruler.ACC

'Peter bought a textbook, and I think that Mary ~~bought~~ a ruler.'

b. **Gapping**

*Peter bought a textbook, and I think that Mary ~~bought~~ a ruler.

c. **VP-ellipsis**

Saša možet est' midij, a ona utverždaet, čto
Alex.nom can eat mussels.ACC and she.nom claims that
drugie ne mogut ~~est'~~ ~~midij~~.
others.nom not can eat mussels.ACC

'Alex can eat mussels and she claims that others cannot ~~eat mussels~~.'

d. **VP-ellipsis** Alex can eat mussels and she claims that others cannot ~~eat mussels~~.

Again, since VP-ellipsis is licensed by modal verbs and the licensor *mogut* 'can' is located inside the embedded clause, the licensing is local and the No Embedding

Constraint can be violated.

It is important to mention that both Gapping and VP-ellipsis are compatible with Parallel Embedding:

(31) a. **Gapping and Parallel Embedding**

Ja polagaju, čto Maša kupila linejku i čto Petja
I.NOM think that Mary.NOM bought ruler.ACC and that Peter.NOM
~~kupil~~ učebnik .
bought textbook.ACC

'I think that Mary bought a ruler and that Peter ~~bought~~ a textbook.'

b. **VP-ellipsis and Parallel Embedding**

Ona utverždaet čto Saša možet est' midii i čto
she.NOM claims that Alex.NOM can eat mussels.ACC and that
drugie ne mogut ~~est'~~ ~~midii~~.
others.NOM not can eat mussels.ACC

'She claims that Alex can eat mussels and that others cannot ~~eat mussels~~.'

Since Gapping is subject to the No Embedding Constraint, Gapping is ungrammatical within islands. For instance, VP-ellipsis is exempt from the Complex NP Constraint but cannot violate the Coordinate Structure Constraint:

(32) **Complex NP Constraint**

a. *Petja kupil učebnik, a ja byl poražen tem faktom,
Peter.NOM bought textbook.ACC and I.NOM was amazed by that
čto Maša ~~kupila~~ linejku.
fact that Mary.NOM bought ruler.ACC

'Peter bought a textbook, and I was amazed by the fact that Mary ~~bought~~ a ruler.'

b. *Peter bought a textbook, and I was amazed by the fact that Mary ~~bought~~ a ruler.

c. Petja možet kupit' učebnik, a ja byl poražen tem
Peter.NOM can buy textbook.ACC and I.NOM was amazed by
faktom, čto Maša ne možet ~~kupit'~~ ~~učebnik~~.
that fact that Mary.NOM not can buy textbook.ACC

'Peter can buy a textbook, and I was amazed by the fact that Mary cannot ~~buy a textbook~~.'

d. Peter can buy a textbook, and I was amazed by the fact that Mary cannot ~~buy a textbook~~.

In (32), Gapping cannot delete the verb *bought* inside the embedded clause *that Mary bought a ruler*, as that would be a violation of the No Embedding Constraint. VP-ellipsis, on the contrary, can operate within embedded clauses (see 30c) and the embedded clause *that Mary bought a ruler* is no exception.

Interestingly, VP-ellipsis cannot violate just any island constraint, since both Gapping and VP-ellipsis are subject to the Coordinate Structure Constraint:

(33) **Coordinate Structure Constraint**

a. *Petja kupil učebnik, a Maša ~~kupila~~ i sprjatala
Peter.NOM bought textbook.ACC and Mary.NOM bought and hid
linejku.
ruler.ACC
'Peter bought a textbook, and I think that Mary ~~bought~~ and hid a ruler.'

b. *Peter bought a textbook and Mary ~~bought~~ and hid a ruler.

c. *Petja možet kupit' učebnik, a Maša ne možet ~~kupit'~~
Peter.NOM cam buy textbook.ACC and Mary.NOM not can buy
i sprjatat' ~~učebnik~~.
and hide textbook.ACC
'Peter bought a textbook, and I think that Mary cannot ~~buy~~ and hide a ruler.'

d. *Peter bought a textbook and Mary cannot ~~buy~~ and hide a ruler.

VP-ellipsis can violate Complex NP Constraint because its licensor is inside the relative clause. However, VP-ellipsis cannot delete parts of VPs and is still subject to the Coordinate Structure Constraint. When it comes to locality restrictions, the only difference between Gapping and VP-ellipsis is the No Embedding Constraint, which is crucial for Gapping and completely irrelevant for VP-ellipsis.

Only Gapping can have sub-constituents as its remnants. In (34b), Gapping is compatible with the adjective *white*, which is a remnant of the NP *white roses*. The

process responsible for the reduced NP is NP-ellipsis, which does not depend on Gapping, as demonstrated in (34a)

(34) a. Petja kupil krasnye rozy, a Vasja kupil belye
Peter.NOM bought red roses.ACC and Vasja.NOM bought white
~~rozy~~.
roses.ACC
'Peter bought red roses, and Vasja ~~bought~~ white ~~roses~~.'

b. Petja kupil krasnye rozy, a Vasja ~~kupil~~ belye
Peter.NOM bought red roses.ACC and Vasja.NOM bought white
~~rozy~~.
roses.ACC
'Peter bought red roses, and Vasja ~~bought~~ white ~~roses~~.'

VP-ellipsis cannot have sub-constituents as its remnants, although (35b), which is the source of (35a), is grammatical. The grammaticality of is due to the deletion of the NP *roses*, which is an independent case of NP-ellipsis.

(35) a. *Petja kupil krasnye rozy, a Vasja mog ~~kupit'~~ belye
Peter.NOM bought red roses.ACC and Vasja.NOM could buy white
~~rozy~~.
roses.ACC
'Peter bought red roses, and Vasja could ~~buy~~ white ~~roses~~.'

b. Petja kupil krasnye rozy, a Vasja mog kupit' belye
Peter.NOM bought red roses.ACC and Vasja.NOM could buy white
~~rozy~~.
roses.ACC
'Peter bought red roses, and Vasja could ~~buy~~ white ~~roses~~.'

In Russian, both Gapping and VP-ellipsis disallow voice mismatches between the antecedent clause and the ellipsis site. However, VP-ellipsis allows voice mismatches in English. In (36), the gapped verb cannot be passive while its antecedent is active. Russian VP-ellipsis disallows the passive VP *be bought by Peter* to have an active VP as an antecedent, while English VP-ellipsis tolerates voice mismatches:

(36) a. Russian

*Petja kupil rozy, a tul'pany ~~byli~~ ~~kupleny~~ Vasej.
Peter.NOM bought roses.ACC and tulips.NOM were bought Vasja.INSTR

'Peter bought roses, and tulips ~~were bought~~ by Vasja.'

b. English

*Peter bought roses, and tulips ~~were bought~~ by Vasja.

c. Russian

*Petja možet kupit' rozy, a tul'pany ne mogut ~~byt'~~
Peter.NOM can buy roses.ACC and tulips.NOM not can be
~~kupleny~~ ~~Petej~~.
bought Peter.INSTR

'Peter can buy roses, and tulips cannot ~~be bought by Peter~~.'

d. English

Peter can buy roses, and tulips cannot ~~be bought by Peter~~.

In (37a), voice is identical in the ellipsis site and its antecedent, which dramatically improves grammaticality:

(37) a. Russian

Petja kupil rozy, a Vasja ~~kupil~~ tul'pany.
Peter.NOM bought roses.ACC and Vasja.NOM bought tulips.ACC

'Peter bought roses, and Vasja ~~bought~~ tulips.'

b. English

Peter bought roses, and Vasja ~~bought~~ tulips.

c. Petja možet kupit' rozy, a Vasja ne možet ~~kupit'~~
Peter.NOM can buy roses.ACC and Vasja.NOM not can buy
~~rozy~~.
roses.ACC

'Peter can buy roses, and Vasja cannot ~~buy roses~~.'

d. English

Peter can buy roses, and Vasja cannot ~~buy roses~~.

Russian is usually considered to lack P-stranding (see Podobryaev 2007), as can be seen in (38a). Nevertheless, P-stranding is rendered grammatical under Gapping:

(38) a. *Čem Vasja prišel s ~~čem~~?
what.INSTR Vasja.NOM came with what.INSTR
'What did Vasja came with?'

b. Saša prišel s knigoj, a Petja ~~prišel~~ bez ~~knigi~~.
Alex.NOM came with book.INSTR and Peter came without book.GEN
'Alex came with a book, and Peter ~~came~~ without ~~a book~~.'

The situation is slightly more difficult with VP-ellipsis. Although (39) is grammatical, this is a case of Pseudogapping and not of VP-ellipsis because VP-ellipsis usually requires deletion of the whole VP, not partial VP deletion (see Lasnik 1999). As this question is beyond the scope of the dissertation, I will not focus on the issue here and assume that it is Pseudogapping, not VP-ellipsis, that allows P-stranding:

(39) **Pseudogapping**

Saša prišel s knigoj, a Petja mog ~~prijti~~ bez ~~knigi~~.
Alex.NOM came with book.INSTR and Peter could come without book.GEN

'Alex came with a book, and Peter could ~~come~~ without ~~a book~~.'

I will discuss Pseudogapping in the next section.

Both Gapping and VP-ellipsis cannot delete parts of major constituents:

(40) a. **Gapping**

*I write with a pen, and Peter ~~writes~~ ~~with~~ a pencil.

*Petja uexal v Greciju, a Vasja ~~uexal~~ ~~v~~ Ispaniju.
Peter.NOM went to Greece.ACC and Vasja.NOM went to Spain.ACC

'Peter went to Greece, and Vasja ~~went~~ ~~to~~ Spain.'

b. **VP-ellipsis**

*I write with a pen, and Peter will ~~write~~ ~~with~~ a pencil.

*Petja ne možet uexat' v Greciju, a Vasja možet
Peter.NOM not can go to Greece.ACC and Vasja.NOM can
~~uexat'~~ ~~v~~ Ispaniju.
go to Spain.ACC

'Peter cannot go to Greece, and Vasja can ~~go~~ ~~to~~ Spain.'

To sum up, VP-ellipsis has the following properties:

- Russian VP-ellipsis is licit under the conjunctions *no* 'but' and *poskol'ku* 'because'. Russian Gapping is incompatible with these conjunctions.
- VP-ellipsis does not obey the Complex NP Constraint, but obeys the Coordinate Structure Constraint. Gapping obeys each of these island constraints.
- VP-ellipsis does not allow voice mismatches in Russian, although voice mismatches are acceptable under English VP-ellipsis. Gapping disallows voice mismatches in both languages.
- VP-ellipsis is licit in embedded and parallel embedded constructions. In Russian, Gapping is grammatical under parallel embedding.
- VP-ellipsis cannot have sub-constituents as remnants. Sub-constituents are grammatical remnants of Gapping.
- VP-ellipsis disallows P-stranding. Gapping, on the contrary, is compatible with P-stranding.
- Both VP-ellipsis and Gapping cannot delete parts of major constituents.

1.3 Gapping versus Pseudogapping

Pseudogapping is partially similar to Gapping, since it also deletes reoccurring elements in the verbal phrase. However, contrary to Gapping, it always has an auxiliary or a modal verb in the ellipsis clause:

(41) a. Sam has eaten the soup and Peter has ~~eaten~~ the cake.

b. **Russian**

Petja budet pit' vodku, a Vasja budet ~~pit'~~ kon'jak.
Peter.NOM will drink vodka.ACC and Vasja will drink cognac.ACC
'Peter will drink vodka, and Vasja will ~~drink~~ cognac.'

Dutch lacks Pseudogapping that can be derived from clauses with perfect tenses (see 42a). Moreover, (42b) shows that Modal Complement Ellipsis cannot derive Pseudogapping structures:

(42) a. *Peter heeft een woordenboek gekocht, en Jan heeft een potlood
Peter has a dictionary bought and Jan has a pencil
~~gekocht~~.
bought
'Peter has bought a dictionary and Jan has ~~bought~~ a pencil.'

b. *Peter wil een woordenboek kopen, en Jan wil een potlood
Peter wants.to a dictionary buy and Jan wants.to a pencil
~~kopen~~.
buy
'Peter wants to buy a dictionary and Jan wants to ~~buy~~ a pencil.'

Nevertheless, the gapped versions of 42a) and (42b) are perfectly grammatical:

(43) a. Peter heeft een woordenboek gekocht, en Jan ~~heeft~~ een potlood
Peter has a dictionary bought and Jan has a pencil
~~gekocht~~.
bought
'Peter has bought a dictionary and Jan has ~~bought~~ a pencil.'

b. Peter wil een woordenboek kopen, en Jan ~~wil~~ een potlood
Peter wants.to a dictionary buy and Jan wants.to a pencil
~~kopen~~.
buy
'Peter wants to buy a dictionary and Jan wants to ~~buy~~ a pencil.'

Pseudogapping is compatible with a larger array of coordinate and subordinating conjunctions, while Gapping is not:

(44) a. Pseudogapping

Ja ne budu igrat' na pianino, no Petja budet ~~igrat'~~ na
I.NOM not will play on piano.LOC but Peter will play on
skripke.
violin.LOC
'I will not play the piano but Peter will ~~play~~ the violin.'

I will not play the piano but Peter will ~~play~~ the violin.

b. Gapping

*Ja igraju na pianino, no Petja ~~igraet~~ na skripke.
I play on piano but Peter plays on violin
'I play the piano but Peter ~~plays~~ the violin.'

I play the piano but Peter ~~plays~~ the violin.

c. Pseudogapping

Ja ne budu igrat' na pianino, no Petja budet ~~igrat'~~ na
I.NOM not will play on piano.LOC but Peter will play on
skripke.
violin.LOC
'I will not play the piano but Peter will ~~play~~ the violin.'

I will not play the piano but Peter will ~~play~~ the violin.

d. Gapping

*Ja igraju na pianino, poskol'ku Petja ~~igraet~~ na skripke.
I play on piano because Peter plays on violin
'I play the piano because Peter ~~plays~~ the violin.'

*I play the piano because Peter ~~plays~~ the violin.

Gapping is subject to the No Embedding Constraint, while Pseudogapping is not:

(45) a. *Petja kupil učebnik, a ja polagaju, čto Maša
Peter.NOM bought textbook.ACC and I.NOM think that Mary.NOM
~~kupila~~ linejku.
bought ruler.ACC
'Peter bought a textbook, and I think that Mary ~~bought~~ a ruler.'

*Peter bought a textbook, and I think that Mary ~~bought~~ a ruler.

b. Saša budet est' midij, a ona utveržDaet čto
Alex.NOM will eat mussels.ACC and she.NOM claims that
drugie ne budut ~~est'~~ ris.
others.NOM not will eat rice.ACC
'Alex will eat mussels and she claims that others will not ~~eat~~ rice.'

Alex will eat mussels and she claims that others will not ~~eat~~ rice.

In (45a), the antecedent clause and the Gapping site are separated by an embedded clause boundary: Gapping is located inside the CP *that Mary ~~bought~~ a ruler*. This embedding results in ungrammaticality of (45a). In (45b), on the contrary, the Pseudogapping site can be embedded in the CP *that others will not ~~eat~~ rice*, which demonstrates that the application domain of Pseudogapping is larger than that of Gapping.

Russian Gapping and Pseudogapping are both compatible with Parallel Embedding:

(46) a. Gapping and Parallel Embedding

Ja polagaju, čto Maša kupila linejku i čto
I.NOM think that Mary.NOM bought ruler.ACC and Peter.NOM
Petja ~~kupil~~ učebnik .
bought textbook.ACC
'I think that Mary bought a ruler and that Peter ~~bought~~ a textbook'

b. Pseudogapping and Parallel Embedding

Ona utveržDaet čto Saša budet est' midii i čto
she.NOM claims that Alex.NOM will eat mussels.ACC and that
drugie ne budut ~~est'~~ gruši.
others.NOM not will eat pears.ACC
'She claims that Alex will eat mussels and that others will not ~~eat~~ pears.'

In (46), parallel embedding ameliorates the grammaticality of the Gapping CP *čto Petja ~~kupil~~ učebnik* 'that Peter ~~bought~~ a textbook' by contrasting it with another

CP *čto Maša kupila linejku* 'that Mary bought a ruler'. Since Pseudogapping is grammatical under embedding, the parallel embedding sentence is also grammatical in (46).

Gapping is subject to a number of island constraints. Pseudogapping is exempt from the Complex NP Constraint: since Pseudogapping can be embedded, it can definitely be embedded within a complex NP. However, Pseudogapping cannot violate the Coordinate Structure Constraint, as this constraint is not based on embedding:

(47) a. Russian Gapping and the Complex NP Constraint

*Petja kupil učebnik, a ja byl poražen tem faktom,
Peter.NOM bought textbook.ACC and I.NOM was amazed by that
čto Maša ~~kupila~~ linejku.
fact that Mary.NOM bought ruler.ACC

'Peter bought a textbook, and I was amazed by the fact that Mary ~~bought~~ a ruler.'

b. English Gapping and the Complex NP Constraint

*Peter bought a textbook, and I was amazed by the fact that Mary ~~bought~~ a ruler.

c. Russian Pseudogapping and the Complex NP Constraint

Petja udaril druga učebnikom, a ja byl poražen
Peter.NOM hit friend.ACC textbook.INSTR and I.NOM was amazed
tem faktom, čto Maša ne mog ~~udarit'~~ ~~druga~~ linejkoj.
by that fact that Mary.NOM not could hit friend.ACC

ruler.INSTR

'Peter hit his friend with a textbook, and I was amazed by the fact that Mary could ~~hit her friend~~ with a ruler.'

d. English Pseudogapping and the Complex NP Constraint

Peter hit his friend with a textbook, and I was amazed by the fact that Mary could ~~hit her friend~~ with a ruler.

e. Russian Gapping and the Coordinate Structure Constraint

*Petja kupil učebnik, a Maša ~~kupila~~ i sprjatala
Peter.NOM bought textbook.ACC and Mary.NOM bought and hid
linejku.
ruler.ACC

'Peter bought a textbook, and I think that Mary ~~bought~~ and hid a ruler.'

f. English Gapping and the Coordinate Structure Constraint

*Peter bought a textbook, and I think that Mary ~~bought~~ and hid a ruler.

g. Russian Pseudogapping and the Coordinate Structure Constraint

*Petjabudet pit' vodku, a Maša ne budet ~~pit'~~ i
Peter.NOM will drink vodka.ACC and Mary.NOM not will drink
prjatat' pivo.
and hide beer.ACC

'Peter will drink vodka, and I think that Mary will not ~~drink~~ and hide beer.'

h. English Pseudogapping and the Coordinate Structure Constraint

*Peter will drink vodka, and I think that Mary will not ~~drink~~ and hide beer.

Both Pseudogapping and Gapping can have sub-constituents as remnants. In the following sentences, Pseudogapping and Gapping can be applied to the adjective *gorjačij*, which is the result of NP ellipsis:

(48) a. **Pseudogapping**

Petja budet pit' holodnyj čaj, a Vasja ne budet
Peter.NOM will drink cold tea.ACC and Vasja.NOM not will
~~pit'~~ gorjačij ~~čaj~~.
drink hot tea.ACC

'Peter will drink cold tea, and Vasja will not ~~drink~~ hot ~~tea~~.'

b. Gapping

Petja kupil krasnye rozy, a Vasja ~~kupil~~ belye
Peter.NOM bought red roses.ACC and Vasja.NOM bought white
~~rozy~~.
roses.ACC

'Peter bought red roses, and Vasja ~~bought~~ white ~~roses~~.'

Both Gapping and Pseudogapping disallow voice mismatches between the antecedent clause and the ellipsis site. The deleted active verb *bought* cannot be the antecedent of the passive verb *were bought*; the antecedent and the deleted verb must match in voice to produce a grammatical sentence:

(49) a. Russian Gapping

*Petja kupil rozy, a tul'pany ~~byli~~ ~~kupleny~~ Vasej.
Peter.NOM bought roses.ACC and tulips.NOM were bought Vasja.INSTR
'Peter bought roses, and tulips ~~were bought~~ by Vasja.'

b. English Gapping

*Peter bought roses, and tulips ~~were bought~~ by Vasja.

c. Russian Pseudogapping

*Petja s"est tort, a sup budet ~~s"eden~~ Vasej.
Peter.NOM will.eat cake.ACC and soup.NOM will eaten Peter.INSTR
'Peter can eat a cake, and soup cannot ~~be eaten~~ by Vasja.'

d. English Pseudogapping

*Peter can eat a cake, and soup cannot ~~be eaten~~ by Vasja.

e. Russian Gapping

Petja kupil rozy, a Vasja ~~kupil~~ tul'pany.
Peter.NOM bought roses.ACC and Vasja.NOM bought tulips.ACC
'Peter bought roses, and Vasja ~~bought~~ tulips.'

f. English Gapping

Peter bought roses, and Vasja ~~bought~~ tulips.

g. Russian Pseudogapping

Petja s"est tort, a Vasja budet ~~est'~~ sup.
Peter.NOM will.eat cake.ACC and Vasja.NOM will eat soup

'Peter will eat a cake, and Vasja will ~~eat~~ soup.'

h. English Pseudogapping

Peter will eat a cake, and Vasja will ~~eat~~ soup.

P-stranding is rendered grammatical under Gapping and Pseudogapping:

(50) a. *Čem Vasja prišel s ~~čem~~*?*
what.INSTR Vasja.NOM came with what.INSTR
'What did Vasja came with?'

b. Gapping

Saša prišel s knigoj, a Petja *~~prišel~~* bez ~~knigi~~.
Alex.NOM came with book.INSTR and Peter came without book.GEN
'Alex came with a book, and Peter ~~came~~ without ~~a book~~.'

c. Pseudogapping

Saša pridet s knigoj, a Petja možet ~~prijti~~ bez ~~knigi~~.
Alex.NOM will.come with book.INSTR and Peter can come without book.GEN
'Alex will come with a book, and Peter can ~~come~~ without ~~a book~~.'

Pseudogapping cannot delete parts of major constituents:

(51) a. **Gapping**

*I write with a pen, and Peter ~~writes~~ ~~with~~ a pencil.

b. **Pseudogapping**

*I write with a pen, and Peter will ~~write~~ ~~with~~ a pencil.

c. **Pseudogapping**

I write with a pen, and Peter will ~~write~~ with a pencil.

To sum up, Pseudogapping has the following properties:

- Pseudogapping is licit under the conjunctions *i* 'and' and *poskol'ku* 'because'; Gapping is ungrammatical in these cases.
- Pseudogapping does not obey the Complex NP Constraint, but obeys the Coordinate Structure Constraint. Gapping, on the contrary, obeys each of these island constraint.
- Both Pseudogapping and Gapping do not allow voice mismatches.
- In English, Pseudogapping is licit in embedding. In Russian, Pseudogapping is licit in embedding and parallel embedded constructions. Gapping is licit under parallel embedding in Russian.
- Both Pseudogapping and Gapping can have sub-constituents as remnants.
- Pseudogapping and Gapping allows P-stranding.
- Pseudogapping and Gapping cannot delete parts of major constituents.

1.4 Gapping versus Right Node Raising

In its canonical form, Right Node Raising deletes the direct object in the first conjunct and preserves it in the second one:

(52) a. Vasja ljubit ètu ~~pesnju~~, a Petja nenavidit ètu pesnju.
Vasja loves this song and Peter despises this song
'Vasja loves ~~this song~~, and Peter despises this song.'

b. Alex loves ~~this song~~, and Peter despises this song.

c. Roos beWONdert ~~motorrijders~~, Anna aanBIDT ~~motorrijders~~, en
Roos admires motor.cyclists Anna adores motor.cyclists and
Kim verAFgoodt *motorrijders.*
Kim worships motor.cyclists
'Roos admires ~~motor cyclists~~, Anna adores ~~motor cyclists~~ and Kim worships motor cyclists.' (Kluck 2009: 138)

RNR is licit in all subordinate and coordinate clauses, while Gapping is not:

(53) a. **Right Node Raising**

Vasja ljubit ~~ètu~~ ~~pesnju~~, no Petja nenavidit ètu pesnju.
Vasja loves this song but Peter despises this song

'Vasja loves ~~this song~~, but Peter despises this song.'

b. **Gapping**

*Ja igraju na pianino, no Petja ~~igraet~~ na skripke.
I play on piano but Peter plays on violin

'I play the piano but Peter ~~plays~~ the violin.'

c. **Right Node Raising**

Vasja ljubit ~~ètu~~ ~~pesnju~~, poskol'ku Petja nenavidit ètu pesnju.
Vasja loves this song because Peter despises this song

'Vasja loves ~~this song~~ because Peter despises this song.'

d. **Gapping**

*Ja igraju na pianino, poskol'ku Petja ~~igraet~~ na skripke.
I play on piano because Peter plays on violin

'I play the piano because Peter ~~plays~~ the violin.'

Only RNR can be embedded:

(54) a. **Right Node Raising**

Vasja ljubit ~~ètu~~ ~~pesnju~~, a ja uveren čto Petja nenavidit ètu
Vasja loves this song and I am.sure that Peter despises this
pesnju.
song

'Vasja loves ~~this song~~, and I am sure that Peter despises this song.'

b. **Gapping**

*Petja kupil učebnik, a ja polagaju, čto Maša
Peter.NOM bought textbook.ACC and I.NOM think that Mary.NOM
~~kupila~~ linejku.
bought ruler.ACC

'Peter bought a textbook, and I think that Mary ~~bought~~ a ruler.'

However, both Gapping and RNR are compatible with Parallel Embedding:

(55) a. **Gapping and Parallel Embedding**

Ja polagaju, čto Maša kupila linejku i čto Petja
I.NOM think that Mary.NOM bought ruler.ACC and that Peter.NOM
~~kupil~~ učebnik .
bought textbook.ACC

'I think that Mary bought a ruler and that Peter ~~bought~~ a textbook.'

b. **RNR and Parallel Embedding**

Ona utverždaet čto Vasja ljubit ~~ètu~~ ~~pesnju~~ i čto
she.NOM claims that Vasja.NOM loves this song.ACC and that
Petja nenavidit ètu pesnju.
Peter.NOM despises this song.ACC

'She claims that Vasja loves ~~this song~~ and that Peter despises this song.'

Gapping is subject to a number of island constraints. RNR is exempt from the Complex NP Constraint, as RNR can be embedded. However, RNR obeys the Coordinate Structure Constraint, since this constraint does not involve embedding:

(56) a. **Gapping and the Complex NP Constraint**

*Petja kupil učebnik, a ja byl poražen tem
Peter.NOM bought textbook.ACC and I.NOM was amazed that
faktom, čto Maša ~~kupila~~ linejku.
fact.INSTR that Mary.NOM bought ruler.ACC

'Peter bought a textbook, and I was amazed by the fact that Mary ~~bought~~ a ruler.'

b. **RNR and the Complex NP Constraint**

Petja kupil, a ja byl poražen tem faktom, čto
Peter.NOM bought and I.NOM was amazed that fact.INSTR that
Maša prodala linejku.
Mary.NOM sold ruler.ACC

'Peter bought ~~a ruler~~, and I was amazed by the fact that Mary sold a ruler.'

c. **Gapping and the Coordinate Structure Constraint**

*Petja kupil učebnik, a Maša ~~kupila~~ i sprjatala
Peter.NOM bought textbook.ACC and Mary.NOM bought and hid
linejku.
ruler.ACC

'Peter bought a textbook, and I think that Mary ~~bought~~ and hid a ruler.'

d. **RNR and the Coordinate Structure Constraint**

*Petja kupil ~~učebnik~~ i linejku, a Maša
Peter.NOM bought textbook.ACC and ruler.ACC and Mary.NOM
sprjatala učebnik.
hid textbook.ACC

'Peter bought ~~a textbook~~ and a ruler, and I think that Mary hid a textbook.'

Both Gapping and RNR can have sub-constituents as ellipsis remnants. In the examples below, Gapping and RNR are compatible with the adjective *krasnye* 'red', which is the result of NP-ellipsis:

(57) a. **Gapping**

Petja kupil krasnye rozy, a Vasja ~~kupil~~ belye
Peter.NOM bought red roses.ACC and Vasja.NOM bought white
~~rozy~~.
roses.ACC

'Peter bought red roses, and Vasja ~~bought~~ white roses.'

b. **RNR**

Petja kupil krasnye ~~rozy~~, a Vasja prodal belye
Peter.NOM bought red roses.ACC and Vasja.NOM sold white
rozy.
roses.ACC

'Peter bought red ~~roses~~, and Vasja bought white roses.'

Both Gapping and RNR disallow voice mismatches between the antecedent clause and the ellipsis site:

(58) a. **Gapping**

*Petja kupil rozy, a tul'pany ~~byli~~ ~~kupleny~~ Vasej.
Peter.NOM bought roses.ACC and tulips.NOM were bought Vasja.INSTR

'Peter bought roses, and tulips ~~were bought~~ by Vasja.'

b. **RNR**

*Petja kupil ~~rozy~~, a rozy byli prodany Vasej.
Peter.NOM bought roses.ACC and roses.NOM were sold Vasja.INSTR

'Peter bought ~~roses~~, and roses were sold by Vasja.'

c. **Gapping**

Petja kupil rozy, a Vasja ~~kupil~~ tul'pany.
Peter.NOM bought roses.ACC and Vasja.NOM bought tulips.ACC

'Peter bought roses, and Vasja ~~bought~~ tulips.'

d. **RNR**

Petja kupil ~~rozy~~, a Vasja prodal rozy.
Peter.NOM bought roses.ACC and Vasja.NOM sold roses.ACC

'Peter buy ~~roses~~, and Vasja sold roses.'

P-stranding is usually banned in Russian. However, P-stranding is rendered grammatical under Gapping and RNR:

(59) a. *Čem Vasja prišel s ~~čem~~*?*
what.INSTR Vasja.NOM came with what.INSTR
'What did Vasja came with?'

b. **Gapping**

Saša prišel s knigoj, a Petja ~~prišel~~ bez ~~knigi~~.
Alex.NOM came with book.INSTR and Peter came without book.GEN

'Alex came with a book, and Peter ~~came~~ without ~~a book~~.'

c. **RNR**

Saša prišel s ~~knigoj~~, a Petja ušel bez knigi.
Alex.NOM came with book.INSTR and Peter left without book.GEN

'Alex came with ~~a book~~, and Peter left without a book.'

Right Node Raising cannot delete parts of major constituents:

(60) *Saša prišel ~~s~~ knigoj, a Petja ušel bez linejki.
Alex.NOM came with book.INSTR and Peter left without ruler.GEN
'Alex came ~~with~~ a book, and Peter left without a ruler.'

To sum up, Right Node Raising has the following properties:

- Right Node Raising is licit under the conjunctions *no* 'but' and *poskol'ku* 'because'. Gapping is not compatible with the conjunctions.
- Right Node Raising does not obey the Complex NP Constraint, but obeys the Coordinate Structure Constraint. Gapping is subject to each of these constraints.
- Right Node Raising and Gapping do not allow voice mismatches.
- Right Node Raising is licit in embedded and parallel embedded constructions. Gapping is licit only in parallel embedded constructions.
- Right Node Raising and Gapping can have sub-constituents as remnants.
- Right Node Raising and Gapping allow P-stranding.
- Right Node Raising and Gapping cannot delete parts of major constituents.

In this chapter, I have contrasted Gapping with the related ellipsis phenomena: VP-ellipsis, Pseudogapping, and Right Node Raising. The comparison of major ellipsis phenomena in Russian is summarized in the following table:

Criteria	**Gapping**	**VP-ellipsis**	**Pseudogapping**	**RNR**
More compatible CONJs	-	+	+	+
Islands	+	-	-	-
Voice mismatches	-	-	-	-
Embedding	-	+	+	+
Parallel Embedding	+	+	+	+
Sub-constituents	+	-	+	+
P-stranding	+	-	+	+
Major constituents	-	-	-	-

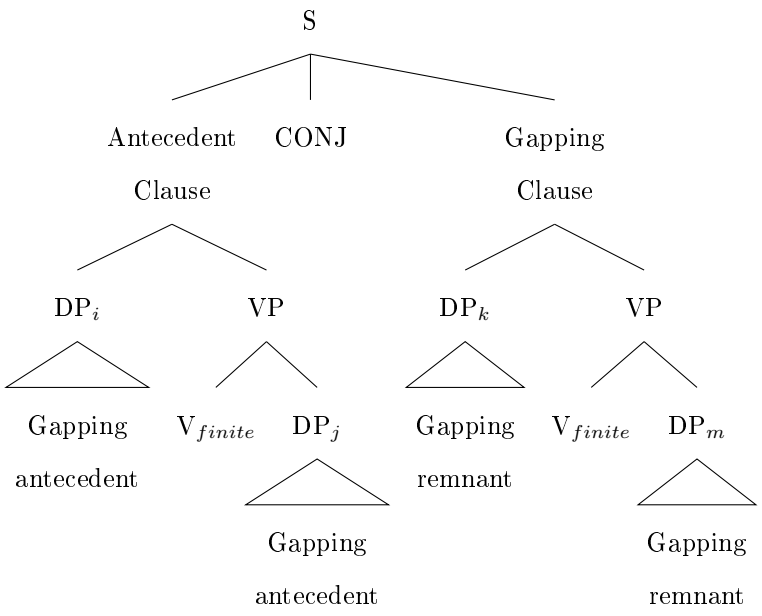
Chapter 2

Major approaches to Gapping

2.1 Introduction

Before I proceed to review the current approaches to Gapping, I would like to discuss the analysis options that are conceivable within Generative Grammar. As was mentioned in the introductory chapter, Gapping occurs in the structures schematically outlined below. In the following tree, DP_i is contrasted with DP_k and DP_j is contrasted with DP_m:

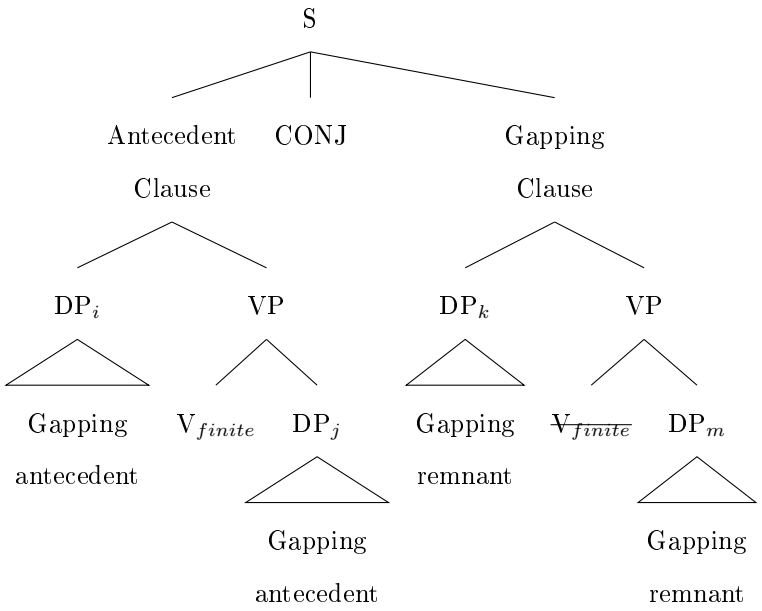
(61)



There are basically three major tendencies in the analysis of Gapping within formal syntax. The first approach (e.g. Neijt 1979) treats Gapping as pure deletion and does

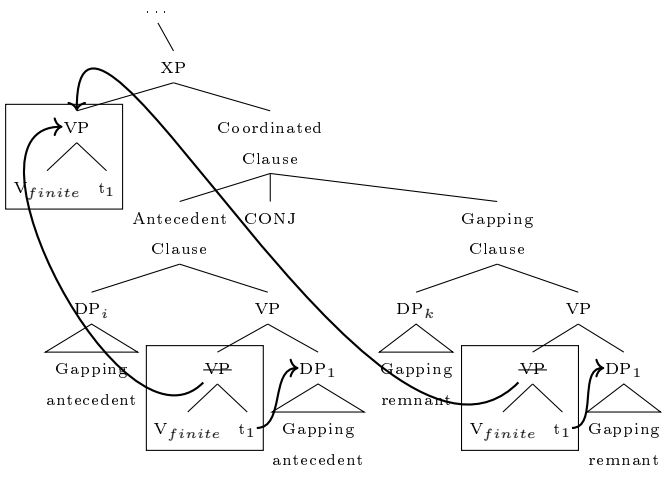
not require permutations of any sort within the clause. According to these accounts, the only operation that is responsible for the derivation of Gapping is the deletion of the finite verb in the Gapping clause:

(62)



The second group of analyses considers Gapping to be the result of pure movement with no interfering deletion: these theories include Johnson (2009) and Repp (2009). These approaches vary significantly in the type of movement they exploit and the set of elements that undergo movement. However, I will postpone the discussion of the movement types until Section 2.3 and consider only moved phrases:

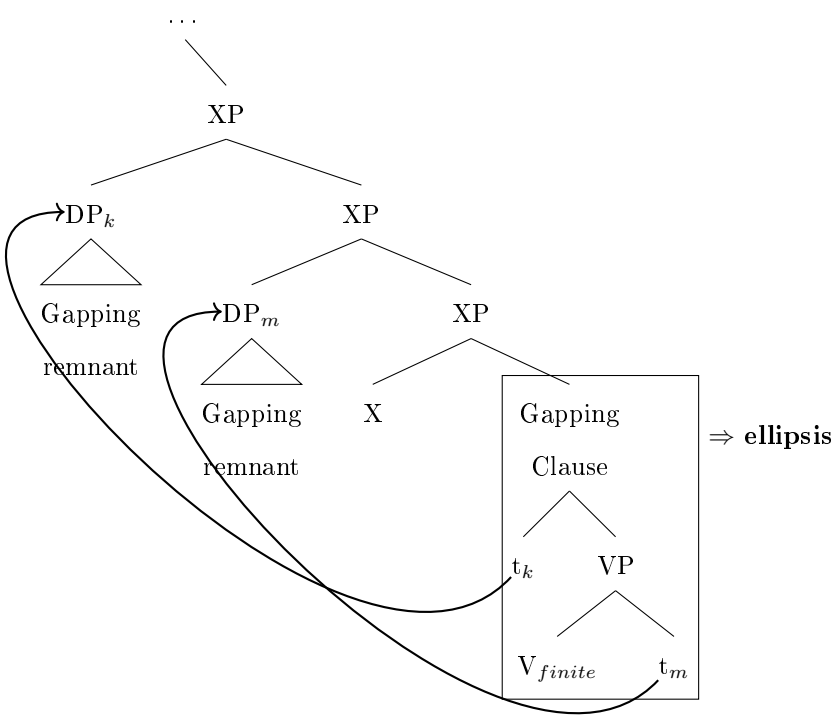
(63)



The last group of approaches exploits both movement and deletion to derive Gapping:

these theories include Aelbrecht (2007) and Boone (2014). The movement used by these account is exceptional, since it occurs only to assist the derivation of ellipsis. The version of exceptional movement (EM) exploited in combined approaches involves extraction of the future remnants of Gapping to the positions above the Gapping clause, that are presumably related with focus. Once the remnants have vacated the Gapping Clause, it is deleted:

(64)



So far, I have schematically represented the key mechanisms that are hypothesized to be responsible for Gapping. However, it is also important to determine criteria exploited to evaluate a given account. I use the Gapping traits considered in the introductory chapter: no embedding constraint, voice mismatches prohibition, sensitivity to subordination and coordination. An ideal theory of Gapping provides an explanation to each of these syntactic phenomena. However, as I demonstrate in the further review, no approach is able to properly account for all these facts.

2.2 Deletion-based approach to Gapping

Elision of reoccurring finite verb and other elements is the most straightforward way to analyse ellipsis, and Gapping is no exception to this. Deletion-based accounts have been prominent since the very inception of Gapping studies (see Ross 1970, Neijt 1979). It may seem that the mentioned theories have the same definition of deletion. Nevertheless, it is the formulation of deletion that differentiates these approaches. In Ross (1970), Gapping is defined as a transformational rule which is applied to the coordination of clauses. Contrary to Ross (1970), Neijt analyses it as a general syntactic operation constrained by filters.

Ross (1970) defines Gapping as a transformational rule that elides the repeated verbs in conjoined structures. Moreover, Ross allows Gapping to be applied forwards in languages like English and backwards in languages like Japanese:

(65) a. Forward Gapping

Base: SVO + SVO ⇒ SVO + SO

(Ross 1970: 253)

b. Backward Gapping

Base: SOV + SOV ⇒ SO + SOV

(Ross 1970: 253)

Neijt (1979) extends the deletion-only paradigm outlined in Ross (1970). Neijt (1979) defines the rule of Gapping (in her final version) as “Delete” that occurs in coordinated clauses:

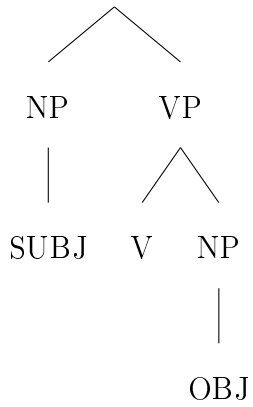
(66) Gapping (final version)

"Delete"

(Neijt 1979: 95)

This was formulated under the influence of Chomsky's "Move α" rule. Hence, Neijt assumed that Gapping is a general syntactic operation which is subject to certain restrictions. The first constraint introduced be Neijt is that Gapping can only have major constituents as its remnants. Major constituents (a notion introduced in Hankamer 1973) are phrases that are either dominated by S (TP) or by VP that is immediately dominated by S. Major constituents were introduced to avoid the deletion of prepositions in PPs. Hence, only subjects and DO / IO can survive ellipsis and become licit remnants:

(67)



Gapping cannot delete parts of the major constituents, since it would violate the requirement of major constituency:

(68) a. Charley writes with a pencil and John ~~writes~~ with a pen.

b. *Charley writes with a pencil and John ~~writes~~ ~~with~~ a pen.

(Neijt 1979: 19)

In the introductory chapter, I demonstrated that Gapping is subject to island constraints. Under Neijt's approach, island sensitivity can be treated as an extension of the No Embedding Constraint, since almost all island cases discussed by Neijt involve Gapping located in embedded clauses. However, there are several exceptions to this

generalization. The first one is the Coordinate Structure Constraint, which does not involve embedded clauses and cannot be derived from the No Embedding Constraint:

(69) Coordinate Structure Constraint:

*Alfonse cooked the rice, and Harry ~~cooked~~ and ate the beans.

(Neijt 1979: 23)

The second exception is illicit Gapping in infinitival subjects. Recall that the No Embedding Constraint, which has been formulated in the introductory chapter, allows us to gap any string as long as this string includes the matrix verb:

(70) The No Embedding Constraint: Let A and B be conjoined or disjoined phrases, and β be the string elided in B whose antecedent is α in A. Then α and β must contain the highest verb in A and B. (Johnson 2006: 412)

Given (70), one would expect Gapping in infinitival subjects to be grammatical if the matrix verb is also deleted. However, this is not the case:

(71) *For Sam to learn German is difficult, and for Sue to ~~learn~~ Japanese ~~is~~ simple.

In (71), Gapping in the infinitive subject is illicit even though the matrix verb *is* is also deleted. Thus, the No Embedding Constraint cannot account for the ungrammaticality of (71).

In (72), Gapping takes place inside embedded clauses, which are introduced by the subordinating conjunction *that* and a *wh*-pronoun *which*:

(72) a. **Sentential Subject Constraint**

*Alfonse ate the rice, and that Harry ~~ate~~ the beans is fantastic.

b. **Complex NP Constraint**

*Alfonse ate the rice, and I was stunned by the fact that Harry ~~ate~~ the beans.

(Neijt 1979: 23)

c. ***Wh*-Island and Gapping**

* John asked which candidates to interview this morning and Peter ~~asked~~

~~which~~ ~~candidates~~ ~~to~~ ~~interview~~ this afternoon.

Dutch

*Jan vroeg met welke kandidaten 's morgens te kunnen praten en Peter ~~vroeg~~ ~~met~~ ~~welke kandidaten~~ 's middags ~~te~~ ~~kunnen~~ ~~praten~~.

'John asked which candidates to interview this morning and Peter asked which candidates to interview this afternoon.'

(Neijt 1979: 138)

As can be seen in (72), Gapping obeys the No Embedding Constraint and cannot be embedded. Consequently, Gapping is essentially impossible in embedded clauses that are syntactic islands. It is sufficient to provide an explanation to the No Embedding Constraint, as this solution would also account for the majority of island restrictions, which involve embedded clauses. However, the No Embedding Constraint cannot account for the Coordinate Structure Constraint, which is not based on embedding. The Coordinate Structure Constraint can be effectively explained if Gapping involved movement. Since Neijt argues that Gapping is deletion, her theory cannot truly incorporate the Coordinate Structure Constraint. To account for the embedding-based islands, Neijt proposes that *Delete* is subject to the Tensed-S condition suggested by Chomsky in his work of 1973. Its original formulation is as follows:

(73) Tensed-S condition (TSC)

"No rule can involve X, Y in the structure ... X ... [α... Y ...] ... where Y is not in COMP and α is a tensed sentence."

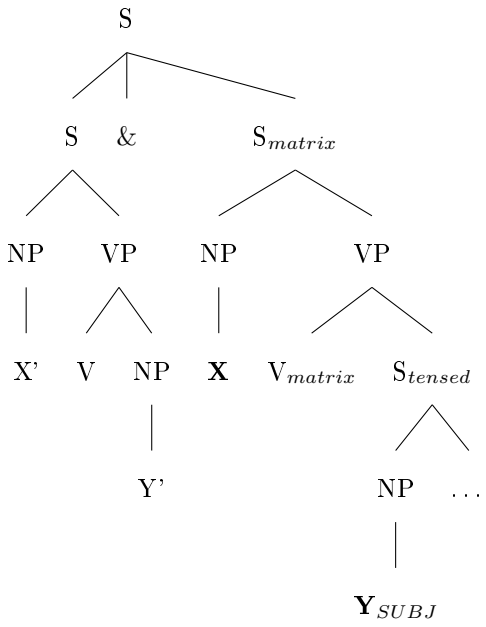
(Chomsky 1973: 244)

Under Neijt's approach, tensed sentences are embedded CPs. Neijt exploits the TSC to account for *Wh*-phrases used as Gapping remnants. If the Tensed-S condition is applied to Gapping, it entails that Gapping remnants cannot be located in distinct tensed clauses, unless one of the remnants is situated in [Spec, CP], which is equivalent to the COMP position in (73). Thus, Neijt argues that "for Gapping, the Tensed S Condition claims that tensed sentences cannot contain one of the remnants but not

the other, unless the remnant contained in the tensed sentence is in COMP" (Neijt 1979: 142). In the following Gapping examples, X is represented by the subject of the matrix clause; Y is represented by the *Wh*-phrase in the COMP position in the embedded clause. Both X and Y are situated in the second conjunct. Neijt's *Delete* is applied to the coordination of clauses to produce the structure below:

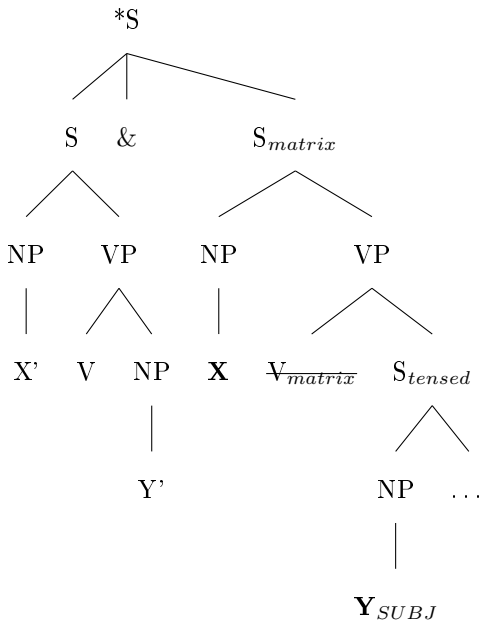
(74) a. Initial structure

$V \equiv V_{matrix}$; X' $\neq$ **X**; Y' $\neq$ $\mathbf{Y}_{SUBJ}$



b. Illicit Gapping with Neijt's *Delete*

$V \equiv V_{matrix}$; X' $\neq$ **X**; Y' $\neq$ $\mathbf{Y}_{SUBJ}$



(74b) does not comply with the Tensed-S condition because X and Y_{SUBJ} are separated by the S_{tensed} clause border and Y_{SUBJ} does not occupy the COMP position,

which is equivalent to the [Spec,CP].

The only possibility for Gapping to be licensed as grammatical is to have one remnant string (exhibited here as a *Wh*-phrase) in the [Spec, CP] position before Gapping takes place:

(75) a. **a *Wh*-phrase in [Spec, CP]**

Charles may decide which boys are coming along and Max ~~may decide~~ which girls ~~are coming along~~.

b. **Dutch**

Karel mag beslissen welke jongens er mee gaan en Max ~~mag beslissen~~ welke meisjes ~~er mee gaan~~.

'Charles may decide which boys are coming along and Max which girls are coming along.'

(Neijt 1979: 142)

In (75), the DP *which girls*, which is a Gapping remnant, is extracted from the ellipsis site before deletion.

(76) a. * Charles decided that 20 boys are coming along and Harrie ~~decided that~~ 30 girls ~~are coming along~~.

b. **Dutch**

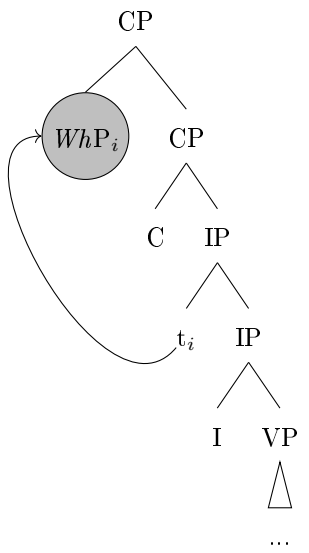
*Karel besliste dat er 20 jongens mee zouden gaan en Harrie ~~besliste dat~~ ~~er~~ 30 meisjes ~~mee zouden gaan~~.

'Charles decided that 20 boys are coming along and Harrie decided that 30 girls are coming along.'

(Neijt 1979: 142)

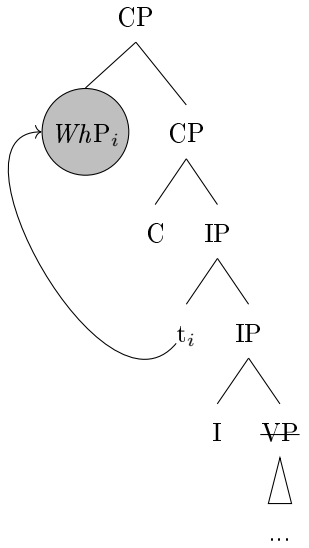
In (76), the DP *30 girls* is not a *Wh*-phrase and remains in situ. The discrepancy between examples (75) and (76), according to Neijt (1979), is due to the fact that in (75) the second remnant (*Wh*-phrase) is already in the [Spec, CP] position before the actual deletion (i.e. Gapping) takes place. In the next tree, [COMP] is replaced by [Spec, CP] and the S is replaced by the IP:

(77)



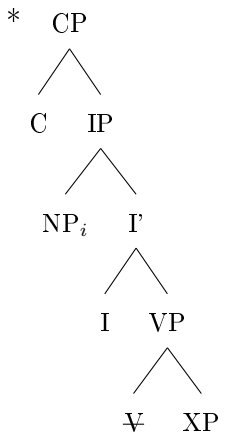
Then the actual deletion takes place, deriving the structure of (75):

(78)



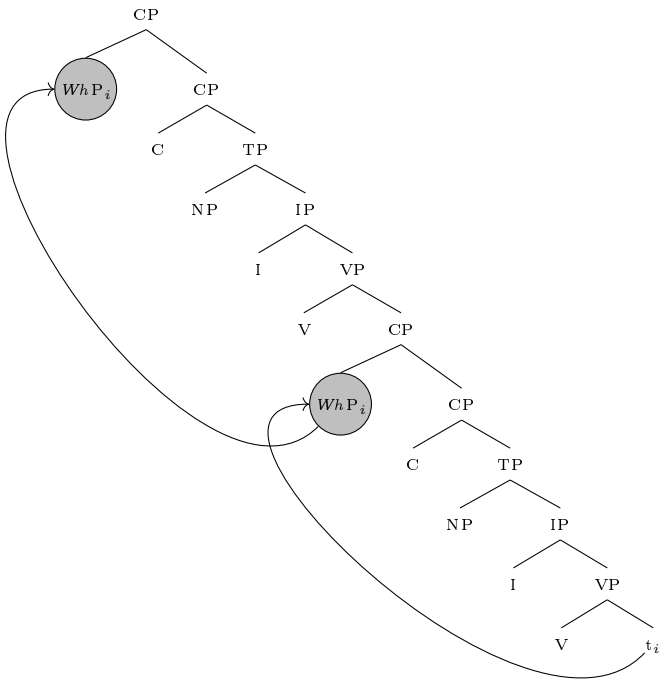
This movement operation renders sentences (75a) and (75b) grammatical. Examples in (76), on the other hand, demonstrate that without remnant movement the clauses are treated as ungrammatical due to the lack of movement to [Spec, CP]:

(79)



According to Neijt, the core reason for that difference in grammaticality is the ability to comply with the successive cyclicity condition (i.e. each movement occurs cyclically, from one [Spec, CP] position to another):

(80)



Since movement occurs cyclically, it naturally avoids violation of Tensed-S condition by using the Escape Hatch [Spec, CP]. Thus, if cyclic movement were an integral part of Gapping, the sentences in (76) would be grammatical. Nevertheless, it is not the case and movement to [Spec, CP] does not take place.

On the basis of these arguments, Neijt concludes that 1) Gapping is not a movement rule; 2) Gapping does not contain any kind of movement operation as sub-rule (i.e. movement-and-deletion approach is impossible). However, I will demonstrate that deletion-based approach is not the only conceivable analysis. In modern terms, Neijt's theory could be reformulated as deletion licensed by external pragmatic principles, which could be represented by Grice's maxims. The pragmatic approach to ellipsis is not a novelty in the literature. For instance, Nariyama (2003) argues that "the use of ellipsis for efficiency is also supported by pragmatic theories explaining the mechanisms of conversation" (Nariyama 2003: 28).

In his work of 1975, Grice proposes that a message should not be more informative than it is required:

(81) a. The maxim of Quantity

Do not make your contribution more informative than it is required. (Grice, H. P. 1975: 26)

b. The maxim of Manner

Be brief (avoid unnecessary prolixity). (Grice, H. P. 1975: 27)

The principles provided in (81) lead to deletion of repetitive information. However, these principles must be restricted by the recoverability condition: an antecedent of a deleted element must be available in the preceding context. If a verb is repeated, only one occurrence of this verb should survive deletion in order to restore other occurrences. Thus, ellipsis sentences are more compatible with (81) than their non-elliptical counterparts.

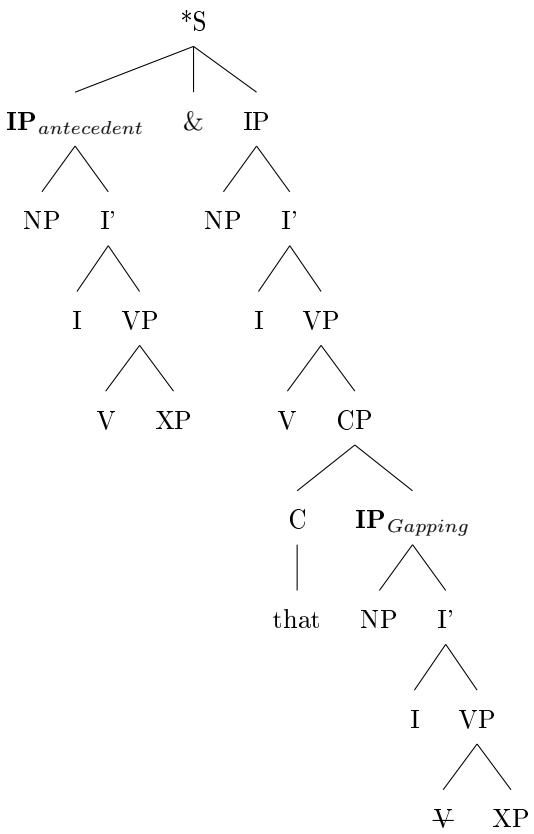
Neijt's approach is the most straightforward account of Gapping, treating Gapping as deletion within coordinated clauses. Let us now evaluate how well Neijt's approach fares in view of the empirical criteria I set up earlier: no embedding, the prohibition of voice mismatches, sensitivity to islands, and the incompatibility of Gapping with certain coordinating conjunctions. The embedding prohibition is partially accounted for by the Tensed-S condition. In this case, X and Y in the Chomsky's rule are represented by the antecedent clause and the Gapping clause, respectively. Neither $\mathbf{IP}_{Gapping}$ nor Gapping remnants are in the [Spec, CP] and thus cannot be used in the rule of Gapping:

(82) a. Tensed-S condition (TSC)

"No rule can involve X, Y in the structure ... X ... [α... Y ...] ... where Y is not in COMP and α is a tensed sentence."

(Chomsky 1973: 244)

b. X $\equiv$ $\mathbf{IP}_{antecedent}$; Y $\equiv$ $\mathbf{IP}_{Gapping}$; $\alpha \equiv$ CP.



Note that the Tensed-S condition cannot fully incorporate the No Embedding Constraint. Despite its compatibility with cases of finite embedding, the Tensed-S condition is inapplicable to Gapping in embedded infinitival clauses:

(83) a. **English**

*Sam studies German syntax and a professor made Peter ~~study~~ French syntax.

b. **Russian**

*Vasja izučaet nemeckij sintaksis, a professor zastavil
Vasja.NOM studies German syntax.ACC and professor.NOM made
Petju ~~izučat'~~ francuzskij sintaksis.
Peter.ACC study French syntax.ACC

'Vasja studies German syntax and a professor made Peter ~~study~~ French syntax.'

The Tensed-S condition cannot account for the ungrammaticality of (83), since the condition cannot constrain non-finite clauses. The No Embedding Constraint, by contrast, allows us to explain (83), as the Gapping site in (83) does not include the matrix verb *made*.

Since Neijt can account for the embedding prohibition in finite clauses, her approach can incorporate islands that involve embedded clauses. The most prominent island restriction that cannot be explained by the embedding prohibition is the Coordinate Structure Constraint. As islands were originally introduced as restrictions on movement, one could hypothesize that Gapping should be a movement rule in order to account for the CSC. Neijt rejects this hypothesis by arguing that Gapping is pure deletion. Moreover, she does not provide an alternative solution because the Tensed-S condition is inapplicable to coordination. To sum up, Neijt's approach can only account for islands involving embedding; the Coordinate Structure Constraint cannot be a part of Neijt's Gapping.

Furthermore, Neijt's approach can account for the prohibition of voice mismatches:

(84) a. *Some bring roses but lilies by others.

b. *Lilies are brought by some and others roses. (Merchant 2013: 83)

Although an Identity condition is not explicitly formulated by Neijt, she implicitly assumes that the gapped verb and its antecedent must be identical. Since *bring* and *were brought* are obviously distinct, voice mismatches in (84a) lead to ungrammaticality.

However, there are certain cases that do not fit within a deletion-only framework. The only exception being *i* 'and' used with parallel embedding, the Russian conjunction *i* 'and' and the Dutch conjunction *want* 'because' are not compatible with Gapping. These conjunctions are coordinating. Evidence for this is, for example, that *i* 'and' is subject to the Coordinate Structure Constraint:

(85) Coordinate Structure Constraint

In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

(Ross 1967: 161)

Extraction beyond the scope of *i* 'and' cannot affect only one conjunct. In (86b), the AdvP *kuda* 'where' is extracted only from the second conjunct, which constitutes

a violation of the coordinate structure constraint and leads to ungrammaticality of (86b):

(86) a. Rabota byla vypolnena vovremja, **i** načal'nik uexal v
work.NOM was done on.time and boss.NOM went to
otpusk.
vacation.LOC
'The work was done on time, and the boss went on vacation.'

b. *Kuda rabota byla vypolnena vovremja, **i** načal'nik uexal?
where work.NOM was done on.time and boss.NOM went
'Where the work was done on time, and the boss went?'

i 'and' requires across-the-board extraction:

(87) a. Saša rabotaet v garaže, **i** Petja spit v garaže.
Alex.NOM sleeps in garage.LOC and Peter.NOM sleeps in garage.LOC
'Alex works in the garage, and Peter sleeps in the garage.'

b. Gde Saša rabotaet, **i** Petja spit?
where Alex.NOM works and Peter.NOM sleeps
'Where does Alex work and Peter sleep?'

Given that *i* 'and' requires ATB extraction, I conclude that *i* 'and' is a coordinating conjunction.

The Dutch conjunction *want* 'because' is also coordinating, as it requires a finite verb to follow the subject. In subordinated clauses, the finite verb must always be final:

(88) a. Ik verkocht een auto want Jan **speelde** piano.
I sold a car because Jan played piano
'I sold a car because Jan played the piano.'

b. Ik verkocht een auto hoewel Jan piano **speelde**.
I sold a car although Jan piano played
'I sold a car although Jan played the piano.'

In (88b), the subordinating conjunction *hoewel* 'although' requires the verb *speelde* 'played' to be final. In contrast to *hoewel*, *want* 'because' requires its finite verb to immediately follow the subject, which can be seen in (88a).

Although *i* 'and' and *want* 'because' are coordinating, these conjunctions do not license Gapping:

(89) a. * Ja s"el sup, i Maša ~~s"ela~~ kašu.
I.NOM ate soup.ACC and Mary.NOM ate porridge.ACC
'I ate the soup, and Mary ~~ate~~ the porridge.'

b. * Ik speelde viool, want Jan ~~speelde~~ piano.
I played violin because Jan played piano
'I played the violin because Jan ~~played~~ the piano.'

Despite the fact that *i* 'and' is usually illicit in Gapping contexts, *i* 'and' is compatible with Gapping in CP-coordination:

(90) Ja znaju, čto Petja kupil knigu i čto Vasja ~~kupil~~
I.NOM know that Peter.NOM bought book.ACC and that Vasja bought
tetrad'.
notebook.ACC
'I know that Peter bought a book and that Vasja ~~bought~~ a notebook.'

In (90), *i* 'and' coordinates two embedded clauses. It could be hypothesized that the identical syntactic status of the Gapping conjunct and its antecedent, which are CPs, allows us to ignore the presence of *i* 'and'. Furthermore, parallel embedding does not require the usage of *i* 'and':

(91) Ja znaju, čto Petja kupil knigu, čto Vasja ~~kupil~~
I.NOM know that Peter.NOM bought book.ACC that Vasja bought
tetrad'.
notebook.ACC
'I know that Peter bought a book and that Vasja ~~bought~~ a notebook.'

Although *i* 'and' is compatible with parallel embedding, *i* 'and' cannot be used with other instances of Gapping.

Neijt's theory fails to distinguish between individual coordinating conjunction and thus cannot provide an explanation for these cases. However, her approach could be

fixed by introduction of an additional restriction on conjunctions. Such constraint would help to rule out the unwanted conjunctions.

(92)

Criterion	Neijt (1979)
Sensitivity to Island Constraints	+
Distinction between Coordination and Subordination	+
Embedding Prohibition	+
Voice Mismatches Prohibition	+
The Russian coordinating conjunction *i* 'and'	-
The Dutch coordinating conjunction *want* 'because'	-

The deletion-based approach outlined in the section provides the most straightforward account of Gapping. However, it fails to properly account for the cases of Russian *i* 'and' and Dutch *want* 'because'. Furthermore, it does not provide an explanation to the Coordinate Structure Constraint, although Neijt states that Gapping is subject to that restriction. The next section demonstrates an attempt to comprise all these properties into the rule of Gapping.

2.3 Movement-based approaches to Gapping

In this section, I will consider a subset of approaches that involve movement as the major and only mechanism of Gapping. However, the type of movement differs significantly from theory to theory. In general, the most used movement operations are ATB movement and sideward movement. Sideward movement is a modern implementation of ATB movement formulated in terms of the Copy theory. ATB account will be represented by Johnson (2009) and sideward movement account will be represented by Repp (2009).

2.3.1 ATB movement and Gapping

Across-the-board movement was first described in Ross (1967) as an exception to the Coordinate Island Constraint:

(93) Coordinate Island Constraint

*Which film$_i$ does [John like t$_i$] and [Sam hates Star Wars] ?

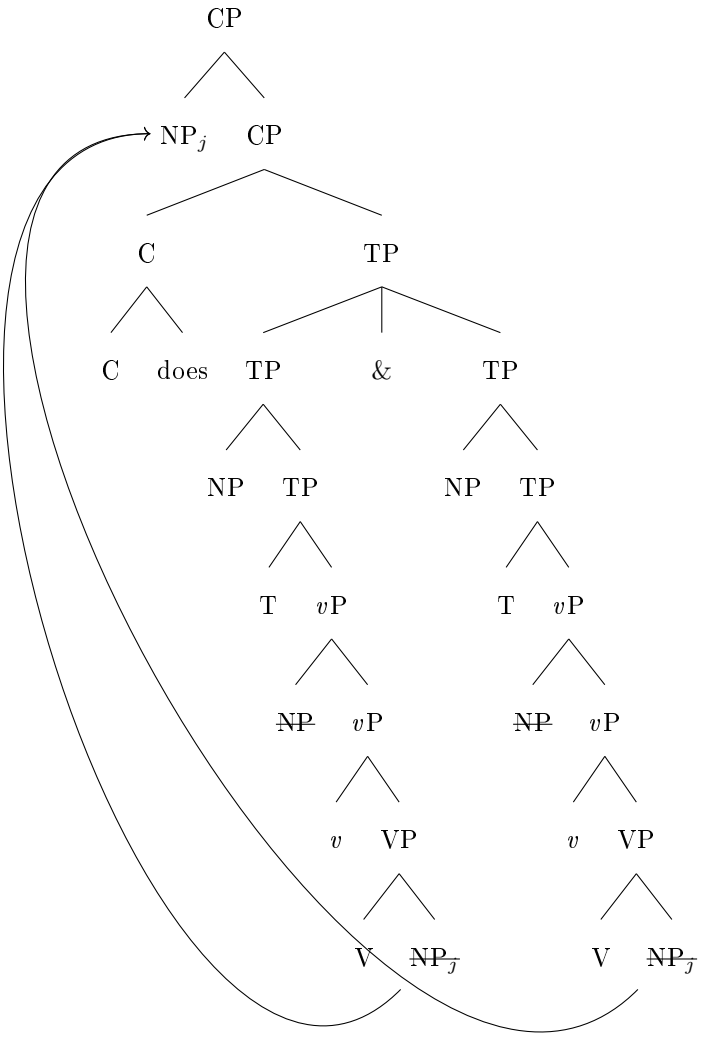
*Which film$_i$ does [John likes Star Wars] and [Sam hate t$_i$] ?

However, once the NPs are extracted from both conjuncts simultaneously (i.e. across-the-board), (93) becomes grammatical:

(94) Which film does John like and Sam hate?

(94) has the structure as in (95):

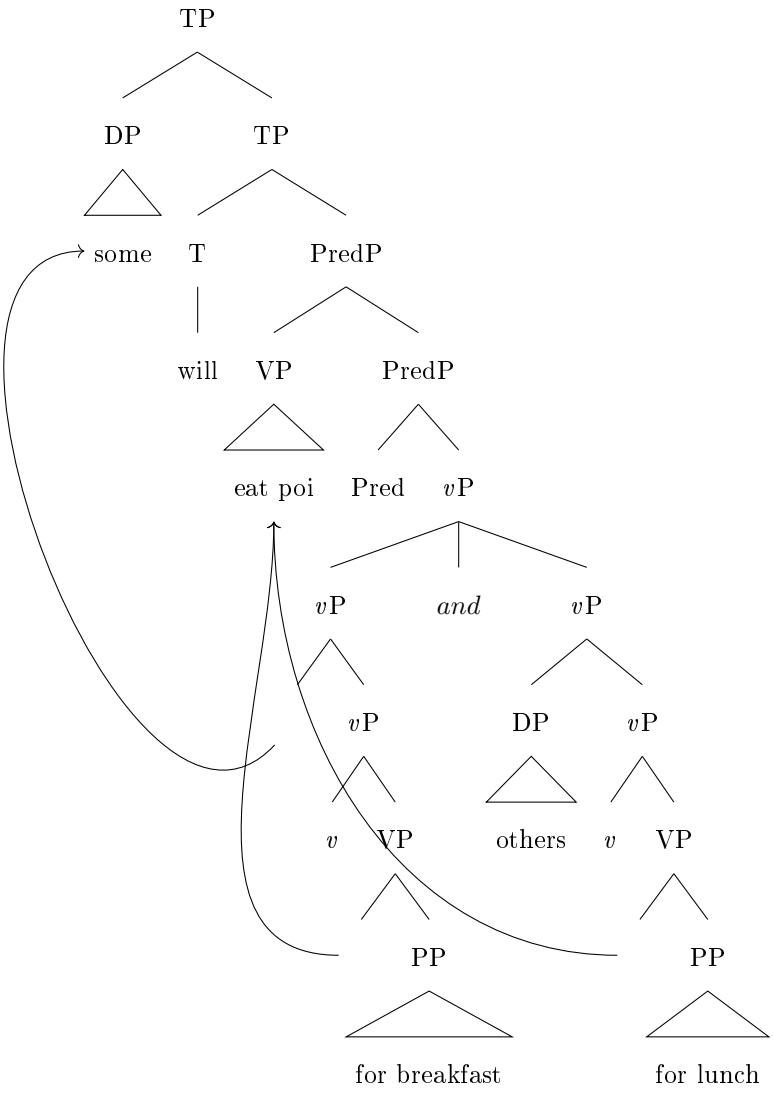
(95)



In his work of 2009, Johnson analysed the rule of Gapping as a set of movement operations, which can only take place in low coordination constructions. Low coordination requires the union of multiple vP under one T-head. Schematically, this can be represented by example (96):

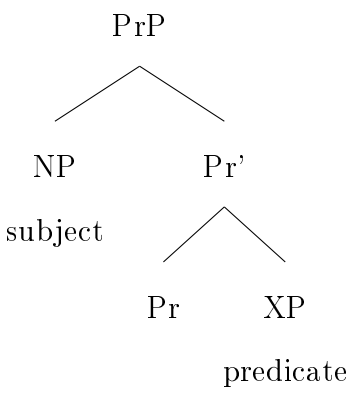
(96) a. Some will eat poi for breakfast and others for lunch.
(Johnson 2009: 305)

b. Low coordination plus ATB movement: the final version of Johnson's approach (Johnson 2009: 308)



(96b) represents two key traits of Johnson's concept of Gapping. Firstly, Gapping is treated as a special instance of across-the-board movement (=ATB movement). The VP *eat poi* is simultaneously moved into [Spec, PredP], a position which is specifically reserved for VP movement. The predicative phrase (PredP) was originally introduced in Bowers (1993). According to Bowers, Pred (Pr) is a functional category used to introduce predication:

(97)



X= V, A, N, P (Bowers 1993: 595)

The PredP is used to analyse small clauses, which are deprived of tense. Although Johnson uses the PredP, his version of the predicative phrase differs from that introduced by Bowers. Firstly, Johnson does not use [Spec, PredP] to host a subject of a predicate. Instead, Johnson exploits [Spec, PredP] as an escape hatch for a moved VP. Furthermore, Johnson's PredP dominates a complex coordinated phrase with multiple subjects, not a single phrase possessing no subject. Under Johnson's analysis, the PredP dominates coordinated *v*Ps, which can be treated as small clauses. To sum up, Johnson exploits the predicative phrase to create a landing site for VP movement.

Secondly, Johnson's Gapping operates only within the coordination of *v*Ps rather than TPs. Such coordination is also referred to as low coordination. Thus, low coordination of *v*Ps is a cornerstone of Johnson's (2009) account. I will discuss Johnson's motivation for low coordination below.

To back up his analysis, Johnson demonstrates that there are a number of significant differences between Gapping and Pseudogapping. Pseudogapping is an elliptical rule that deletes a reoccurring main verb and preserves the auxiliary one. In English, Pseudogapping often takes place in verb clusters derived by past, future and perfect tenses:

(98) a. Bill ate the peaches and Harry did ~~eat~~ the grapes.
(Bowers 1998: 2)

b. John will select me, and Bill will ~~select~~ you.
(Bowers 1998: 2)

c. Some have served mussels to Sue while others have ~~served~~ swordfish ~~to~~

~~Sue~~ .

(Johnson 2009: 289)

Since Psedogapping preserves auxiliary verbs, it must take place in coordination of TPs. Only TP has enough space to host auxiliary verbs.

There are a number of discrepancies between Gapping and Pseudogapping. Firstly, Gapping (at least in English) is legitimate only in coordinated constructions while Pseudogapping is also available in subordinations:

(99) a. Some had eaten mussels because others had shrimp.

b. * Some had eaten mussels because others shrimp.

(Johnson 2009: 293)

There are basically two main options to deal with this property of Gapping. The first solution is to assume that only coordinating conjunctions can bear a feature licensing Gapping (the essence of the feature is irrelevant to us here) while subordinating ones are deprived of the licensing feature. As an alternative, one could treat all coordinate clauses as an optimal environment for Gapping, regardless of the specific coordinating conjunction. Johnson selected the second option, introducing the notion of low coordination. Only coordinating conjunctions are compatible with low coordination of vPs, which is prerequisite for Gapping. In (99b), the subordinating conjunction *because* is incompatible with low coordination, which results in ungrammaticality of Gapping. Since Pseudogapping is not restricted by low coordination, it can occur under subordinating conjunctions.

Secondly, Gapping and Pseudogapping can license different binding relations:

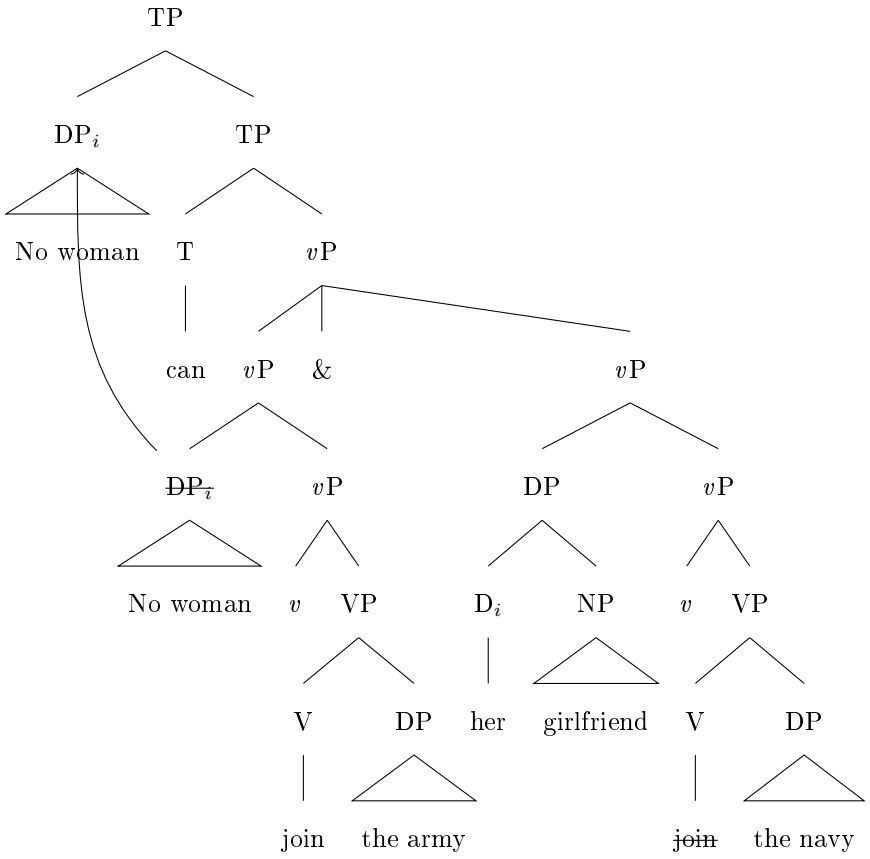
(100) a. No woman$_i$ can join the army and her$_i$ girlfriend the navy.

b. * No woman$_i$ can join the army and / but her$_i$ girlfriend can the navy.

(Johnson 2009: 293)

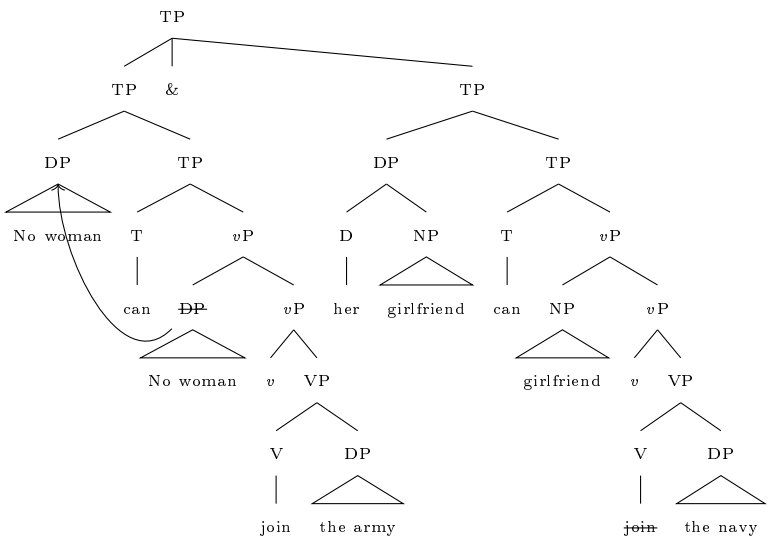
According to Johnson, the origin of this discrepancy stems from the possibility of c-command in a given syntactic structure. Under low coordination, which is a prerequisite for Gapping, the highest NP *no woman* moves from one of the coordinated *v*Ps to the [Spec, TP] position. Although this movement to [Spec, TP] seems to violate the Coordinate Structure Constraint, the movement is essential for the low coordination approach. The nature of this movement is not discussed in Johnson (2009), but one could assume that the CSC must be relaxed to incorporate the movement in (101). In the following sentence, *no woman* c-commands all the phrases constituting lower *v*Ps, including the D_i *her*:

(101)



Under Pseudogapping, the NP_i *no woman* cannot bind the D_i *her*, as these phrases are in distinct TPs and do not enter into c-command relation:

(102)



The crucial step is to assume that binding is based upon c-commanding. Then we have a straightforward explanation of the binding discrepancy between Gapping and Pseudogapping.

Thirdly, Pseudogapping can occur in embedded clauses while Gapping cannot (see the introductory chapter for a detailed discussion):

(103) a. Some had eaten mussels and she claims that others had shrimp.

b. *Some had eaten mussels and she claims that others shrimp.

(Johnson 2009: 293)

Low coordination provides an explanation to this property as well, since Gapping is not allowed to operate across TP boundaries. Pseudogapping, on the other hand, always takes place in a coordination of TPs and thus is immune to the embedding prohibition.

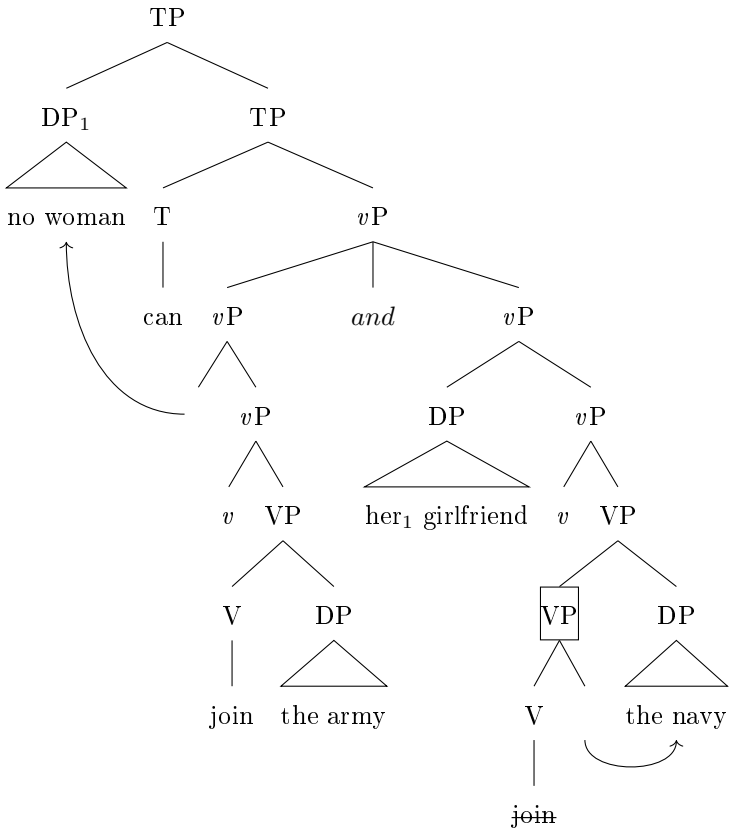
In order to explain these differences between Gapping and Pseudogapping, Johnson concludes that there are two different mechanisms involved in these ellipsis phenomena. One is responsible for Gapping and it involves low coordination. The other is responsible for Pseudogapping and involves TP coordination. Once the main difference between Gapping and Pseudogapping is established (it is low coordination), we need to define the processes responsible for ellipsis. In other words, one must establish a sequence of deletion and/or movement operations that derive a given ellipsis phenomenon (Gapping or Pseudogapping). According to Johnson, one possible

solution for Gapping could be low coordination reduction. It exploits VP ellipsis and movement:

(104) a. Gapping

No woman$_1$ can join the army and her$_1$ girlfriend the navy.

b. (Johnson 2009: 297)

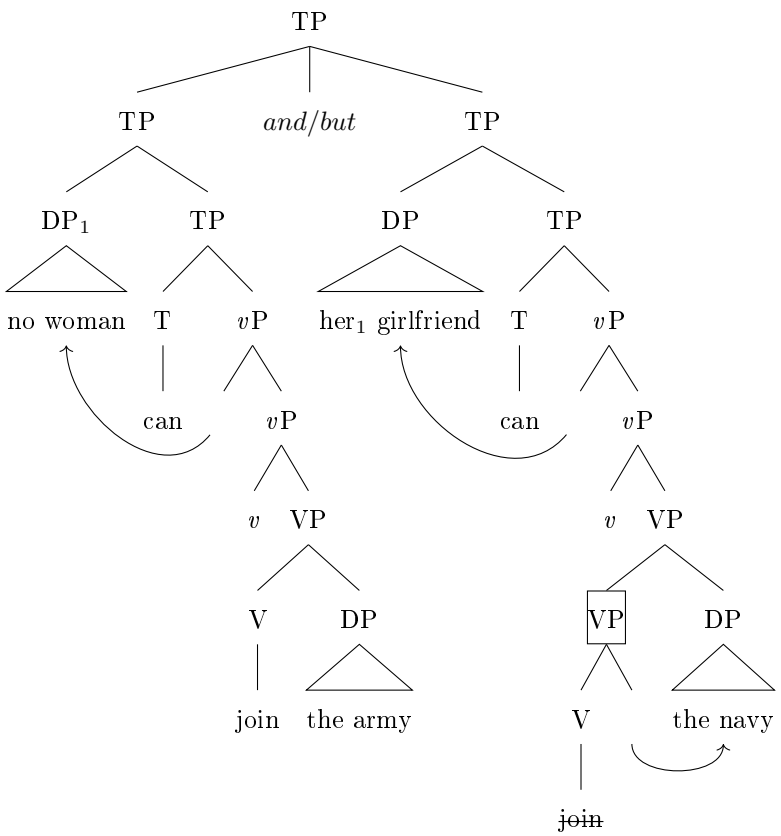


VP ellipsis ensures that Gapping can only elide VPs and cannot affect finite auxiliaries. Thus, the only way to make Gapping licit is to restrict it to low coordination, so that Gapping would not need to delete the T-head. If there are two T-heads, the coordination will no longer be low and Pseudogapping will be the only legitimate option:

(105) a. Pseudogapping

No woman$_1$ can join the army and / but her$_1$ girlfriend can the navy.

b. (Johnson 2009: 298)



Below I will discuss advantages and drawbacks of the low coordination approach. The account based on low coordination reduction predicts differences in binding possibilities within Gapping and Pseudogapping. Under Gapping the pronoun in the second coordinated *v*P can be bound by the subject from the first coordinated *v*P since this pronoun is c-commanded by the subject. In contrast to Gapping, Pseudogapping cannot establish the proper binding relation between the subject and the pronoun because in Pseudogapping we have the coordination of TPs (in order to host auxiliary verbs). So in case of Pseudogapping we are dealing with multiple TPs, and each of these TPs constitutes a separate binding domain.

Low coordination approaches provide us with several ways of treating the No Embedding Constraint. Low coordination reduction accounts for the No Embedding Constraint by the properties of T-heads. The situation with Johnson's low coordination approach is more difficult. The initial version of Johnson's approach (see Johnson 2000) exploits ATB movement of V instead of ATB movement of VP. Since Johnson (2000) assumes that Gapping is derived by head movement of V, Gapping is subject to restrictions imposed on head movement. In Johnson 2000, it is argued

that a verbal head cannot be moved past another. Johnson refers to this restriction as the Head Movement Constraint. This restriction allows Johnson to account for the No Embedding Constraint:

(106) *John drinks coffee, and I know that Pam ~~drinks~~ tea.

According to Johnson (2000), the V-head *drinks* in (106) is moved past the verbal head *know*. Thus, the derivation of (106) is a violation of the Head Movement Constraint.

In contrast to Johnson (2000), the analysis proposed in Johnson (2009) does not involve head movement. Consequently, the Head Movement Constraint cannot be used to account for the No Embedding Constraint. Unfortunately, Johnson (2009) does not provide an independent restriction that would motivate the No Embedding Constraint. Thus, the approach proposed in Johnson (2009) must postulate the No Embedding Constraint as a separate restriction on Gapping. Below I will discuss the treatment of NEC under the low coordination reduction. Johnson treats the low coordination reduction as a predecessor of his ATB approach of 2009.

The low coordination reduction can account for inability of Gapping to occur in embedded clauses, if it is extended by the following principles:

(107) a. VP-ellipsis can elide VPs but not TPs.

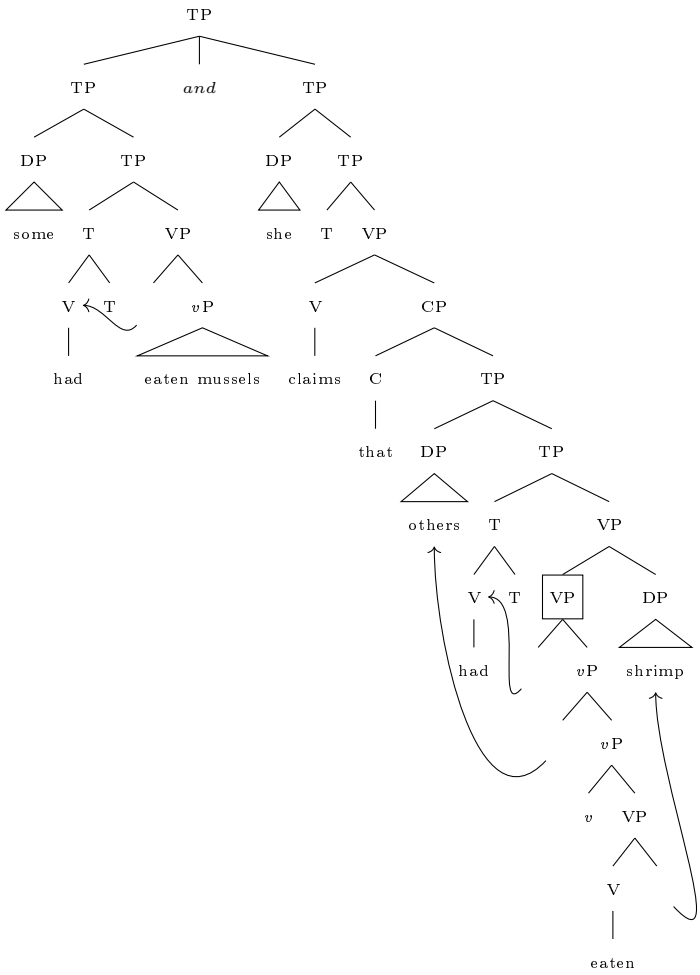
b. Verb movement to T must feed VP-ellipsis.

(Johnson 2009: 297)

The No Embedding Constraint follows from the fact that auxiliary cannot be elided by Gapping since that would violate the requirements in (107). Thus, this violation renders the whole sentence ungrammatical:

(108) * Some had eaten mussels and she claims that others shrimp.

(Johnson 2009: 299)



In (108), the auxiliary *had* which is located in the embedded clause must be merged with T in order to comply with (107b). Since the embedded *had* left the VP which must be deleted by VP ellipsis, it must survive deletion. However, the embedded *had* is elided in (108), which results in ungrammaticality.

Despite the fact that some approaches using low coordination can account for the No Embedding Constraint, there are embedding-related cases that seem to be problematic for low coordination approaches:

(109) a. John saw Mary hide a five pound note (under a chair) and Fred ~~saw~~ Susan ~~hide~~ a ten pound note (behind a painting).

b. John believed Mary to have hidden a five pound note and Fred ~~believed~~ Susan ~~to have hidden~~ a ten pound note.

In (109), the embedded remnants of Gapping (*Susan* and *a ten pound note*) must be moved out of the higher VP headed *saw* or *believed*. Then the vacated complex VPs

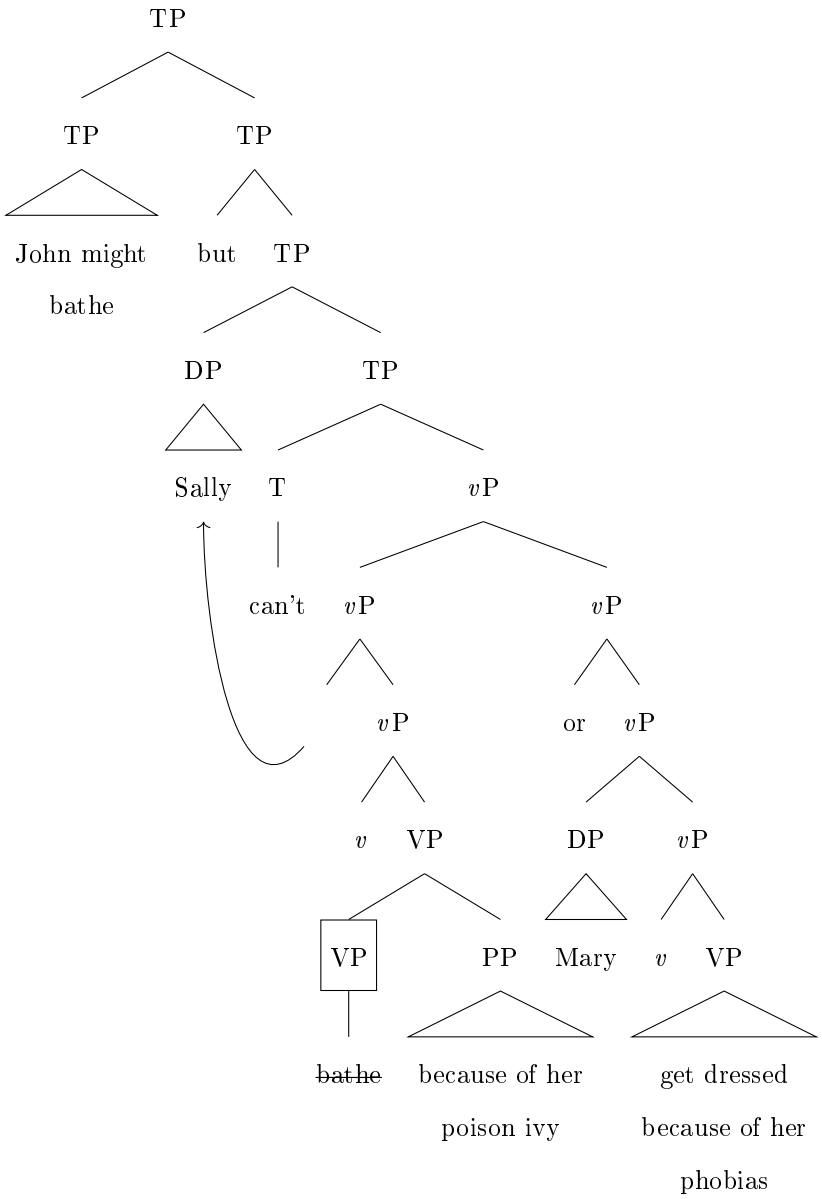
("saw t_i hide t_j" and "saw t_i to have hidden t_j") can be moved to [Spec, PredP]. Although this derivation is compatible with the ATB approach of Johnson (2009), extraction of complex VPs has not been considered by low coordination approaches. Furthermore, it is unclear how we would obtain the correct linear order in the first conjunct. If we merge "Mary" after the VP "saw t_i hide t_j" or the VP "saw t_i to have hidden t_j", "Mary" would incorrectly precede "saw" and "believed". These linearization issues must be solved if one wants to derive complex gaps like (109) using low coordination.

Despite its ability to account for the embedding prohibition, low coordination reduction has a major drawback. According to Johnson, VP ellipsis is not licensed in clauses with Gapping. Gapping in the following sentence is represented by the deletion of the modal auxiliary in the third coordinated clause; VP ellipsis is represented by deletion of the VP *bathe*:

(110) *John might bathe, but Sally can't ~~bathe~~ because of her poison ivy or Mary ~~can't~~ get dressed because of her phobias, so we may as well give up. (Johnson 2009: 303)

Unfortunately, low coordination reduction allows this ungrammatical sentence, which leads Johnson to reject low coordination reduction:

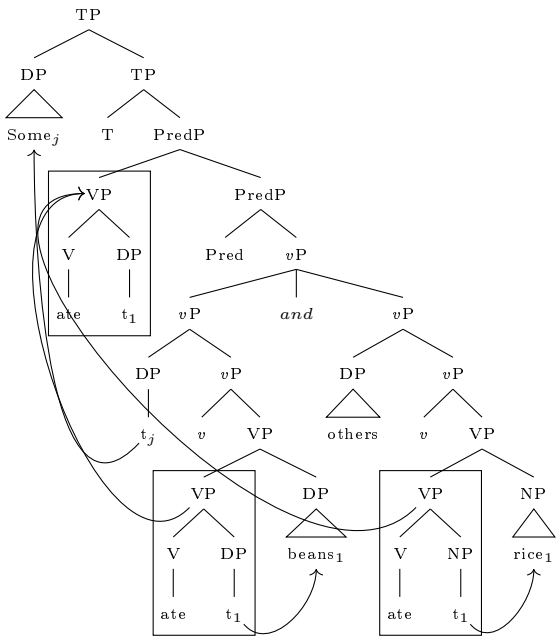
(111) (Johnson 2009: 303)



To sum up, Johnson argues that VP ellipsis destroys the environment for Gapping. He concludes that in low coordination reduction VP ellipsis must be replaced by ATB movement of the same verb from two coordinated *v*Ps. Consider, for instance, the next sentence:

(112) a. Some ate beans, and others ~~ate~~ rice.
(Johnson 2014: 1)

b.



As we can notice, the VPs are first unified by moving the direct objects outside. Then the uniform VPs are moved across-the-board to the [Spec, PredP] position. Under Johnson's account, these extracted VPs do not leave any traces or copies in their initial positions, as can be seen in (96b). This assumption, however, is unsatisfactory: for computation reasons, moved elements must leave some trace in their starting positions. Otherwise, Narrow Syntax would not know that a given element is moved, which could lead, for instance, to ungrammatical cases involving islands. In this thesis, I argue for the Copy theory of Movement, which rejects traces and replaces them with copies of moved elements. Indexed traces are an unnecessary complication to syntax and should be replaced with copies for economy reasons. Moreover, no special elements like indexed traces must be introduced. Despite its advantages, the Copy theory must have an algorithm that resolves linearisation conflicts caused by multiple copies of a moved element To obtain the licit linear order and avoid unnecessary copies, the chain of VPs is reduced and only the highest copy survives at PF. This copy deletion is subject to the next principle:

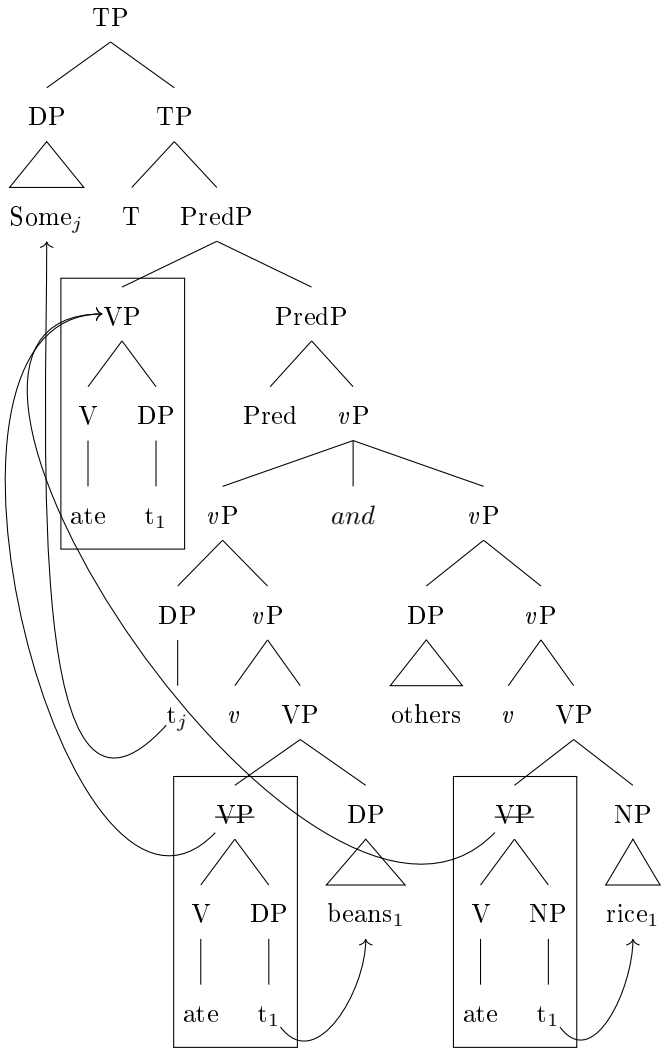
(113) Chain Reduction

Delete the minimal number of constituents of a non-trivial chain CH that suffices for CH to be mapped into a linear order in accordance with the LCA

(Linear Correspondence Axiom, Aleksandr Kalinin). (Nunes 2004: 27)

In (114), the extracted VP *ate* t_1 forms a non-trivial chain with its copies in the two *v*Ps. The chain <VP *ate* t_1; VP *ate* t_1; VP *ate* t_1> is non-trivial, as it contains more than one element. Chain reduction restores asymmetric linear order by deleting the lower copies of the VP *ate* t_1. Otherwise, the VP *ate* t_1 would simultaneously precede and follow the DPs in [Spec, *v*P], which is incompatible with the LCA. Consequently, only the VP in [Spec, PredP] survives chain reduction:

(114)



The most eminent advantage of Johnson's approach is that English Gapping is restricted to coordinate structures at no additional cost, as low coordination of *v*Ps is a prerequisite for any grammatical instance of Gapping. Secondly, we can explain why voice mismatches are not allowed under Gapping, since there is only one T-head in

Gapping constructions. If we assume that Voice is a feature of a T-head, then having a single T-head ensures that there can be no voice differences between clauses.

(115) a. *Some bring roses but lilies by others.

b. *Lilies are brought by some and others roses. (Merchant 2013: 83)

Thirdly, since Johnson's approach is based on movement, it can adequately account for the sensitivity to island constraints, including the CSC:

(116) a. Coordinate Structure Constraint:

*Alfonse cooked the rice, and Harry ~~cooked~~ and ate the beans.

b. Sentential Subject Constraint:

*Alfonse ate the rice, and that Harry ~~ate~~ the beans is fantastic.

c. Complex NP Constraint:

*Alfonse ate the rice, and I was stunned by the fact that Harry ~~ate~~ the beans.

(Neijt 1979: 23)

However, low coordination is not without its problems. First of all, it cannot properly account for the incompatibility of Gapping with the Russian coordinating conjunction *i* 'and' and the Dutch coordinating conjunction *want* 'because'. These coordinating conjunctions render Gapping ungrammatical:

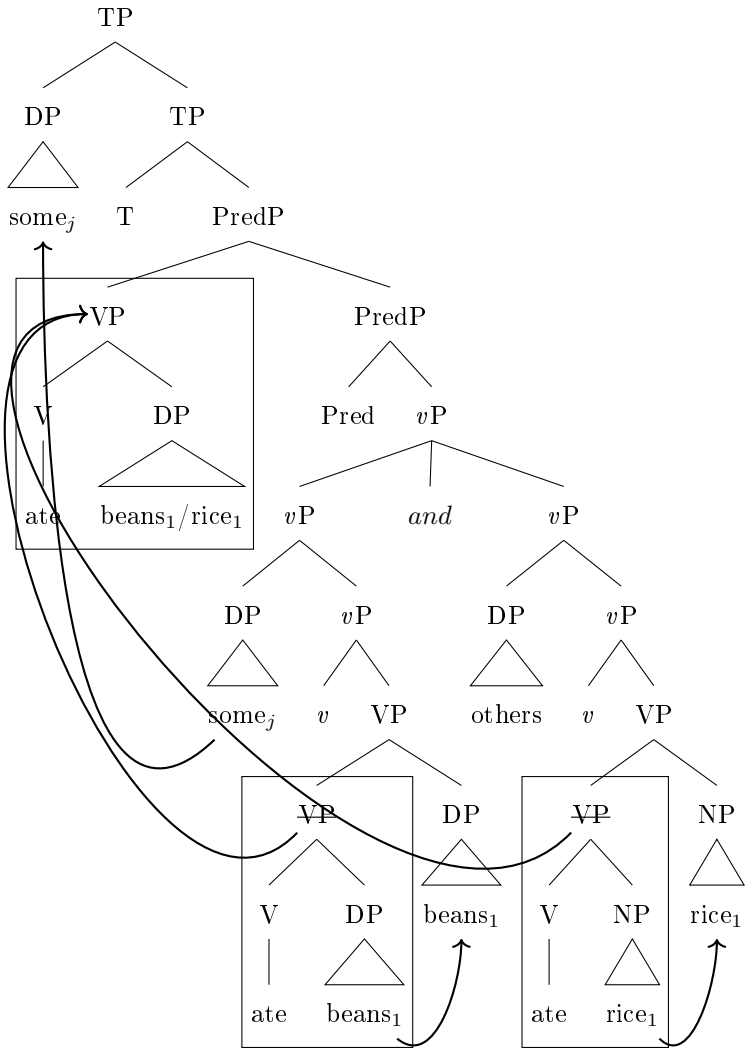
(117) a. * Ja s"el sup, i Maša ~~s"ela~~ kašu.
I.NOM ate soup.ACC and Mary.NOM ate porridge.ACC
'I ate the soup, and Mary ~~ate~~ the porridge'

b. * Ik speelde viool, want Jan ~~speelde~~ piano.
I played violin because Jan played piano
'I played the violin because Jan ~~played~~ the piano'

Secondly, once the Copy Theory of Movement (see Nunes 2004) is implemented, linearisation conflicts become unavoidable. Under this theory, the movement itself is

treated as a combination of Copy and Merge. The traces are replaced by the respective copies, and normally only the highest copy is realized at PF. The major issue here is the content of the highest copy. If we attempt to save ATB movement for Gapping, we obtain something similar to the following derivation:

(118)



Obviously, the copies like *beans*$_1$ / *rice*$_1$ cannot be generated within Narrow Syntax and thus the linearisation crash will arise. Other problems with low coordination approach will be considered in Chapter 3.

(119)

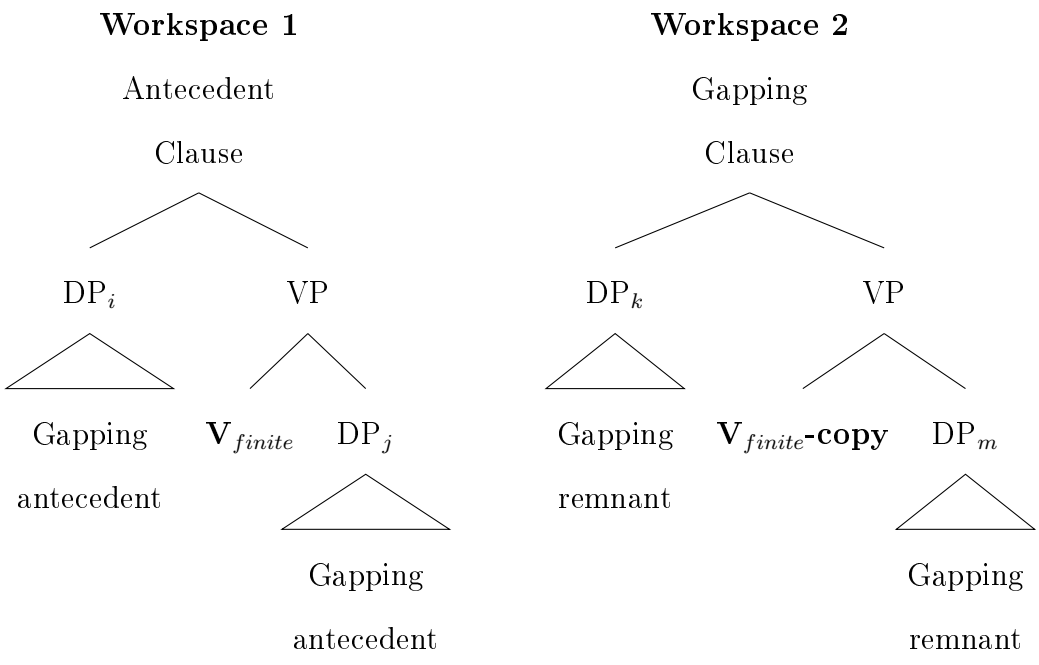
Criteria	Johnson (2009)
Sensitivity to Island Constraints	+
Distinction between Coordination and Subordination	+
Embedding Prohibition	+
Voice Mismatches Prohibition	+
The Russian coordinating conjunction *i* 'and'	-
The Dutch coordinating conjunction *want* 'because'	-

2.3.2 Sideward movement and Gapping

In this section, I will discuss Repp (2009), a low coordination approach that exploits sideward movement. I will define sideward movement below.

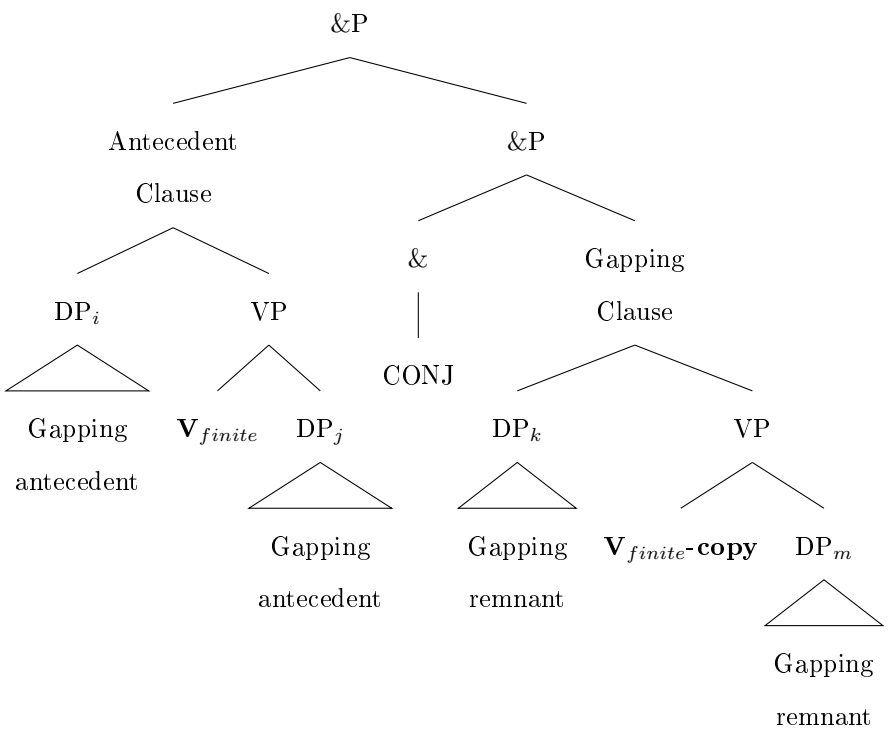
According to Nunes (2004), sideward movement is a operation "where the computational system copies a given constituent α of a syntactic object K and merges a with a syntactic object L, which has been independently assembled and is unconnected to K" (Nunes 2004: 90). In other words, sideward movement allows the simultaneous construction of multiple parallel syntactic objects. This is possible due the split workspace of the Narrow Syntax. In the case of Gapping, sideward movement generates the following structures:

(120)



Once both clauses are assembled, they are merged into one coordinated clause:

(121)



So far, the structure in (121) does not seem to be elliptical, as it has two copies of the finite verb. In order to derive a Gapping sentence, one must make sure that the copy of the finite verb is deprived of all phonological features. As will be demonstrated in this section, Repp argues that the finite verb is copied without any phonological features in order to remain silent at PF.

Repp (2009) uses sideward movement to analyse Gapping. Repp (2009) derives Gapping by copying the information from the first conjunct to the second one. Crucially, elements that are used in the first conjunct are copied into the second conjunct without any phonological features. Under Repp's theory, ellipsis is just lack of phonological features. Elements without phonology are unpronounced at PF, which results in Gapping. Furthermore, Repp does not use low coordination of vPs: the domain of Gapping is postulated as the coordination of TPs. Finally, only structural information which is relevant to the convergent derivation of the second conjunct is copied. Consequently, heads must be copied so they can project and generate a parallel clause. Contrary to heads, adjuncts are not copied, since they are optional parts of phrases. These principles are formulated in Repp's Copying Hypothesis for Gapping:

(122) THE COPYING HYPOTHESIS FOR GAPPING

Gapping is derived by copying material from the first conjunct to the second conjunct by way of sideward movement after the phonology of the first conjunct has been spelt out. Only material required to build a convergent derivation from the impoverished numeration of conjunct 2, which only contains the remnants of the gapping conjunct, is copied. This includes sentential functional projections and their complements. Adjuncts are not copied because they are not required in this sense.

(Repp 2009: 43)

The second conjunct is derived from a separate derivation and in a separate workspace, and only elements that will be realized at PF are included in the numeration:

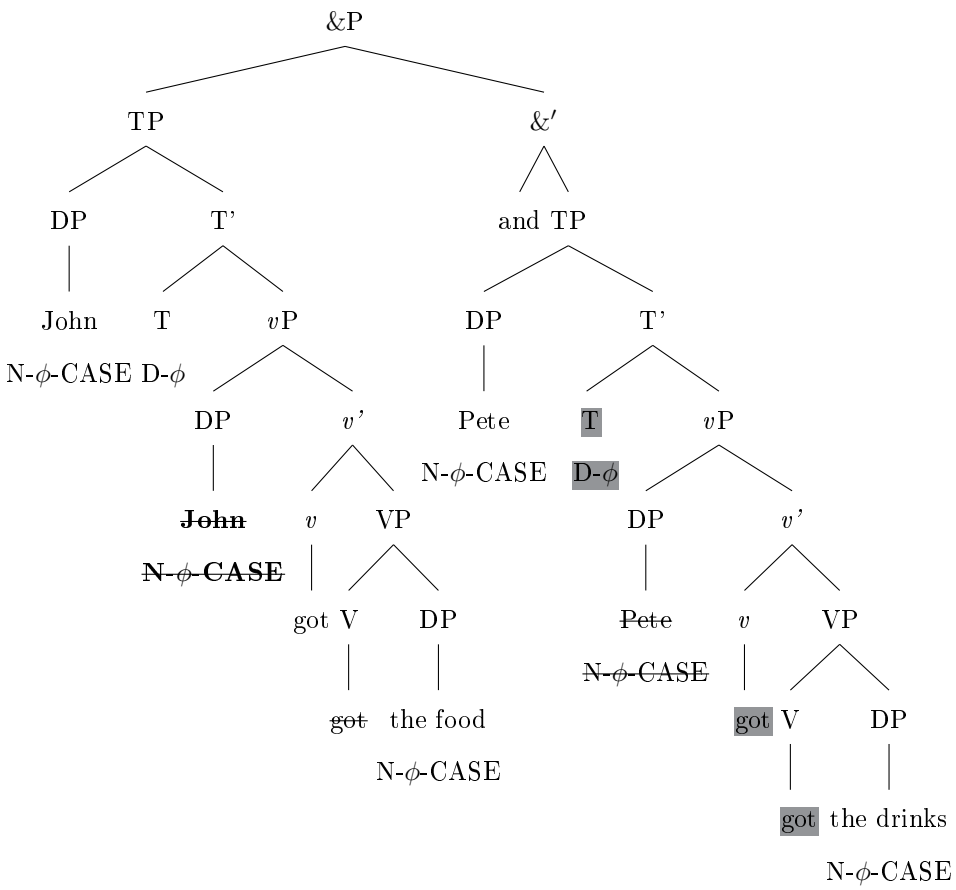
(123) a. John got the food and Pete the drinks.

b. $N_{conjunct2}$ = { and, Pete-CASE, the, drinks-CASE }
slightly modified (Repp 2009: 72)

Under Repp's analysis, the sentence will obtain the following structure, where shaded material designates sideward movement without phonological features (in the tree below D stands for the EPP-feature):

(124) John got the food and Pete the drinks.

(Repp 2009: 77)



The T and the v are copied from the first conjunct into the second one, so the second conjunct is derived as a fully fledged TP, contrary to the low coordination of vPs in Johnson (2009). It is also important to add that once T or v are copied, their features are made visible to the computational system. This ensures, for instance, that the subject NP is moved into the [Spec, TP] position to satisfy the EPP-feature (or D-feature in Repp's notation) and delete the formal ϕ-features on T.

In the remainder of this section, I discuss advantages and drawbacks of the sideward movement accounts (Repp 2009). As is mentioned above, the main advantage of Johnson's approach is the choice of the low coordination of vPs as the preliminary configuration for Gapping. Low coordination automatically ensures that all subordination cases will be ruled out due to the absence of the desired low coordination:

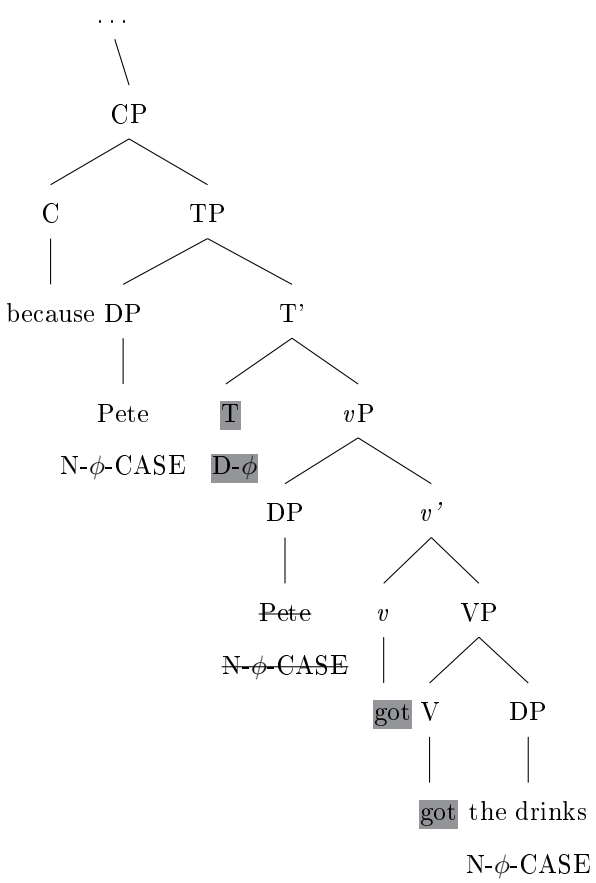
(125) a. I like coffee, and Mary ~~likes~~ tea.

b. * I like coffee, because Mary ~~likes~~ tea.

In contrast to Johnson, Repp does not provide a solution that would allow us to rule out the ungrammatical cases with subordination. There is nothing within her approach that would prevent the following derivation from taking place:

(126) a. *John got the food because Pete the drinks.

b.



To sum up, Repp's approach overgenerates and needs to be altered in order to rule out the unwanted subordinate clauses with Gapping.

Moreover, Repp's approach fails to account for the incompatibility of Gapping with the Russian conjunction *i* 'and' and the Dutch conjunction *want* 'because'. Repp does not provide any sorting criterion for the conjunctions.

Repp provides an efficient account of the voice mismatches prohibition under Gapping:

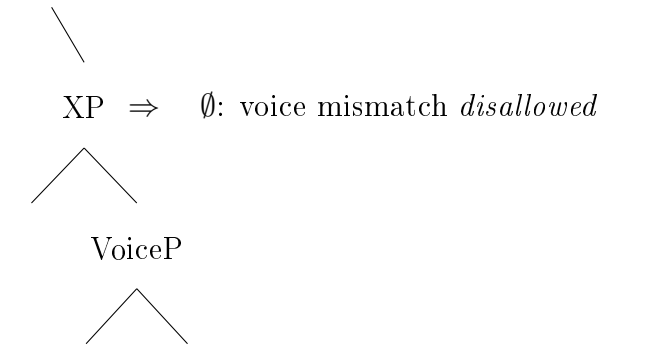
(127) a. *Some bring roses and lilies by others.

b. *Lilies are brought by some and others roses. (Merchant 2013: 83)

According to Merchant, this constraint stems from the assumption that Gapping

deletes the whole TP projection, including Voice:

(128)



(Merchant 2013: 89)

Nevertheless, it is not clear enough how the Voice-heads are made identical **prior to** the deletion. The solution is to assume that voice is a feature of T-heads. If this assumption is correct, Repp's approach provides a more natural account of voice mismatches. Sideward movement generates two copies of the T-head with identical voice features and the copy in the elliptical conjunct does not bear any phonological information.

(129)

Criterion	**Repp (2009)**
Sensitivity to Island Constraints	**-**
Distinction between Coordination and Subordination	**-**
Embedding Prohibition	**-**
Voice Mismatches Prohibition	+
The Russian coordinating conjunction *i* 'and'	**-**
The Dutch coordinating conjunction *want* 'because'	**-**

In this section, I have discussed the notion of sideward movement and the approach to Gapping based on it. Repp (2009) treats Gapping as a TP coordination accompanied by sideward movement from the first conjunct to the second one. Although Repp's approach can efficiently account for the parallelism between conjuncts by copying a vP and a T-head from the first conjunct, this virtue is dramatically outnumbered by the drawbacks summarized in the table above. The next section is dedicated to combined approaches.

2.4 Combined approaches

I will start this section with discussion of an unpublished work of Aelbrecht on Gapping in Dutch because it represents the internal mechanism of combined approach to Gapping in a transparent way.

Aelbrecht assumed that Gapping is neither pure deletion (Neijt (1979)) nor pure movement (Johnson (2009)) but rather an amalgamation of these two processes. Let us consider the following example:

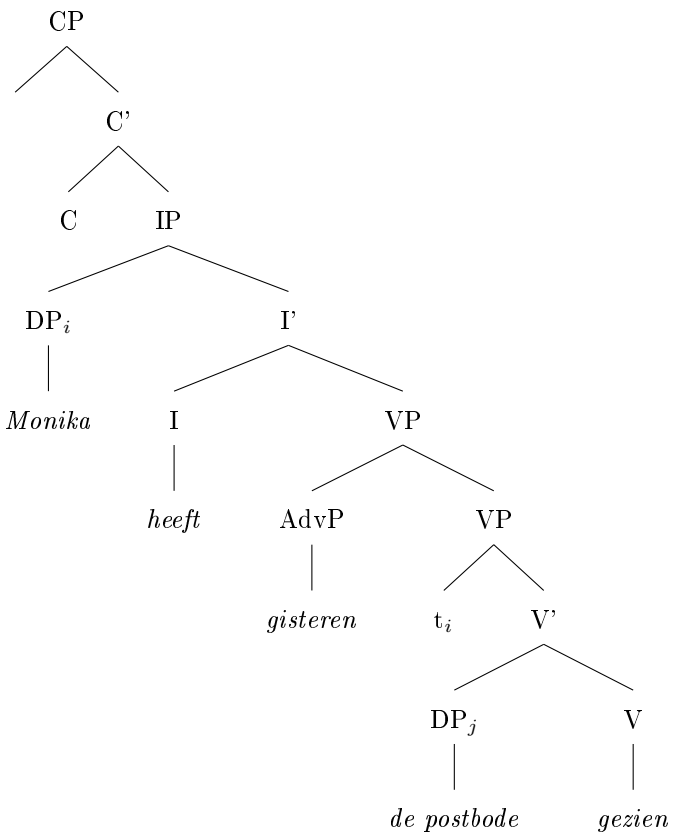
(130) Marsha heeft gisteren de bakker gezien, en Monika ~~heeft~~ ~~gisteren~~ de
Marsha has yesterday the baker seen and Monika has yesterday the
postbode ~~gezien~~.
mailman seen
'Marsha saw the baker yesterday and Monika ~~saw~~ the mailman ~~yesterday~~.'

(Aelbrecht 2007: 2)

The second conjunct has the following representation prior to deletion of the verb:

(131) a. ... en [CP [IP Monika heeft gisteren de postbode gezien]
and Monika has yesterday the mailman seen

b. (Aelbrecht 2007: 2)



According to Aelbrecht, the initial step in derivation of Gapping is movement of gapping remnants to multiple [Spec, CP] positions. This movement is triggered by the [CONTRAST]-feature, which is situated on C. The movement of remnants of gapping occurs accordingly to Shortest Attract principle (the highest contrasted element is moved first), which was formulated by Norvin Richards:

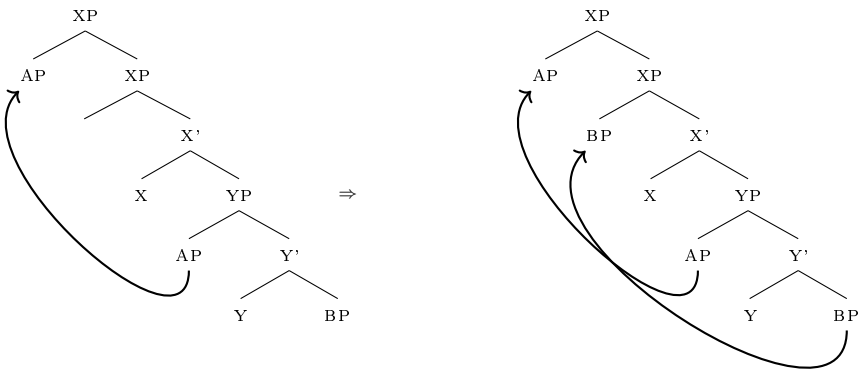
(132) a. **Attract**: An attractor K attracts a feature F, creating a copy α' of an element α containing F, and merging α' with K. The relations between α', K, and F must all obey Shortest.

b. **Shortest**: A dependency between the members of a pair P of elements α, β obeys Shortest iff no well-formed dependency could be created between the members of a pair P', created by substituting γ for either α or β, such that the set of nodes c-commanded by one element of P' and dominating the other is smaller than the set of nodes c-commanded by one element of P and dominating the other.

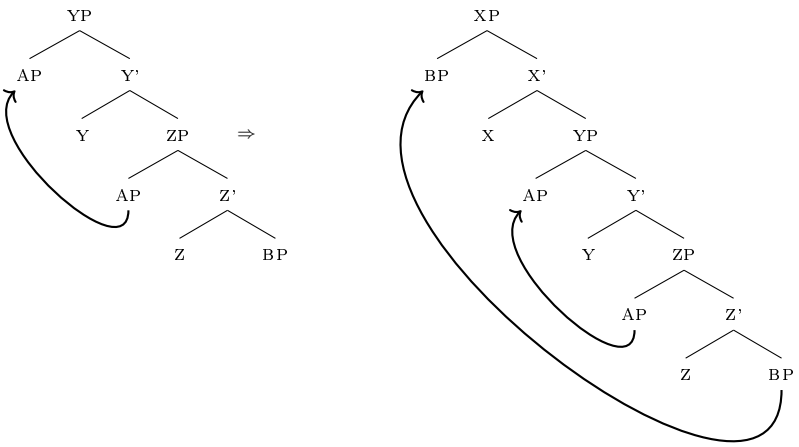
(Richards 2001: 98)

In Richards (2001), the Shortest Attract principle is also constrained by following requirements: 1) if two or more constituents are attracted to Spec positions by one probing head (the head which possesses [iF] (=interpretable feature) probes its c-command domain for [uF] (i.e. uninterpretable feature) of the same type, then erases the [uF] from certain elements and triggers movement of the elements into Spec position), then the paths of their movements must intersect, as in (133a); 2) if two or more constituents are attracted into multiple Spec positions of different probing heads, then the movement paths may not intersect, as in (133b).

(133) a.



b.

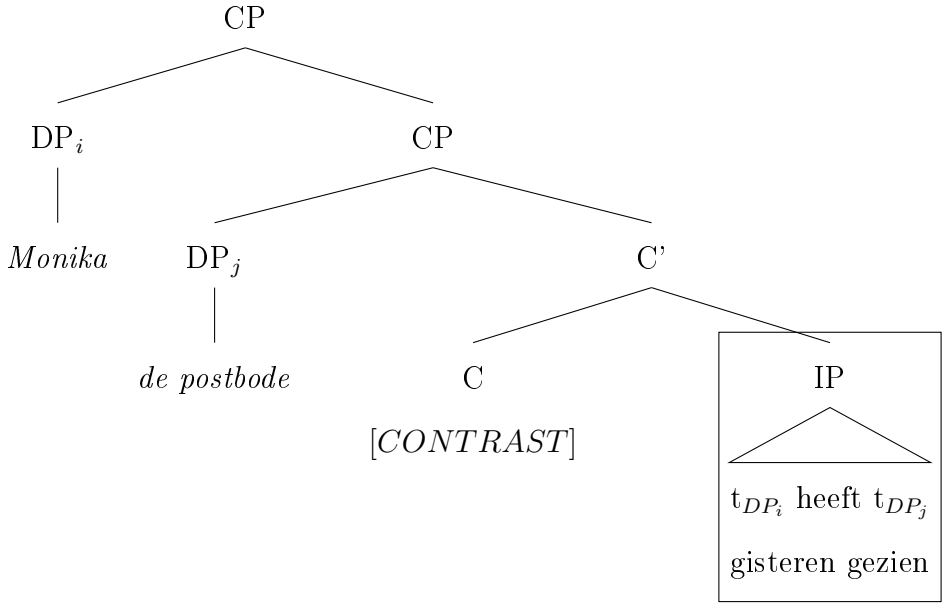


(Aelbrecht 2007: 3)

After the movement operations in (133a) and (133b), the remaining IP is deleted, leaving us with the familiar Gapping example:

(134) a. ... en [CP Monika [de postbode [IP t_{Monika} heeft $t_{depostbode}$ gisteren gezien]]]

b. (Aelbrecht 2007: 4)



The combined approach proposed by Aelbrecht has a number of advantages. It allows us to account for the No Embedding Constraint, which stems from the distribution of [CONTRAST]-feature. According to Aelbrecht, the licensing feature can only merge with phonologically null C-heads. Since an overt C that introduces an embedded IP is not null, it cannot bear the [CONTRAST]-feature. Thus, Gapping is illicit under embedding:

(135) *⌈Peter houdt van bananen⌋, en ⌈ik denk ⌈**dat** Jessica ~~houdt~~ van peren⌋⌋.
Peter loves of bananas and I think that Jessica loves of pears
'Peter loves bananas and I think that Jessica ~~loves~~ pears.'

(Aelbrecht 2007: 15)

In (135), *dat* 'that' is an overt C-head that is deprived of the [CONTRAST]-feature. Consequently, it cannot trigger remnant extraction to [Spec, CP].

A further consequence of Aelbrecht's analysis is the ungrammaticality of Gapping under overt complementizers. Since Aelbrecht assumes that a C-head bearing the [CONTRAST]-feature must be phonologically null, an overt complementizer cannot possess the [CONTRAST]-feature. Consequently, Gapping in that-clauses is impossible under Aelbrecht's analysis:

(136) **Ik denk dat Jan bier drinkt en dat Marie whisky ~~drinkt~~.*
I think that Jan beer drinks and that Marie whisky drinks
'I think that Jan drinks beer and that Marie ~~drinks~~ whisky.'

In (136), the complementizer *that* blocks Gapping. Note that if the second complementizer is phonologically null, (136) is rendered grammatical:

(137) **Ik denk dat Jan bier drinkt en C_{null} Marie whisky ~~drinkt~~.*
I think that Jan beer drinks and C_{null} Marie whisky drinks
'I think that Jan drinks beer and C_{null} Marie ~~drinks~~ whisky.'

In (137), the null complementizer bears the [CONTRAST]-feature and successfully licenses Gapping. Crucially, Aelbrecht's approach cannot treat sentences like (137) as TP-coordination headed by *that*. In this case, there will be no proper null complementizer to license Gapping and (137) will be incorrectly ruled out. Thus, (137) must be analysed as CP-coordination with one null complementizer.

Furthermore, Aelbrecht's approach can account for the sensitivity to islands, as it incorporates the No Embedding Constraint and exploits movement, which is subject to island restrictions. The incompatibility with *i* 'and' and *want* 'because' can be explained by the distribution of the [CONTRAST]-feature. As the Dutch conjunction *want* 'because' is used to coordinate TPs, there is no null complementizer to license Gapping. Apart from the case of parallel embedding, the Russian conjunction *i* 'and' also coordinates TPs which do not have a null C licensing Gapping.

Despite its advantages, Aelbrecht's approach also has some drawbacks. Under her analysis, remnants can be moved only to [Spec, CP]. Consequently, heads cannot be remnants because they must not move to the specifier position. However, this prediction is not borne out, since Russian Gapping allows prepositional heads to be remnants:

(138) Saša p'et kon'jak do obeda, a Petja ~~p'et~~
Alex.NOM drinks cognac.ACC before lunch.GEN and Peter.NOM drinks
~~kon'jak~~ vmesto ~~obeda~~.
cognac.ACC instead.of lunch.GEN
'Alex drinks cognac before lunch, and Peter ~~drinks~~ ~~cognac~~ instead of ~~lunch~~.'

In (138), *vmesto* 'instead of' is a preposition, since it assigns genitive to its nominal complement *obed* 'lunch'. All other cases are incompatible with *vmesto* 'instead of':

(139) a. vmesto obeda
instead.of lunch.GEN
'before lunch'

b. *vmesto obedom
instead.of lunch.INSTR
'before lunch'

c. *vmesto obede
instead.of lunch.LOC
'before lunch'

d. *vmesto obedu
instead.of lunch.DAT
'before lunch'

e. *vmesto obed
instead.of lunch.ACC
'before lunch'

f. *vmesto obed
instead.of lunch.NOM
'before lunch'

In (138), the preposition *vmesto* 'instead of' is a remnant of Gapping, while its complement *obeda* 'lunch' is deleted. Obviously, the prepositional head *vmesto* 'instead of' cannot be moved to [Spec, CP], which is a landing site for phrases. Thus, Russian prepositional remnants constitute a problem for Aelbrecht's approach.

Another account that exploits both movement and deletion is Boone (2014). Boone (2014) provides a radically new combined analysis of Gapping: it focuses on the semantics of licensing conjunctions. The corner stone of the theory is the notion of a non-hierarchical relation between clauses of the compound sentence. According to

Boone, a non-hierarchical relation between conjuncts arises when both clauses have equal discourse status. A hierarchical relation, on the contrary, requires that one of the conjuncts must be modified by the other. Consider, for instance, the following examples:

(140) Illustration of hierarchical relations

a. John had dinner, before Mary came home. situating relation

b. If John already had dinner,Mary doesn't have to cook. conditional relation

c. Mary didn't cook, because John already had dinner. causal relation

(Boone 2014: 81)

Boone assumes that Gapping can be occur only in sentences with non-hierarchical relations and formulates the principle of Gapping licensing:

(141) **Non-hierarchical Licensing Condition on Gapping and Fragments (NLC)**:

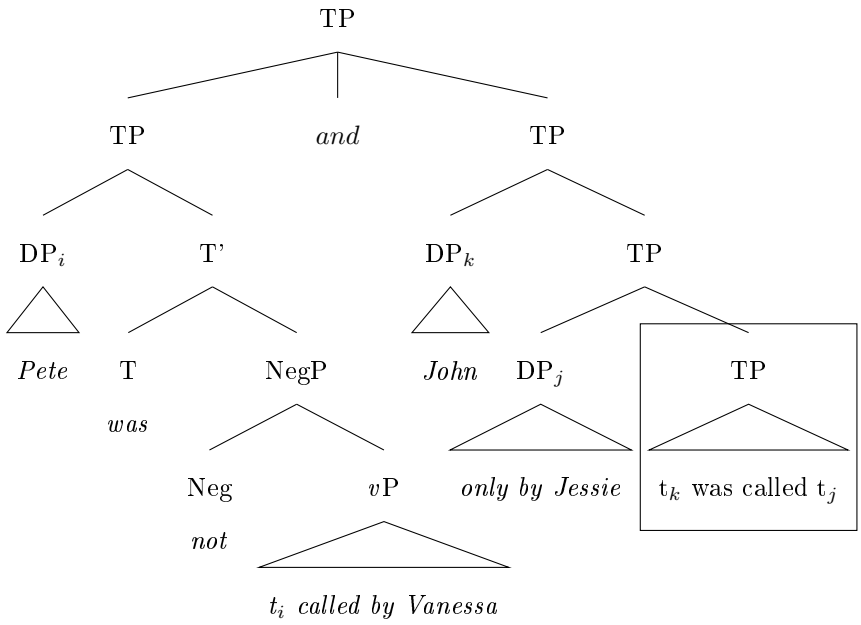
Gapping and Fragments are licensed when antecedent and ellips are in a non-hierarchical relation in the discourse component.

(Boone 2014: 81)

The problem with the NLC is that "whether or not a relation is hierarchical (i.e. semantically asymmetrical), cannot be determined by consulting the syntactic structure" (Boone 2014: 78). Thus, there is no syntactic criterion that would allow us to determine whether a relation is hierarchical. One must consider the semantic function of a given coordinator: "non-hierarchical relations are symmetrical in that the related discourse units have equal semantic weight" (Boone 2014: 80). The lack of a reliable syntactic criterion is a drawback of Boone's proposal. I will further demonstrate that Boone (2014) cannot account for all cases of Gapping.

Once Gapping is properly licensed, movement plus deletion account is implemented. First of all, the remnants are moved out of the future ellipsis site. Then the vacated phrase is deleted:

(142)



Unlike Aelbrecht (2007), Boone does not exploit a dedicated [E]-feature which is responsible for the movement of remnants. The reason is that Boone exploits exceptional movement to relocate the remnants. Exceptional movement (EM) is a movement operation that is licit only in ellipsis contexts and unacceptable under other circumstances:

(143) a. Max ate the apple and Sally [the hamburger]$_i$ ~~[ate t$_i$]~~.
Slightly altered (Boone 2014, (1a) 101)

b. *Max ate the apple and Sally [the hamburger]$_i$ [ate t$_i$] .
(Boone 2014: 101)

Under Boone's analysis, exceptional movement is triggered by interface goals. The interface requirement is to preserve all non-given elements for the sake of recoverability at LF. Thus, all given elements that can be recovered fail to undergo exceptional movement:

(144) *John eats a banana and [Bill]$_i$ [a banana]$_j$ ~~[t$_i$ eats t$_j$]~~, too.
(Boone 2014: 138)

In (144), the phrase *a banana* can be recovered from the first conjunct and thus cannot undergo EM. Although exceptional movement works well as an integral part

of Gapping, no independent empirical evidence can be provided to confirm that such movement exists. In other cases, we could independently test the grammaticality of a movement operation. Exceptional movement, however, is defined as movement available only under ellipsis. Thus, we should either accept that exceptional movement exists or reject this option. This is the main drawback of exceptional movement.

Contrary to Johnson (2009), Boone (2014) is more flexible about the size of conjuncts. Let us consider the next examples with negation.

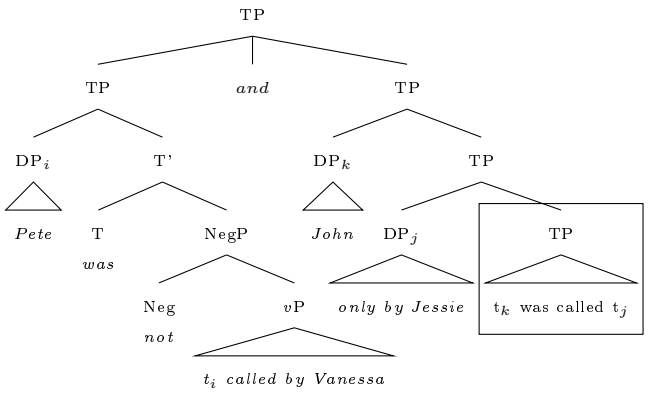
(145) a. Pete hasn't got a video and John a DVD. $(\neg A) \wedge (\neg B)$
= [It is not the case that Pete has a video] and [it is not the case that John has a DVD].

b. Pete didn't clean the flat and John laze around all afternoon. $\neg(A \wedge B)$
= It is not the case that [Pete cleaned the flat and John lazed around all afternoon.]

c. Pete wasn't called by Vanessa and John only by Jessie. $(\neg A) \wedge (B)$
= [It is not the case that Pete was called by Vanessa] and [it is the case that John was only called by Jessie].
(Boone 2014: 46)

In (145a), negation has distributed scope, while it has narrow scope in (145c). As we consider semantics to be closely bound to syntax, the syntactic structures need to be large enough to provide fully-fledged clauses for the distributed and narrow scope. Obviously, the only reasonable way to achieve that is to consider (145a) and (145c) to be coordinations of TPs. At the same time, low coordination of vPs may also take place in case of wide scope of negation, as in (145b). In the case of TP, example (145c) will obtain the following structural representation:

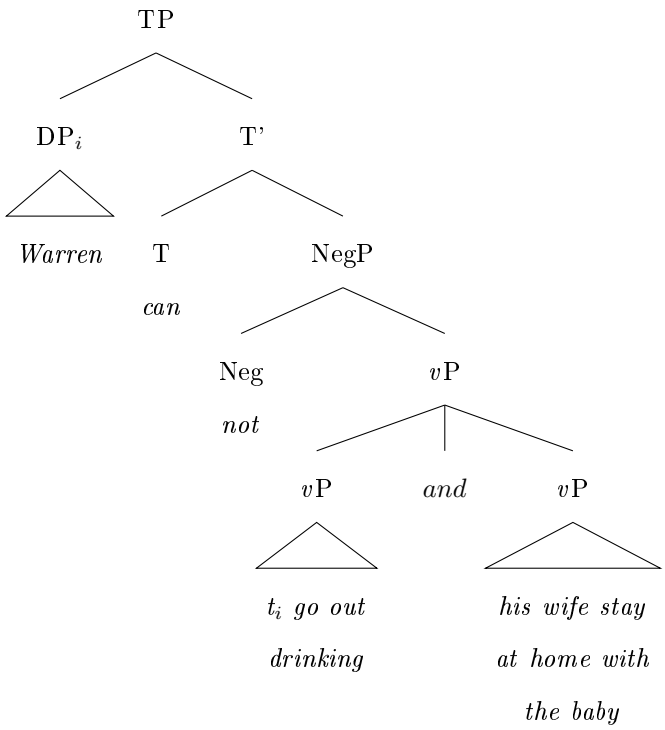
(146) (Boone 2014: 46)



Low coordination can be represented by the following example of I-Gapping that deletes the modal verb *can't*:

(147) a. Warren can't go out drinking and his wife stay home with the baby. (Boone 2014: 42)

b. (Boone 2014: 43)



In (147b), negation and the modal verb *can* c-command low coordination of *v*Ps, which results in the surface form of (147a).

One of the advantages of all combined approaches to Gapping is the ability to explain Gapping sensitivity to island conditions. This pertains to all approaches to Gapping which involve movement operations, as islands were originally defined as restrictions on movement.

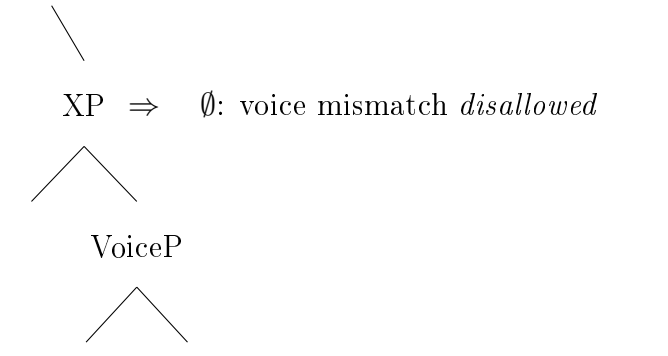
Secondly, Aelbrecht (2007) and Boone (2014) can also adequately account for the prohibition of voice mismatches in sentences with Gapping, as the whole IP projection including the Voice-head is deleted before it can be changed.

(148) a. *Some bring roses and lilies by others.

b. *Lilies are brought by some and others roses. (Merchant 2013: 83)

Since the whole IP-projection is deleted, no voice mismatches could arise under Gapping:

(149)



(Merchant 2013: 89)

Aelbrecht (2007) can account for the embedding prohibition: the subordinating conjunction *that* is deprived of the [CONTRAST]-feature, which renders embedded Gapping ungrammatical. The same is true for other conjunctions which fail to license Gapping. For instance, Aelbrecht (2007) can account for the ungrammaticality of the Russian coordinating conjunction *i* 'and' and the Dutch coordinating conjunction *want* 'because': like *that*, these conjunctions may be postulated to lack the [CONTRAST]-feature, which is the sole licensor of Gapping. However, Aelbrecht (2007) cannot account for heads which are Gapping remnants: for instance, the Russian preposition *vmesto* 'instead' can be a legitimate Gapping remnant. Aelbrecht's approach does not have any position for head movement.

The NLC (Boone 2014) provides a straightforward explanation for the Dutch conjunction *want* 'because' and the English conditional conjunction *and*, which cannot license Gapping. In the case of *want*, one clause is the reason while the other one is the

consequence. Obviously, the discourse status of these clauses is different. Thus, the relation encoded by *want* is hierarchical and Gapping is illicit. The same reasoning is true for the conditional meaning of *and*:

(150) a. *Big Louie steals one more car radio and Little Louie ~~steals~~ the hubcaps.
(conditional reading)

b. * De generaal groette de soldaat want de soldaat ~~groette~~ de generaal.
the general greeted the soldier, because the soldier greeted the general
'The general greeted the soldier, because the soldier the general.'
(Boone 2014: 83)

Moreover, Boone (2014) can successfully account for the embedding prohibition on Gapping, since the subordinating conjunction *that* blocks a non-hierarchical relation between conjuncts:

(151) *Some had eaten mussels and she claims that others shrimp.
(Johnson 2009: 293)

The clause *that others shrimp* is the argument of the verb *claim* and the content of the message. The clause *some had eaten mussels*, on the contrary, is an independent statement. Obviously, these statements belong to different speakers: someone tells us about mussels while a different person tells us about shrimp. Thus, their discourse status is not equal and no non-hierarchical relation is established. If these conjuncts were embedded under the verb *claim*, then their discourse status would be identical. In this case, both statements would belong to the same speaker. Consequently, they would be classified as messages of the same speaker, which would render their discourse status identical. According to Boone, this discourse identity means that there is a non-hierarchical relation between conjuncts, which licenses Gapping:

(152) She claims that some had eaten mussels and others shrimp.

The major drawback of Boone (2014) is its inability to properly account for the Russian conjunction *i* 'and', which does not license Gapping:

(153) *Ja s"el sup, i Maša ~~s"ela~~ kašu.
I.NOM ate soup.ACC and Mary. ate porridge.ACC
'I ate the soup, and Mary ~~ate~~ the porridge.'

In (153), *i* 'and' lists two independent eating events, which are pragmatically identical, so *i* 'and' should encode a non-hierarchical relation. Nevertheless, *i* 'and' is incompatible with Gapping and Boone's account cannot provide a solution to this issue. In Chapter 5, I will discuss the case of *i* and its semantic functions in detail.

To sum up, the very notion of hierarchical relations needs further clarification.

(154)

Criterion	Aelbrecht (2007)	Boone (2014)
Sensitivity to Island Constraints	+	+
Distinction between Coordination and Subordination	+	+
Embedding Prohibition	+	+
Voice Mismatches Prohibition	+	+
The Russian coordinating conjunction *i* 'and'	-	-
The Dutch coordinating conjunction *want* 'because'	-	+

The combined approaches discussed in this section consider Gapping to be a multi-stage operation consisting of movement and subsequent deletion. Unlike single-stage accounts, the combined approaches provide a more flexible environment to accommodate Russian and Dutch data (the cases of *i* 'and' and *want* 'because'). However, the approaches still need to be altered to treat the cases following properly, although Boone (2014) provides an explanation for the case of *want* 'because'. Moreover, certain combined approaches can account for the voice mismatches prohibition. Under Aelbrecht (2007), this is due to the prompt deletion of the IP-level.

2.5 Conclusion

In this chapter, I have discussed the major approaches to Gapping, which are deletion-based, movement-based or combined. Deletion-based approaches are represented by Neijt (1979); movement-based approaches are represented by Johnson

(2009) and Repp (2009); combined approaches are represented by Aelbrecht (2007) and Boone (2014). I summarize the key traits of these approaches in the table below:

(155)

Criterion	Neijt (1979)	Johnson (2009)	Repp (2009)	Aelbrecht (2007)	Boone (2014)
Sensitivity to Island Constraints	+	+	-	+	+
Distinction between Coordination and Subordination	+	+	-	+	+
Embedding Prohibition	+	-	-	+	+
Voice Mismatches Prohibition	+	+	+	+	+
The Russian coordinating conjunction *i* 'and'	-	-	-	-	-
The Dutch coordinating conjunction *want* 'because'	-	-	-	-	+

Chapter 3

The domain of Gapping

3.1 Introduction

This chapter is concerned with the validity of an approach to Gapping that exploits low coordination and ATB movement (Johnson 2009).[1] I start the discussion by considering the key traits of the low coordination approach proposed by Johnson. Then I demonstrate that low coordination cannot be the only domain of Gapping.

According to Johnson (2009), Gapping is derived by ATB movement. Across-the-board extraction was originally introduced by Ross, who proposed that ATB movement is the only exception to the Coordinate Structure Constraint (CSC). The CSC prohibits any movement out of coordination:

(156) Coordinate Structure Constraint

In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

(Ross 1967: 161)

According to Ross, rules exempt from the CSC must simultaneously extract a given element from all conjunct of a coordinated clause. Using ATB movement, Ross derives Conjunction Reduction:

[1] There are approaches to Gapping that use low coordination and ellipsis (Toosarvandani 2013).

(157) Sally might be ~~pregnant~~, and everyone believes that Sheila definitely is ~~pregnant~~, pregnant. (Ross 1967: 175)

In (157), the adjective *pregnant* is extracted from each conjunct and merged to some higher nodes, which means that conjunction reduction is driven by ATB movement.

Williams (1978) extended the application domain of ATB movement by applying it to *Wh*-movement. In the example below, ATB movement takes place in an indirect question:

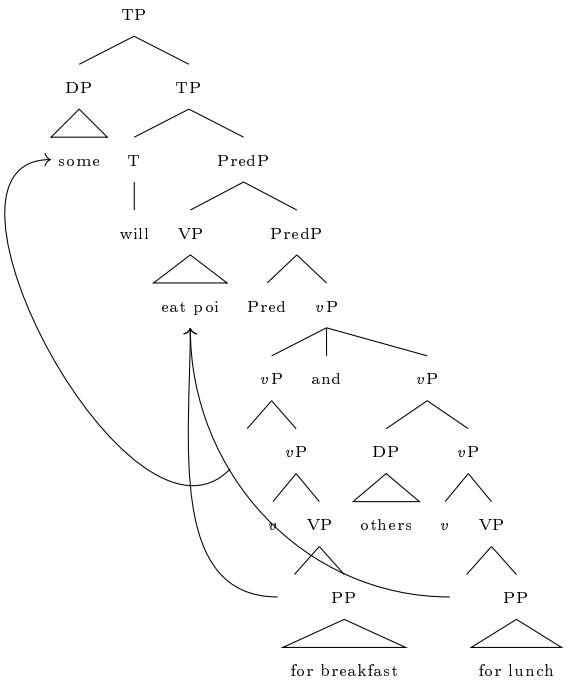
(158) Who John saw and Bill hit. (Williams 1978: 31)

In (158), an indirect *Wh*-question is derived by simultaneous extraction of *who* from each conjunct. Generally speaking, ATB movement is simultaneous extraction of the same element out of several conjuncts.

As was discussed in the chapter on previous approaches to Gapping, Gapping was traditionally analysed as deletion. Johnson, however, argues that Gapping is a movement-based phenomenon. Using ATB movement, Johnson represents the rule of Gapping as a set of movement operations, which can only take place in coordinated constructions where two *v*Ps are coordinated (Johnson refers to such constructions as 'low coordination'). Consider the following prototypical case of low coordination:

(159) Some will eat poi for breakfast and others for lunch. (Johnson 2009: 305)

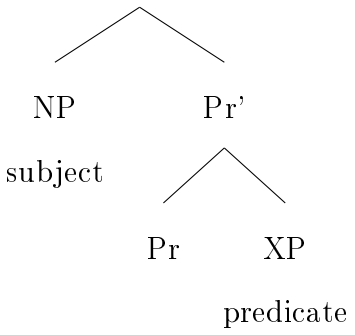
(160)



(Johnson 2009: 308)

As can be noticed in (160), the two coordinated vP "some eat poi for breakfast and others eat poi for lunch" is the source of Gapping. The derivational step that generates Gapping involves ATB movement: the VPs *eat poi* are moved into [Spec, PredP]. The predicative phrase (PredP) was originally introduced in Bowers (1993). According to Bowers, Pred (Pr) is a functional category used to introduce predication:

(161)



X= V, A, N, P (Bowers 1993: 595)

Furthermore, Bowers argues that [Spec, PrP] is a canonical position where all external arguments originate. Although Johnson uses Bower's notation, his usage of the PredP is purely technical, as low coordination is not defined as coordination of small clauses. Instead, low coordination is defined as coordination of vPs without mentioning small clauses. Under Johnson's approach, the sole purpose of the PredP is to provide a

landing site for the extracted VP. In this respect, Johnson's analysis differs from the assumptions of Bowers, as [Spec, PredP] is used as a landing site for the VP "eat poi", not as a subject position. Instead, the subject "some" moves from [Spec, vP] to [Spec, TP] without any intermediate landing sites. Under Johnson's hypothesis, Gapping is just a set of movement operations and does not involve ellipsis.

The ATB approach to Gapping outlined in Johnson (2009) has a number of benefits. First of all, it successfully captures the fact that Gapping does not take place within an embedded clause:

(162) a. *Some had eaten mussels and she claims that others ~~had eaten~~ shrimp. (Johnson 2009: 293)

b. [$_{TP}$ Some had eaten mussels] and [$_{TP}$ she claims [$_{CP}$ that others had eaten shrimp.]]

In (162), since the clause with Gapping is a CP and the antecedent clause is a TP, each clause contains a separate T-head. This is not compatible with the idea that Gapping involves low coordination. As low coordination is coordination of vPs, the conjunct with Gapping must lack tense; otherwise, it becomes a standard finite clause (a TP). Since Gapping is low coordination, it is inapplicable to TPs.

Another important benefit of Johnson's analysis is wide scope of modal verbs that is available under Gapping (see Agafonova 2014 for Russian and Lin 2002 for English). In the case of English, (163a) can only have the wide scope reading paraphrased in (163b):

(163) a. Ward can't eat caviar and Mary eat beans. (Lin 2002: 13)

b. It can't be the case that Ward eats caviar while Mary eats beans. (Lin 2002: 13)

In (163b), the verb *can't* is a modal operator that indicates impossibility of a complex event, which simultaneously involves Ward eating caviar and Mary eating beans. This wide scope reading requires a specific context in order to be justified. For instance, suppose that Ward is a wealthy caviar connoisseur and Mary is a poor office worker

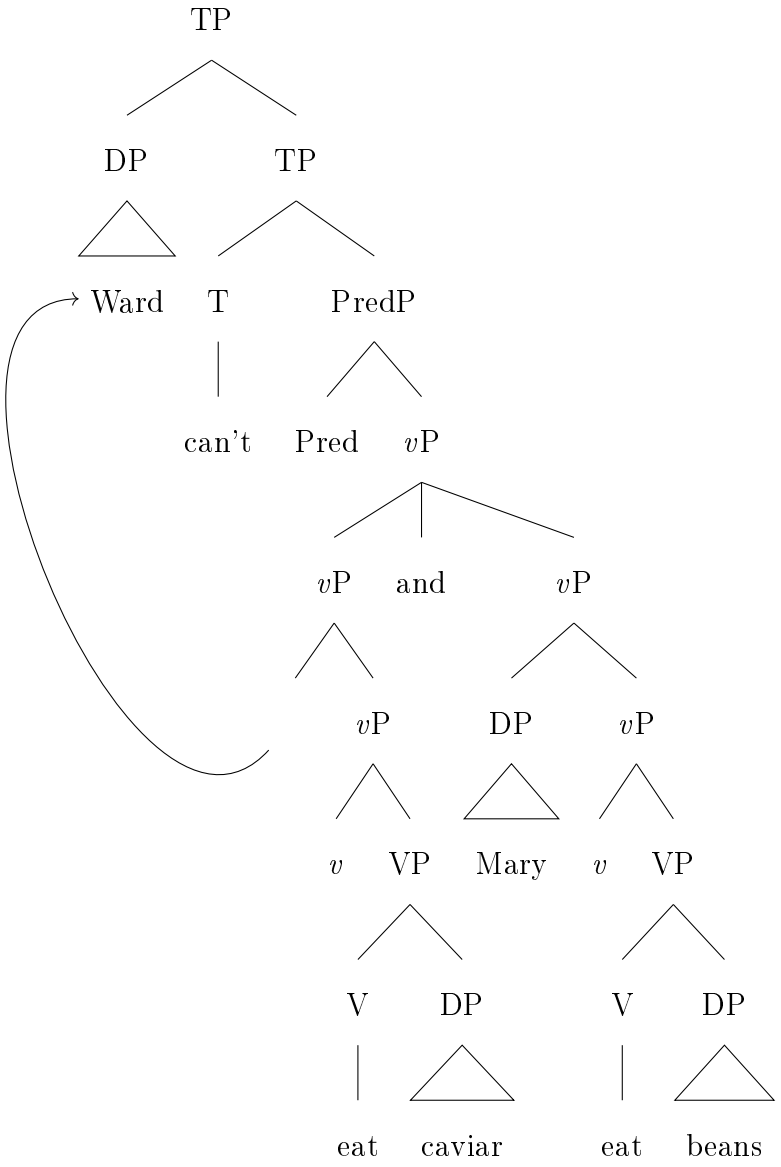
who cannot afford to order expensive dishes. Ward, however, is a considerate man: if he and Mary are having dinner at a restaurant, he will not order caviar in order not to insult Mary who will definitely order beans. If (163a) could have a narrow scope reading, (163a) would be interpreted as follows:

(164) Ward can't eat caviar; Mary can't eat beans.

In (164), Ward and Mary have different food preferences, which exist independently of each other. In other words, Ward's food choice does not depend on Mary's food preference, as would be expected in the wide scope reading. To sum up, a wide scope reading requires a modal verb that scopes over a complex event. This complex event consists of several events that happen simultaneously. The narrow scope reading, by contrast, requires several events independent of each other.

Low coordination can successfully derive wide scope of modal verbs:

(165)



In (165), the modal verb *can't* is the only T-head, which is located above the coordinated vPs ([$_{vP}$ [$_{vP}$ Ward eat caviar] [and] [$_{vP}$] Mary eat beans]) and c-commands low coordination. Thus, *can't* has scope over both conjuncts, giving rise to the wide scope reading. Furthermore, the effect of modal wide scope seems to hold across languages, including Russian. According to Agafonova (2014), Russian Gapping derives narrow and wide scope readings. Consider the following case of I-Gapping:

(166) Petja možet est' ikru, a Vanja est' boby.
Peter can eat caviar and Vanja eat beans
'Peter can eat caviar and Vanja eat beans.'

a. $\diamond(P\&V)$ Life is not always fair. Petja can eat caviar while Vanja eats beans.

b. ($\diamond P \& \diamond V$) People have different allergies. Petja can eat caviar and Vanja can eat beans. (Agafonova 2014: 2)

In (166), Petja and Vanja can have independent food preferences, which results in narrow scope. Furthermore, the modal *možet* 'can' can also have wide scope: for instance, Petja eats caviar and Vanja eats beans while they are dining together at a restaurant. To derive both scope readings, low coordination should be an integral part of Gapping. High coordination fails to deliver the wide scope reading, since it requires each conjunct to have an independent modal verbs. As can be seen in (166), having two separate modal operators results in a narrow scope reading.

Despite these advantages, I argue that low coordination produces more problems than it solves. In this chapter, I show that low coordination combined with ATB movement has the following problems: (1) ATB movement is not compatible with the Copy theory of Movement; (2) there is no universal correlation between partial vP/VP-topicalization and Gapping; (3) Gapping is possible in CP coordination, violating the low coordination requirement.

3.2 Distinction between coordination and subordination

One of the goals of this chapter is to demonstrate that the domain of Gapping cannot be reduced to coordination. Before I provide evidence to support this claim, I must determine whether certain Russian conjunctions are subordinating or coordinating. After coordinating conjunctions have been determined, I will test their compatibility with Gapping. Under the low coordination approach, we expect that all coordinating conjunctions should be compatible with Gapping. However, I will demonstrate that this is not the case. For instance, the Russian coordinating conjunction *i* 'and' is incompatible with Gapping. Further discussion of coordination and Gapping is postponed till the next section.

To distinguish between coordination and subordination, we need a syntactic crite-

rion. In this section, I use the Coordinate Structure Constraint as a sorting criterion:

(167) Coordinate Structure Constraint

In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

(Ross 1967: 161)

The essence of the CSC is that applying syntactic operations, e.g. movement, only to one conjunct leads to ungrammatical results. Essentially, only clauses merged by coordinating conjunctions are subject to the Coordinate Structure Constraint. By contrast, clauses merged by subordinating conjunctions are exempt from the CSC. In the remainder of the section, I will apply this criterion to Russian conjunctions.

The conjunction *i* 'and' is used for the coordination of clauses. One of interpretations permitted by *i* 'na' indicates that the second clause is an expected consequence of the first one. In (168a), the proposition *the boss appreciated that* can be regarded as a natural consequence of the proposition *the work was done on time.* This justifies the use of *i* 'and'.

In (168a), the AdvP *kuda* 'where' cannot be extracted out of only one conjunct:

(168) a. Rabota byla vypolnena vovremja, **i** načal'nik uexal v
work.NOM was done on.time and boss.NOM went to
otpusk.
vacation.LOC
'The work was done on time, and the boss went on vacation.'

b. *Kuda rabota byla vypolneno vovremja, **i** načal'nik uexal?
where work.NOM was done on.time and boss.NOM went
'Where the work was done on time, and the boss went?'

The Russian conjunction *i* 'and' can also be used to list events. In (169a), *i* 'and' enumerates a hating event and a liking event:

(169) a. *Saša nenavidit dramy Šekspira, **i** Petja*
Alex.NOM hates tragedies.ACC Shakespeare.GEN and Peter.NOM
bogotvorit dramy Šekspira.
adores tragedies.ACC Shakespeare.GEN

'Alex hates Shakespeare's tragedies, and Peter adores Shakespeare's tragedies.'

b. *Čto Saša nenavidit,* ***i*** *Petja bogotvorit?*
who.ACC Alex.NOM hates and Peter.NOM adores
'What does Alex hate, and Peter adore?'

In (169a), the DP *čto* 'what' simultaneously moves out of both conjuncts, which is a case of ATB movement. Consequently, the conjunction *i* 'and' is compatible with ATB extraction. Recall that this extraction is the only exception to the CSC.

In (170a), the conjunction *a* 'and' is used to add a comment on the event described in the first conjunct:

(170) a. Na ulice šel dožd', **a** zonta u menja ne bylo.
on street.LOC went rain.NOM and umbrella.GEN with I.GEN not was
'It was raining outside, and I did not have an umbrella.'

b. *Gde šel dožd', **a** zonta u menja ne bylo?
where went rain.NOM and umbrella.GEN with I.GEN not was
'Where was it raining, and I did not have an umbrella?'

When it comes to ATB extraction, *a* 'and' is similar to *i* 'and':

(171) a. Saša nenavidit dramy Šekspira, **a** Petja
Alex.NOM hates tragedies.ACC Shakespeare.GEN and Peter.NOM
bogotvorit dramy Šekspira.
adores tragedies.ACC Shakespeare.GEN
'Alex hates Shakespeare's tragedies, and Peter adores Shakespeare's tragedies.'

b. Čto Saša nenavidit, **a** Petja bogotvorit*?*
who.ACC Alex.NOM hates and Peter.NOM adores
'What does Alex hate, and Peter adore?'

Note that the conjunction *a* 'and' in (171) does not simply list events, which would be achieved by *i* 'and'. Instead, the usage of *a* 'and' in (171) indicates that the event

of the second conjunct is being contrasted with the event in the first conjunct. Thus, (171) means that in contrast to Alex's dislike of Shakespeare's tragedies, Peter adores Shakespeare's tragedies.

The conjunction *no* 'but' prohibits extraction that does not operate in an ATB fashion.

(172) a. Na ulice šel dožd', **no** zonta u menja ne bylo.
on street.LOC went rain.NOM but umbrella.GEN with I.GEN not was
'It was raining outside, but I did not have an umbrella'

b. *Gde šel dožd', **no** zonta u menja ne bylo?
where went rain.NOM but umbrella.GEN with I.GEN not was
'Where was it raining, but I did not have an umbrella?'

In (172a), the AdvP *gde* 'where' is extracted only from the first conjunct, violating the CSC. Note that ATB-extraction is compatible with *no* 'but':

(173) a. Saša nenavidit dramy Šekspira, **no** Petja
Alex.NOM hates tragedies.ACC Shakespeare.GEN but Peter.NOM
bogotvorit dramy Šekspira.
adores tragedies.ACC Shakespeare.GEN
'Alex hates Shakespeare's tragedies, but Peter adores Shakespeare's tragedies.'

b. Čto Saša nenavidit, **no** Petja bogotvorit?
who.ACC Alex.NOM hates but Peter.NOM adores
'What does Alex hate, but Peter adore?'

I conclude this section by considering the conjunction *v to vremja kak* 'while' because it plays an important role in my approach. The conjunction *v to vremja kak* 'while' has an adversative meaning; to obtain a temporal conjunction which is similar to *while*, one must use *poka* 'while'. *Poka* 'while' is a partial equivalent of English *while*, as it can only indicate simultaneity:

(174) Petja igraet na gitare, **poka** Miša poet pesnju.
Peter.NOM plays on guitar.LOC **while** Mike.NOM sings song.ACC
'Peter plays the guitar while Mike sings a song.'

Contrary to the conjunctions discussed above, the subordinating conjunction *v to vremja kak* 'while' is not subject to the Coordinate Structure Constraint. This is due to the fact that subordinated clauses are merged as adjuncts and do not constitute an island with the main clause:

(175) a. Petja igraet na gitare, **v to vremja kak** Miša poet
Peter.NOM plays on guitar.LOC **at the time when** Mike.NOM sings
pesnju.
song.ACC
'Peter plays the guitar, while Mike sings a song.'

b. Na čem igraet Petja, **v to vremja kak** Miša poet
on what.LOC plays Peter.NOM **at the time when** Mike.NOM sings
pesnju*?*
song.ACC
'What does Peter play, while Mike sings a song?'

In (175b), I use the PP *na č* 'on what' to exclude a parasitic gap interpretation, as only an NP can be an antecedent of a parasitic gap (see Culicover 2001). ATB movement is also available for this conjunction:

(176) a. Petya ljubit syr, **v to vremja kak** Miša nenavidit
Peter.NOM likes cheese.ACC **at the time when** Mike.NOM hates
syr.
cheese.ACC
'Peter likes the cheese, while Mike hates the cheese'

b. Čto Petja ljubit, **v to vremja kak** Miša nenavidit*?*
what.ACC Peter.NOM likes **at the time when** Mike.NOM hates
'What does Peter like, while Mike hate?'

Note that the contrastive version of *v to vremja kak* 'while' has the same syntactic properties as its temporal counterpart in (175a). Consider the following sentence:

(177) Petja ezdit na mašine, **v to vremja kak** Miša mečtaet o
Peter.NOM drives on car.LOC **at the time when** Mike.NOM dreams about
velosipede.
bicycle.loc
'Peter drives a car, while Mike dreams about a bicycle.'

In (177), *v to vremja kak* 'while' is used to indicate the contrast between two events, as Peter can afford a car and Mike do not even have a bicycle. Like the temporal *v to vremja kak*, the contrastive counterpart is not subject to the Coordinate Structure Constraint:

(178) Na čem ezdit Petja, **v to vremja kak** Miša mečtaet
on what.LOC drives Peter.NOM **at the time when** Mike.NOM dreams
o velosipede*?*
about bicycle.loc
'What does Peter drive, while Mike dreams about a bicycle?'

ATB movement is likewise permitted:

(179) a. **Contrastive *while***

Petja ezdit na mašine, **v to vremja kak** Miša gonjaet na
Peter.NOM drives on car.LOC **at the time when** Mike.NOM races on
mašine.
car.loc
'Peter drives a car, while Mike races a car.'

b. **Contrastive *while* and ATB movement**

Na čem Petja ezdit na mašine,
on what.LOC Peter.NOM drives **at the time when** Mike.NOM
v to vremja kak Miša gonjaet na mašine.
races
'What does Peter drive, while Mike race?'

Finally, we obtain the following conjunction distribution:

Conjunction	**Coordinating**
i 'and'	+
a 'and'	+
no 'but'	+
v to vremja kak 'while'	-

In the next section, it will be demonstrated that *i* and *a* cannot be interchangeably used with Gapping.

3.3 Not all coordinators are low

Under the low coordination approach, we expect that all coordinating conjunctions can license Gapping since they create low coordination configuration. Johnson does not provide any sorting algorithm that could determine which coordinating conjunctions are compatible with low coordination. Furthermore, the analysis draws no distinction between standard coordination and low coordination. The only difference is that low coordination is coordination of *v*P. However, there are coordinating conjunctions which do not follow that rule and are not compatible with Gapping. Such conjunctions are represented by *i* 'and', *no* 'but'. Despite their coordinating nature, these conjunction cannot be used under Gapping:

(180) a. *Ja s"el sup, i Maša ~~s"ela~~ kotletu.
I.NOM ate soup.ACC and Mary ate chop.ACC
'I ate the soup, and Mary ~~ate~~ the chop.'

b. *Saša napisal stixotvorenie, no Petja ~~napisal~~ rasskaz.
Alex.NOM wrote poem.ACC but Peter wrote short.story.ACC
'Alex wrote a poem, but Peter ~~wrote~~ a short story.'

c. Saša s"est sup, a Maša ~~s"est~~ rostbif.
Alex.NOM will.eat soup.ACC and Mary will.eat roast.beef.ACC
'Alex will eat the soup, and Mary will eat the roast beef.'

Given (180), one could assume that not all coordinating conjunctions are compatible with low coordination. A possible solution could be a criterion that sorts these conjunctions into different sets. First of all, let us notice that the semantic relations between conjuncts are not the same. Since in example with *a* 'and' each clause represents a situation which is contrasted with its counterpart in the antecedent clause. Note that the conjunction *i* 'and' cannot be used with Gapping and it does not imply any contrast between the antecedent clause and the ellipsis site. In (181), the conjunction *i* 'and' just lists two independent events:

(181) Saša s"est sup, i Maša s"est rostbif.
Alex.NOM will.eat soup.ACC and Mary will.eat roast.beef.ACC
'Alex will eat the soup, and Mary will eat the roast beef.'

So far, the discrepancy between *i* 'and' and *a* 'and' constitutes a problem for low coordination, as it is unclear why only *a* is compatible with Gapping. I will propose a solution to this problem in the chapter on the mechanism of Gapping.

3.4 Subordination that licences Gapping

In contrast to its English counterpart, Russian Gapping is able to take place in subordinated clauses. For instance, the subordinating conjunction *v to vremja kak* 'while' is perfectly compatible with Gapping although clauses introduced by*v to vremja kak* 'while' are adjunctive CPs. Thus the initial assumption that Gapping requires low coordination is not borne out: a adjunctive CP contains a TP with a separate T so it cannot be a part of low coordination.

v to vremja kak 'while' has both temporal and contrastive meaning, yet the part of the meaning that allows these conjunctions to license Gapping is the contrastive *while*. To put it differently, *v to vremja kak* 'while' emphasizes the differences between clauses:

(182) Miša učit reči Cicerona, v to vremja kak Saša
Michael.NOM learns speeches.ACC Cicero.GEN while Alex.NOM
~~učit~~ islandskie sagi.
learns Icelandic sagas.ACC
'Michael learns Cicero's speeches, while Alex ~~learns~~ Icelandic sagas.'

In 182, *v to vremja kak* 'while' indicates that the arguments of the verbal predicate *learns* are unique in each clause. In the first clause, the agent is *Michael* and the object is *Cicero's speeches*. Obviously, these arguments are not the same as *Alex* and *Icelandic sagas*.

The subordinating conjunction *v to vremja kak* 'while' is incompatible with low coordination. This conjunction can be applied only to tensed TPs (see 182), not to *v*Ps or non-finite TPs. In (183), *v to vremja kak* 'while' cannot introduce the infinitive clause *čitat' knigu* 'read a book'. The infinitive clause is a *v*P, as the T position is occupied by *budet* 'will'. The intended meaning of (183) is the contrast between lying

on the sofa and reading books:

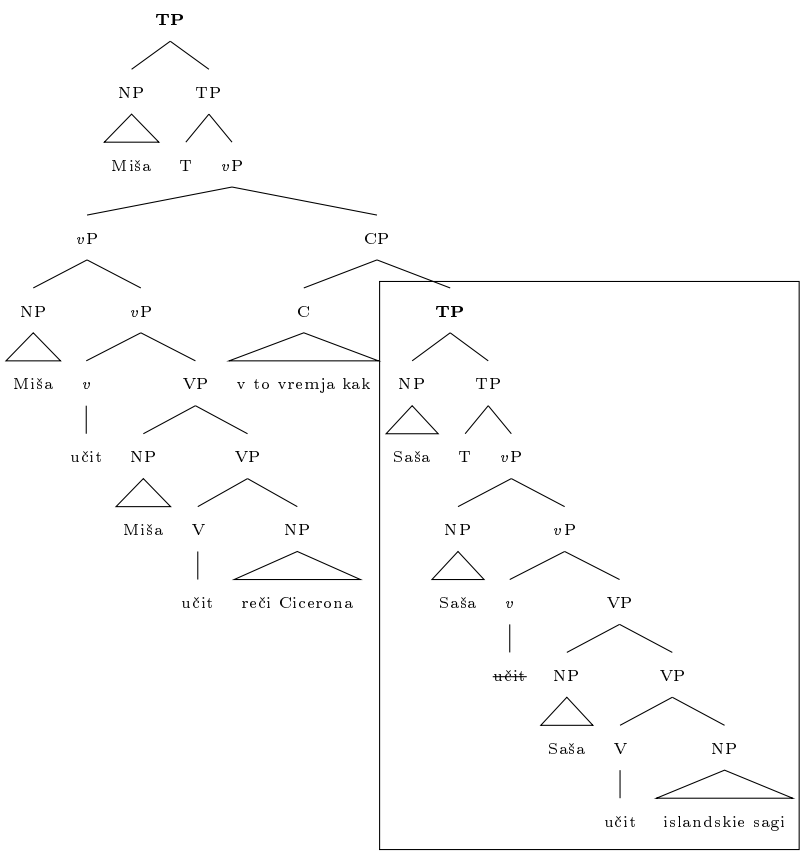
(183) *Petja budet ležat' na divane po pjatnicam, v to vremja kak
Peter.NOM will lie.INF on sofa.LOC on Fridays.LOC while
čitat' knigi po ponedel'nikam.
read.INF books.ACC on Mondays.LOC
'Peter will lie on the sofa on Fridays, while reading books on Mondays.' (***v*P-conjuncts**)

In (184), *v to vremja kak* 'while' cannot introduce the participle clause *čitajuščego knigu* 'reading a book', which is a non-finite TP. The intended meaning of (184) is that the speaker saw Peter, who lies on the sofa on Fridays and reads books on Mondays. Like *v to vremja kak* 'while' in (183), *v to vremja kak* 'while' in (184) indicates contrast:

(184) *Ja uvažaju ležaščego na divane po pjatnicam, v to vremja kak
I.NOM respect lie.PART.ACC on sofa.LOC on Fridays.LOC while
čitajuščego knigi po ponedel'nikam Petju.
read.PART.ACC books.ACC on Mondays.LOC Peter.ACC
'I respect Peter lying on the sofa on Fridays while reading books on Mondays.'
(**Participial conjuncts**)

Given the application domain of *v to vremja kak* 'while', the sentence in (182) will receive the following structural representation:

(185)



The tree in (185) includes two TPs. The deletion takes place in the second TP, while the antecedents are situated in the first TP. Hence, the subordination cannot be considered low under Johnson (2009)'s approach.

3.5 ATB movement and the Copy theory

In order to render ATB movement felicitous, the extracted phrase must be the same word in both conjuncts:[2]

(186) a. Petja ljubit dožd', a Vasja naslaždaetsja doždem.
Peter.NOM loves rain.ACC and Vasja.NOM enjoys rain.INSTR

[2]Note that sometimes the identity restriction on ATB movement is relaxed and phonological identity suffices to license ATB movement. Consider, for instance, the case syncretism of the NP *kino* 'film', that has one phonological form for NOM and ACC:

(1) a. Saša ljubit èto kino, a Pete nadoelo èto kino
Alex.NOM loves this film.ACC and Peter.DAT sick.of this film.NOM
'Alex loves this film, and Peter is sick of this film.'

b. Kakoe kino Saša ljubit, a Pete nadoelo?
which film.NOM & ACC Alex.NOM loves and Peter.DAT sick.of
'Which film does Alex love and Peter is sick of?'

'Peter loves rain and Vasja enjoys rain.'

b. *Čto Petja ljubit, a Vasja naslaždaetsja.
what.ACC Peter.NOM loves and Vasja.NOM enjoys
'What does Peter love and Vasja enjoy?'

c. *Čem Petja ljubit, a Vasja naslaždaetsja.
what.INSTR Peter.NOM loves and Vasja.NOM enjoys
'What does Peter love and Vasja enjoy?'

In (186), the verb *ljubit* 'loves' requires its complement to be dative, while the verb *naslaždaetsja* 'enjoys' requires its complement to be instrumental. The accusative form *dožd'* and the instrumental form *doždem* 'rain' are phonologically distinct. The same is true for the corresponding *Wh*-phrases *čto* 'what.ACC' and *čem* 'what.INSTR'. The phonological discrepancy between *čto* and *čem* results in ungrammaticality of ATB movement. The case forms of *čto* 'what' cannot be collapsed into one form to comply with the Identity Condition. In (186b), the accusative form of *what* is incompatible with *naslaždaetsja*, which requires instrumental case. In (186c), the instrumental form of *what* is incompatible with *ljubit*, which requires accusative. Thus the Identity Condition is violated in (186).

The identity restriction on ATB movement is discussed in Kasai (2004). Kasai discusses ATB movement of distinct elements and demonstrates that such extraction is impossible, even if a language allows multiple *wh*-fronting. For instance, Serbo-Croatian allows multiple *wh*-fronting:

(187) Ko koga vidi?
who whom sees
'Who sees whom?' (Kasai 2004: 169)

Serbo-Croatian disallows ATB-extraction of distinct elements: [3]

[3]In Serbo-Croatian, there is no restriction that the extracted elements must be the arguments of the same predicate:

(1) Ko$_1$ sta$_2$ t$_1$ tvrdi /da Jovan kupuje t$_2$/ i /da Peter prodaje t$_2$/?
who what asserts that John buys and that Peter sells
'Who asserts that John buys what and that Peter sells what?' (Bošković and Franks 2000: 111)

(188) *Koga$_1$ sta$_2$ on /vidi t$_1$/ i /jede t$_2$/?
whom what he sees and eats
'Whom what does he see and eat?' (Kasai 2004: 169)

I conclude that only morphologically identical words can undergo ATB movement:

(189) a. The DP *who* is the same word form in each conjunct:

Peter loves [$_{DP}$ who] and Sam despises [$_{DP}$ who].

b. The *who* can ATB-moved to the [Spec, CP] position:

Who does Peter love and Sam despise?

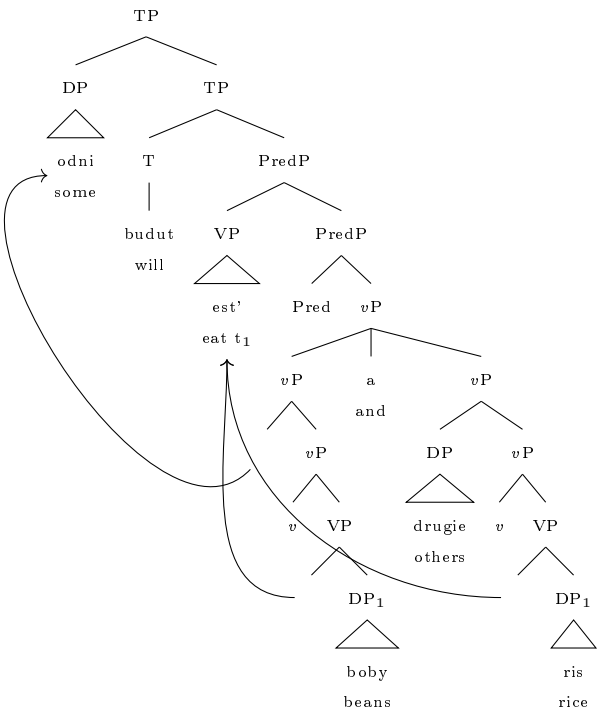
In order to comply with the identity restriction on ATB movement, "the objects of the moved VPs move out first" (Johnson 2009: 307):

(190) a. Some will eat beans and others rice. (Johnson 2009: 305)

b. Russian

Odni budut est' boby, a drugie ris.
Some will eat beans and others rice
'Some will eat beans and others rice.'

(191)

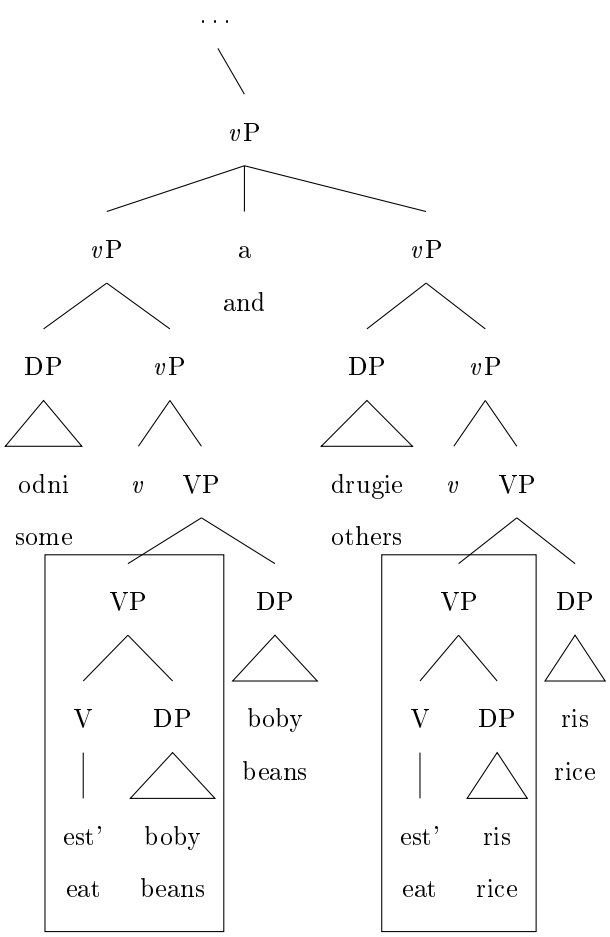


(Johnson 2009: 307 with added Russian glosses)

In (191), the DP *beans* and the DP *rice* must be extracted from the VPs. Then the partial VPs are topicalized. The main purpose of this extraction is to preserve the direct objects that would be otherwise deleted with the lower copies of the VP. The DP movement ensures that the VP in each *v*P is rendered identical to make ATB movement grammatical.

However, once the Copy theory of Movement is introduced (see Chomsky 1993 and Nunes 2004), indexed traces can no longer be considered an elementary category. Under the Copy theory of Movement, traces are replaced with the respective copies of the moved elements. The highlighted VPs are no longer identical and cannot be ATB-moved to [Spec, PredP]. Hence, an adequate copy of the VPs cannot be formed:

(192) *



Although Johnson proposed an extraction process that exploits traces and does not run into issues with Narrow Syntax, Johnson's account is incompatible with the Copy theory. Having discovered the issue with the Copy theory and low coordination, we are

left with three possible explanations. First, we could conclude that the Copy theory itself is flawed and thus should be renounced. The second option is to reformulate the identity restriction imposed on the ATB movement. Finally, it is actually the low coordination approach proposed in Johnson (2009) that is the source of the theoretical problem. In the final part of this section, I argue for the last option for Gapping in Russian and English.

As can be noticed above, the Gapping analysis outlined in Johnson (2009) requires the future remnants of Gapping to vacate the coordinated VPs which will be subsequently ATB-moved to a higher syntactic position. The movement operation used by Johnson is based on partial *v*P/VP-topicalization. For instance, this movement phenomenon can be found in German:

(193) German

Schenken können wird er ihr einen Ring.
give be-able-to will he her a ring

Intended reading: 'Give t_i t_j, he will be able to [her]$_i$ [a ring]$_j$.'

Translation: 'He will be able to give her a ring.' (Meurers 1998:130)

German partial *v*P/VP-topicalization can also generate ATB-constructions:

(194) Lesen wollen wir Gedichte und müssen sie Romane.
read want we poems and must they novels
'We want to read poems and they must read novels.'

The grammaticality of German partial *v*P/VP-topicalization that operates in an ATB fashion is beneficial for Johnson's analysis, since Gapping is also available in German. Thus, Johnson's initial hypothesis that Gapping is ATB movement seems to be valid:

(195) Ich mag Äpfel und du Bananen.
I.NOM like apples and you.NOM bananas.
'I like apples and you (like) bananas.'

(Forman-Gejrot 2016:2)

Although German partial vP/VP-topicalization is potentially compatible with Johnson's analysis, German vP/VP-topicalization invariably targets [Spec, CP]. Consequently, VP-movement to [Spec, PredP] must be independently motivated in German.

The case of English vP/VP-topicalization is more intricate. If extraction does not operate in an ATB fashion, partial vP/VP-topicalization is ungrammatical in English:

(196) *$[_{VP}$ Kissed $t_i]_j$, she has t_j $[_{DP}$ the man she calls her husband$]_i$.
(Thoms 2013: 12)

We expect that ATB movement cannot repair movement operations that are ungrammatical in simple structures with no clausal coordination or subordination (see De Vries 2017), so the ATB version of partial vP/VP-topicalization should also be illicit in English. However, this is not the case:

(197) [Painted t by Picasso] this portrait is, but this still-life isn't.

In (197), the DP "this portrait" and the DP "this still-life" are A-moved from the VP "Painted t by Picasso", which is ATB-moved to an A'-position. Obviously, one would run into a linearisation conflict if the trace is replaced with a copy. Since we cannot have a compound copy like "this portrait / this still-life", the Copy theory of movement would incorrectly predict that the topicalization in (197) is illicit. Thus, the English data suggests that we should either reject the Copy theory of movement or relax the Identity condition on ATB movement. This dilemma, however, is subject to further research.

In contrast to English, Russian provides us with evidence against partial topicalization in ATB contexts. Note that partial vP/VP-topicalization is possible in Russian:

(198) a. Russian

Čitat' my dolžny stixi.
read we must poems
Intended reading: 'Read t_i, we must [poems]$_i$.'
Translation: 'Read poems, we must.'

b. Russian

Čitat' oni mogut rasskazy.
read they can novels

Intended reading: 'Read t_i, they can [novels]$_i$.'

Translation: 'Read novels, they can.'

Although Russian does allow partial *v*P/VP-topicalization, this is not enough to motivate the application of Johnson's analysis applicable to Russian Gapping. For Johnson's analysis, topicalization must be able to operate in an ATB fashion. However, this is not the case:

(199) Russian

*Čitat' my dolžny stixi a oni mogut rasskazy.
read we must poems and they can novels

Intended reading: 'Read t_i, we must [poems]$_i$ and they can [novels]$_i$.'

Translation: 'We must read poems and they can read poems.'

Since (199) is ungrammatical, Gapping in Russian must be illicit if Johnson's analysis is correct. Nevertheless, Gapping is available in Russian:

(200) Russian

Odni s"eli grečku, a drugie ~~s"eli~~ olivki.
some.NOM ate buckwheat.ACC and others.NOM ate olives.ACC

'Some ate buckwheat and others ~~ate~~ olives.'

To sum up, there is no correlation between partial *v*P/VP-topicalization and Gapping in Russian, which would provide a strong typological argument backing up Johnson's approach. Nevertheless, it may be the case that *v*P/VP-topicalization is always available under low coordination, even if partial *v*P/VP-topicalization is unavailable under other circumstances. Furthermore, the grammaticality of English topicalization suggests that the linearization problem may be rooted in the Identity condition on ATB movement. The issue with partial *v*P/VP-topicalization is still subject to further research.

3.6 Initial Coordinators and Gapping in TP-coordination

The focus of the present section is the low coordination itself. Johnson's analysis of Gapping requires *v*P coordination. Contrary to the prediction of Johnson (2009), I will demonstrate that Gapping is grammatical in TP-coordination and cannot be reduced to low coordination.

Initial coordinators may be defined as conjunctions that mark the beginning of each coordinated phrase:

(201) Either [$_{NP}$ Peter] or [$_{NP}$ Sam] will go to the bank.

In (201), *either* is merged at the beginning of the first NP and *or* is merged at the beginning of the second NP.

We could exploit initial coordinators to coordinate finite TP using them as a diagnostic for TP (as opposed to *v*P) coordination. However, English initial coordinator *either...or* cannot be used a straightforward diagnostic, as *either* can float:

(202) a. John will either eat rice or he will eat beans.
(Den Dikken 2006: 697)

b. [$_{Spec,TP}$ Either [$_{TP}$ John will eat rice]] [$_{Spec,TP}$ or [$_{TP}$ he will eat beans]].

As *either* floats, one can claim that it originates at *v*P-level, and subsequently moves to [Spec, TP]:

(203) John will [$_{vP}$ either eat rice] [$_{vP}$ or he will eat beans].
slightly modified (Den Dikken 2006: 697)

So initial coordinators diagnostics cannot securely determine the height of coordination in English. However, Russian initial coordinators do not float. This is demonstrated by the following examples:

(204) a. **Libo** myši zašuršat na čerdake, **libo** krysy
either mice.NOM rustle.PRES.3PL on attic.LOC or rats
~~zašuršat~~ v podvale.
rustle.PRES.3PL in basement.LOC

'Either mice rustle in the attic, or rats ~~rustle~~ in the basement.'

b. *Myši **libo** zašuršat na čerdake, krysy **libo**
mice.NOM either rustle.PRES.3PL on attic.LOC rats.NOM or
~~zašuršat~~ v podvale.
rustle.PRES.3PL in basement.LOC
'Either mice rustle in the attic, or rats ~~rustle~~ in the basement.'

c. *Myši **libo** zašuršat na čerdake, **libo** krysy
mice.NOM either rustle.PRES.3PL on attic.LOC or rats.NOM
~~zašuršat~~ v podvale.
rustle.PRES.3PL in basement.LOC
'Either mice rustle in the attic, or rats ~~rustle~~ in the basement.'

Each of the initially coordinated TP contains an independent T and should not allow Gapping: the sentences in (204) cannot be analysed as *v*P coordination, since Russian initial coordinators do not float. Even though these coordinators originate at the *v*P level, they obligatorily raise to a higher position in Russian. Consequently, there is no evidence that conjuncts introduced by initial coordinators are *v*Ps. Nevertheless, initial coordinators do provide a perfect environment for Gapping in Russian:

(205) **Libo** myši zašuršat na čerdake, **libo** krysy ~~zašuršat~~
either mice.NOM rustle.PRES.3PL on attic.LOC or rats rustle.PRES.3PL
v podvale.
in basement.LOC
'Either mice rustle in the attic, or rats ~~rustle~~ in the basement.'

In (205), *libo* is a C that has a TP complement. Since every TP possesses an independent T, coordination of TPs cannot be low. Thus Johnson's analysis would wrongly predict that Gapping in (205) is illicit. To sum up, Gapping must not be restricted by low coordination: otherwise it would be impossible to account for the compatibility of Russian initial coordinators with Gapping.

3.7 Gapping in CP-coordination

The focus of the present section is the low coordination itself. Johnson's analysis of Gapping requires *v*P coordination. Contrary to the prediction of Johnson (2009),

I will demonstrate that Gapping is grammatical in CP-coordination and cannot be completely reduced to low coordination.

The backbone of my argument is syntactic behaviour of the Russian conjunction *li* 'whether'. *Li* 'whether' is an interrogative complementizer which possesses a Q-feature (see Bailyn 2012). The Q-feature indicates that *li* has interrogative force. There are two ways to value the Q-feature of *li*. Firstly, a main verb of a TP headed by *li* can be merged with *li* to value the Q-feature. Secondly, an arbitrary phrase from a TP headed by *li* can move to [Spec, CP] and value the Q-feature of *li*. Consider, for instance, the following sentences:

(206) a. Petja ne znaet, $[_{CP}$ $[_{C}$ umeet$_{V}$ *li*$_{C}$] Saša ~~umeet~~ igrat' na
Peter.NOM not knows can whether Alex.NOM can play on
skripke].
violin.LOC
'Peter does not know whether Alex can play the violin.'

b. Petja ne znaet, $[_{CP}$ $[_{Spec,CP}$ na skripke] $[_{C}$ li] Saša
Peter.NOM not knows on violin.LOC whether Alex.NOM
umeet igrat' ~~na skripke~~].
can play on violin.LOC
'Peter does not know whether it is the violin that Alex can play.'

In (206a), the main verb of the embedded clause, which is *umeet* 'can', is merged with *li* 'whether' to value the Q-feature of *li*. In (206b), the PP "na skripke" 'on violin' moves to [Spec,CP] and values the Q-feature of *li*. Note that the Q-feature of *li* cannot be valued without movement to the C-head or [Spec, CP]:

(207) a. *Petja ne znaet, $[_{CP}$ $[_{C}$ *li*$_{C}$] Saša umeet igrat' na
Peter.NOM not knows whether Alex.NOM can play on
skripke].
violin.LOC
'Peter does not know whether Alex can play the violin.'

b. *Petja ne znaet, $[_{CP}$ $[_{C}$ li] Saša umeet igrat' na
Peter.NOM not knows whether Alex.NOM can play on
skripke].
violin.LOC
'Peter does not know whether it is the violin that Alex can play.'

The claim that *li* 'whether' is a complementizer can also be corroborated by interaction with sluicing. Like its English counterpart, Russian sluicing, which is TP-deletion, can be licensed by a null interrogative complementizer. This licensing condition on sluicing was originally formulated in Merchant (2001). In (208), the Wh-phrase *kogda* 'when' moves to [Spec, CP] to value a Q-feature and a Wh-feature of a null C. The Wh-feature ensures that only Wh-phrases can move to [Spec, CP]. After the features of the null C have been valued, the remaining TP is deleted:

(208) Petja prišel domoj, no ja ne znaju $[_{CP}$ kogda$_i$ C$_{+Q;+Wh}$ $[_{TP}$
Peter.NOM came home but I.NOM not know when
~~Petja prišel domoj~~ ~~t_i~~]]

'Peter came home but I do not know when.'

Although Merchant assumed that only Wh-phrases can move to [Spec, CP] and trigger sluicing (see Merchant 2001: 60), this hypothesis does not hold for Russian sluicing. As is demonstrated in (209), *li* 'whether' is a overt complementizer which does not have the Wh-feature. Nevertheless, the Q-feature of *li* can be valued by a DP with no Wh-elements. Valuation of the Q-feature of *li* licenses sluicing:

(209) Ivan vstretil kogo-to, no ja ne znaju LENU$_i$ li $[_{TP}$ ~~Ivan vstretil~~
Ivan met someone.ACC but I not know Lena.ACC li$_C$ Ivan met
~~t_i~~].

'Ivan met someone but I don't know whether he met LENA.'

(Grebenyova 2007: 64)

The interrogative conjunction *li* 'whether' can be a part of the double conjunction *li...li*, which can be translated as 'whether...or'. Since *li...li* consists of several occurrences of *li*, each part of *li...li* has the syntactic properties of an individual *li*. In (210a), the Q-feature of *li* is valued by DP-movement:

(210) a. Ja ne znaju,myši **li** zašuršat na čerdake,
I.NOM not know mice.NOM whether rustle.PRES.3PL on
krysy **li** zašuršat v podvale.
attic.LOC rats.NOM or rustle.PRES.3PL in basement.LOC

'I do not know whether mice rustle in the attic or rats rustle in the basement.'

b. *Ja ne znaju, **li** myši zašuršat na čerdake, **li**
I.NOM not know whether mice.NOM rustle.PRES.3PL on attic.LOC or
krysy zašuršat v podvale.
rats.NOM rustle.PRES.3PL in basement.LOC
'I do not know whether mice rustle in the attic or rats rustle in the basement.'

Note that the double interrogative conjunction *li...li* 'whether...or' cannot be used with phrases that are distinct from TPs:

(211)

(212) *Petja znaet, čto Saša li postroit dom, čto Miša
Peter.NOM knows that Alex.NOM either builds house.ACC that Mike.NOM
li kupit mašinu.
or buys car.ACC
'Peter knows either that Alex builds a house or that Mike buys a car.'

The ungrammaticality of (212) suggests that the lexical items *li* 'whether' and *čto* 'that' attempt to occupy the same structural position of the C-head, which results in an unresolvable conflict. Hence, we conclude that *li...li* 'whether...or' is a compound C, each part of which projects a CP. Since *li*-clauses are CPs, the most straightforward analysis of structures with *li...li* is to assume that clauses conjoined by *li...li* are coordinated CPs. The assumption that clauses headed by *li...li* are coordinated can be corroborated by their free permutation:

(213) a. Ja ne znaju, myši **li** zašuršat na čerdake,
I.NOM not know mice.NOM whether rustle.PRES.3PL on attic.LOC
krysy **li** zašuršat v podvale.
rats.NOM or rustle.PRES.3PL in basement.LOC
'I do not know whether mice rustle in the attic or rats rustle in the basement.'

b. Ja ne znaju, krysy **li** zašuršat v podvale
I.NOM not know rats.NOM whether rustle.PRES.3PL in basement.LOC

Myši **li** zašuršat na čerdake, myši **li** zašuršat na čerdake.
mice.NOM or rustle.PRES.3PL on attic.LOC
'I do not know whether rats rustle in the basement or mice rustle in the attic.'

It is crucial that the double conjunction *li...li* 'whether...or' can only have TPs as its complements. First of all, *li...li* 'whether...or' cannot subcategorize for *v*Ps:

(214) *Ja ne znaju, on budet stroit' li dom, pokupat' li
I.NOM not know he.NOM will build whether house.ACC buy or
mašinu.
car.ACC
'I do not know he can whether build a house or buy a car.'

The pre-verbal position of *li...li* 'whether...or' does not ameliorate the ungrammaticality of (214):

(215) *Ja ne znaju, on budet li stroit' dom, li pokupat'
I.NOM not know he.NOM will either build house.ACC or buy
mašinu.
car.ACC
'I do not know he can whether build a house or buy a car.'

Finally, *li...li* 'whether...or' cannot subcategorize for CPs:

(216) a. *Petja znaet, čto Saša li postroit dom, čto
Peter.NOM knows that Alex.NOM whether builds house.ACC that
Miša li kupit mašinu.
Mike.NOM or buys car.ACC
'Peter knows whether that Alex builds a house or that Mike buys a car.'

b. *Petja znaet, li čto Saša postroit dom, li čto
Peter.NOM knows whether that Alex.NOM builds house.ACC or that
Miša kupit mašinu.
Mike.NOM buys car.ACC
'Peter knows whether that Alex builds a house or that Mike buys a car.'

Each of the coordinated CPs contains an independent T: the sentences in (210a) cannot be re-analysed as *v*P coordination, since the double conjunction *li...li* 'whether...or' cannot be merged at the *v*P level. Nevertheless, the double conjunction *li...li* 'whether...or' does provide a perfect environment for Gapping in Russian:

(217) Ja ne znaju myši **li** zašuršat na čerdake, krysy
I.NOM not know mice.NOM whether rustle.PRES.3PL on attic.LOC rats.NOM
li ~~zašuršat~~ v podvale.
or rustle.PRES.3PL in basement.LOC
'I do not know whether mice rustle in the attic or rats ~~rustle~~ in the basement.'

To sum up, Gapping must not be restricted by low coordination. Otherwise it would be impossible to account for the compatibility of the double conjunction *li...li* 'whether...or' with Gapping.

3.8 Conclusion

In this chapter, I have discussed various issues with the low coordination approach outlined in Johnson (2009). Firstly, I have demonstrated that not all Russian coordinators are compatible with Gapping, although one would expect that all coordinating conjunctions can generate low coordination. For instance, the coordinating conjunction *i* 'and' is incompatible with Gapping. Secondly, Johnson's approach runs into issues with the Copy theory: if traces are replaced with copies, the derivation crashes. Finally, Russian compound coordinators like *libo...libo* 'either...or' and *li...li* 'whether...or' are compound Cs that introduce TPs. Nevertheless, these coordinators are compatible with Gapping. This cannot be the result of low coordination, as coordination of TPs has two independent Ts, which contradicts the definition of low coordination. Despite all the issues mentioned above, I argue that low coordination should not be cast aside. In the subsequent chapters, I will demonstrate that low coordination is still an integral part of Gapping, although it cannot be the only source of Gapping.

Chapter 4

Restrictions on Gapping derived by Parallel Merge

4.1 Introduction

Category sharing remains an understudied area of syntax. Among the set of phrasal categories and heads, only determiners received substantial attention in the literature (see McCawley 1993, Ackema and Szendröi 2002, and Citko 2006). Current approaches to determiner sharing are further discussed in this chapter.

The chapter is organized as follows. First, I discuss phases as the hosts of uninterpretable features (uφ and case). Then I explore the combinatorial properties of Parallel Merge by testing the sharing abilities of major heads and phrases. Finally, I explain the interaction of uninterpretable φ-features with Gapping, which is derived by Parallel Merge. The chapter concludes with a summary.

4.2 Uninterpretable features and derivational economy

In Minimalist Syntax, uninterpretable features are triggers of syntactic operations, which must value all uninterpretable features before PF (see Boeckx 2008: 47). Since

valuation of uFs requires additional derivational steps such as applications of *Agree* and movement, derivations with fewer uninterpretable features are more economical than the other ones. To put it differently, the fewer uninterpretable features are present in a given derivation, the fewer derivational steps are required to value these features and mark them for deletion. If we have a choice between two derivations, the one that requires fewer syntactic operations is a preferred option for Narrow Syntax. A similar principle of economy was formulated by Pesetsky and Torrego:

(218) **The Economy Principle**

A head H triggers the minimum number of operations necessary to satisfy the properties (including EPP) of its uninterpretable features. (Pesetsky and Torrego 2001: 359)

As I will demonstrate in this chapter, Parallel Merge allows us to keep the presence of uninterpretable features at a minimum by sharing heads that possess uFs.

The hypothesis I will explore is that only heads which host uninterpretable features can be shared. Since phase heads are usually considered to be the locus of uninterpretable features (see Chomsky 2008 and Richards 2011), the remainder of this section is devoted to phase heads and their featural composition.

The notion of a phase is closely connected with a lexical array (LA), which is a set of lexical items used in a given derivation. Generally speaking, a phase is a lexical subarray (i.e. a subset of a lexical array):

(219) A phase of a derivation is a syntactic object derived . . . by choice of LA_i. (Chomsky 2000: 106)

Although there is still much debate about the inventory of phase heads, the current common consensus is that complementizers, transitive light v*s, and determiners are phase heads (see Citko 2014 and Chomsky 2008):

(220) Phase heads

{ C, v*, D }

Among other phase heads, the status of C is the most verified. The evidence includes successive cyclic movement, reconstruction effects, etc. For the sake of brevity, I will not discuss all phasehood tests (see Citko 2014 and Gallego 2010 for a detailed discussion). These tests can be PF-based: for instance, if a complement of X can be deleted, X is a phase head. There are also syntactic tests such as reconstruction effects and pronunciation at the phase edge. So far, the most reliable test is reconstruction: if an element can be reconstructed in [Spec,XP], then this element moves through [Spec,XP] to comply with successive cyclicity. If movement proceeds through [Spec,XP], then [Spec,XP] is a phase edge and XP is a phase. I will return to reconstruction effects later in this chapter.

The characteristic of a phase that will be important to me is that phase heads are the only source of uninterpretable features, including uφ. In a sense, this assumption can be treated as an extension of the stipulation that uninterpretable features are triggers of syntactic operations. Since derivation proceeds by lexical subarrays, which are phases, it may be reasonable to assume that uninterpretable features are associated with phase heads. If phase heads are the source of uninterpretable features, it ensures that all syntactic operations are complete and all uFs are valued before the set of lexical subarrays is exhausted. When it comes to featural composition of phase heads, uφ are often considered to be hosted by phase heads, as the presence of uφ can be diagnosed by agreement morphology. Although phi-agreement seems to be a straightforward diagnostics tool to detect uφ, the notion phi-agreement needs to be clarified.

The phenomenon of phi-agreement is usually treated in two ways. The first option is to assume that syntactic elements such as adjectives must possess uφ in order to undergo phi-agreement and receive phi-morphology (see Chomsky 2001). The second option is to assume that phi-agreement is a post-syntactic operation which has nothing to do with Narrow Syntax (see Bobaljik 2008). In this thesis, I argue for the third option: phi-agreement is a twofold phenomenon. The backbone of my proposal is that the actual uφ can only exist as side effects of syntactic operations involving other

uninterpretable features (a good example is EPP-movement of a Goal that values an uninterpretable feature of a Probe). In other words, phi-agreement between X and Y can indicate that there was a syntactic operation which values an uninterpretable feature of X or Y and involves X and Y.

(221) Correlation between phi-agreement and uninterpretable features

> Phi-agreement between X and Y involves uφ if and only if there is a syntactic operation which values an uninterpretable feature uF of X or Y.

Note that (221) does not say anything about the necessity of phi-agreement. Instead, (221) describes a condition for the usage of uφ if phi-agreement is possible. However, phi-agreement between X and Y may be blocked for independent reasons.

The idea that phi-agreement is a side effect of valuation of other uFs was originally proposed for Case valuation in Chomsky (2001). Chomsky treats phi-agreement as a side effect of structural case valuation. There is also a post-syntactic option for phi-agreement. If X and Y do not have any unintepretable features that require syntactic operations(these features must be distinct from uφ), phi-agreement between X and Y is a post-syntactic operation that does not require uφ. As will be demonstrated in this chapter, only actual uφ which are used in syntactic derivation can motivate sharing. I continue the discussion of uninterpretable features by considering the mechanism of feature inheritance.

If we assume that phase heads are the hosts of uFs, it is unclear how other heads can acquire uFs. A feasible solution to this problem is feature inheritance. A possible rationale for feature inheritance is timing of valuation. In Chomsky (2008), feature interpretability is reduced to valuation: once uFs are valued, they become indistinguishable from their interpretable counterparts. To avoid this conflict, Chomsky proposes that valuation and deletion must happen simultaneously. For instance, C transfers its uninterpretable phi-features to T; the uφ of the T-head are simultaneously valued, marked for deletion and sent to PF with the whole TP, which is a complement of a phase head. Note that uφ are not the only uninterpretable feature

of T: T-heads also have uninterpretable edge features that ensures DP-movement to [Spec, TP]. Thus, phi-agreement between a T-head and a DP in [Spec, TP] is side effect of valuation of the edge feature hosted by T. The transfer of TP must take place in order to comply with the Phase Impenetrability Condition:

(222) **Phase Impenetrability Condition**

In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations.

(Chomsky 2000: 108)

The principle in (222) implies that the complement of a phase head must be transferred to the interfaces as soon as the phase is completed.

Chomsky also provides empirical evidence to back up the hypothesis of feature inheritance. In Chomsky (2008), it is argued that C is the locus of uφ and uφ-features are transferred from C-heads to T-heads. Henceforth, this phenomenon will be referred to as the C-T conjecture. The validity of the conjecture is supported by the impossibility of finite verb agreement in ECM-constructions:

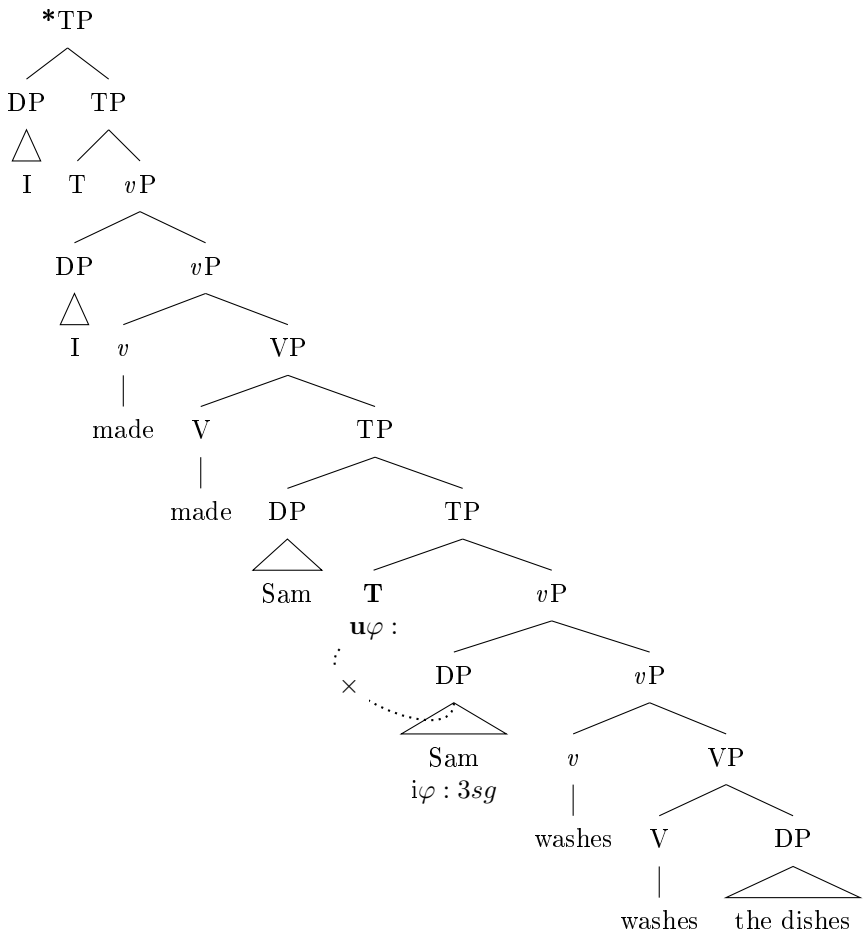
(223) a. ECM with a non-finite verb in English

I made Sam wash the dishes.

b. ECM with a finite verb in English

*I made Sam washes the dishes.

(224)



The ungrammaticality of (223b) is due to the absence of a C-head, which could transfer the uφ-features to the T-head and make verb agreement licit. Finally, ECM constructions cannot be introduced by an overt complementizer, as an overt C transfers its uφ to the T-head and the ECM construction can no longer be non-finite:

(225) I made (*that) Sam wash the dishes.

Given the mechanism of feature inheritance, I can update the correlation in (221):

(226) **Correlation between phi-agreement and uninterpretable features**

> Phi-agreement between X and Y involves uφ if and only if there is a syntactic operation which values an uninterpretable feature uF of X or Y or there is a syntactic operation which transfers an uninterpretable feature uF of X (Y) to Y (X).

The hypothesis in (226) can be corroborated by cases of complementizer agreement

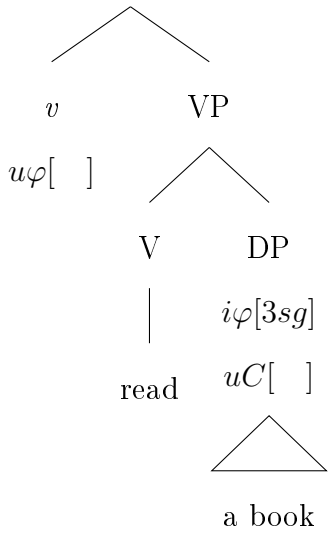
in West Flemish. In (227), the C-head (X) transfers its uφ to T (Y). Contrary to English, the Flemish complementizer has an additional uφ to indicate the transfer of uφ to T:

(227) *Kpeinzen dan-k (ik) morgen goan.*
I.think that-I (I) tomorrow go
'I think that I'll go tomorrow.'

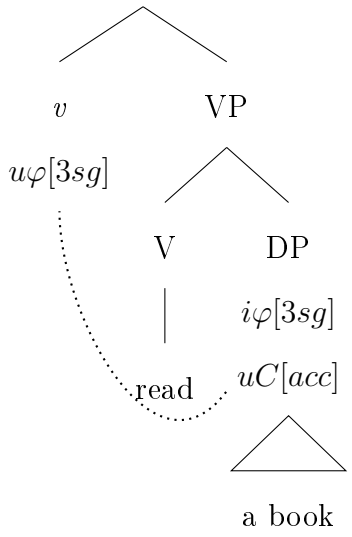
(Carstens 2005: 222)

The little v is also the locus of uninterpretable features, as it values structural Accusative case of a direct object. Furthermore, v also has uφ as a side effect of case valuation:

(228) a.



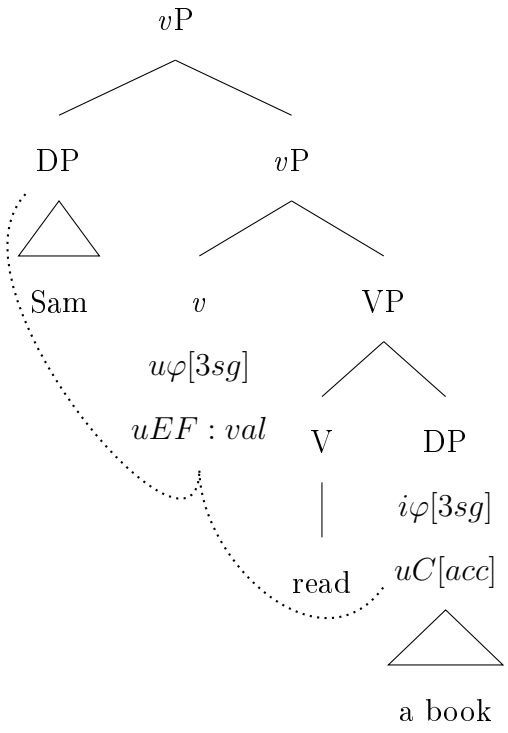
b.



(Citko 2014: 93)

Finally, v possesses an uninterpretable edge feature (uEF) that requires a subject to be base-generated in [Spec, vP]:

(229)



Although the presence of $u\varphi$ on the v-head is quite limited in English, these $u\varphi$ are morphologically visible in languages with a richer agreement system. Consider, for instance, the Chutotko-Kamchatkan language Itelmen:

(230) *kma t'-əlčqu-ɣin*
I 1sg-see-2sg.OBJ
'I saw you.' (Keine 2010: 86)

In (230), "φ-Agree between v and the object is established, furnishing v with 2sg features" (Keine 2010: 86).

It is important to mention that only transitive and unergative vs were originally treated as phases (see Chomsky 2000). However, Legate (2003) provides significant evidence that all little vs, including the unaccusative and passive ones, are phase heads.

The evidence comes from reconstruction effects, which are used as a diagnostic of a phase edge (i.e. a specifier of a phase head). The logic of the diagnostic is as follows: (1) wh-phrases proceed through phase edges in order to comply with the successive cyclicity; (2) in a given derivation, there must be a phase edge where the moved wh-phrase can be reconstructed in accordance with the Binding conditions.

This diagnostic confirms the phasehood of transitive little *v*s:

(231) a. [Which of the papers that he$_i$ gave Mary$_j$] did every student$_i$ $\underline{\surd}$ ask her$_j$ to read $\underline{*}$ carefully?

b. * [Which of the papers that he$_i$ gave Mary$_j$] did she$_j$ $\underline{*}$ ask every student$_i$ to revise $\underline{*}$? (Legate 2003:507, citing Fox 1998:157)

In (231a), the wh-phrase can only be reconstructed at the phase edge of *ask*. In the lower position, the pronominal *her* binds the referential expression *Mary*, violating Condition C. Nevertheless, (231a) is grammatical due to the intermediate position available for reconstruction. In (231b), on the other hand, there is no landing site to accommodate the reconstruction without violating Condition C. Thus, (231b) is ruled out as ungrammatical. Wh-movement must proceed through [Spec, *v*P]: otherwise, there would be no reconstruction effects in (231a) and (231b) and the difference in grammaticality would be unexplained. Given the premise that successive cyclic movement proceeds through phase edges, we conclude that transitive little *v*s are phase heads.

Legate demonstrates that the diagnostic based on reconstruction effects provides similar results for passives:

(232) a. [At which of the parties that he$_i$ invited Mary$_j$ to] was every man$_i$ $\underline{\surd}$ introduced to her$_j$ $\underline{*}$?

b. * [At which of the parties that he$_i$ invited Mary$_j$ to] was she$_j$ $\underline{*}$ introduced to every man$_i$ $\underline{*}$? (Legate 2003: 507)

To apply the reconstruction diagnostic to unaccusatives, Legate uses the verb *escape* meaning 'forget':

(233) a. [At which conference where he$_i$ mispronounced the invited speaker$_j$'s name] did every organizer$_i$'s embarrassment $\underline{\surd}$ escape her$_j$ $\underline{*}$?

b. *[At which conference where he$_i$ mispronounced the invited speaker's name$_k$] did it$_k$ $\underline{*}$ escape every organizer$_i$ entirely $\underline{*}$? (Legate 2003: 508)

As we can see, the reconstruction diagnostic demonstrates that wh-movement always proceed through [Spec, vP], regardless of the type of the v-head. Hence all little vs are phase heads and the hosts of uninterpretable features.

The phasehood of determiners is less evident than that of complementizers and little verbs. Nevertheless, "similarities between CP and DP suggest that DP too may be a phase" (Chomsky 2008: 143). The phasehood of DPs can be corroborated by the fact that the phrase extracted from the NP proceeds through [Spec, DP]. Consider the following data from Hungarian. In (234), the phrase in [Spec, DP] bears Dative marking (both examples mean 'Mary's hat'):

(234) a. *a Mari-ø vendég-e-ø*
the Mary-NOM guest-POSS-3SG

b. *Mari-nak a vendég-e-ø*
Mary-DAT the guest-POSS-3SG
(Citko 2014: 114, citing Szabolcsi 1983: 89–91)

Szabolcsi (1994) demonstrates that only dative-marked phrases situated in [Spec, DP] can be subject to further movement operations:

(235) a. *Péter-nek$_i$, csak Mari látta [$_{DP}$ t_i a kalap-ját]*
Peter-DAT only Mari saw the hat-POSS.3SG.ACC

b. **Peter-ø$_i$ csak Mari látta [$_{DP}$ t_i a kalap-ját]*
Peter-NOM only Mari saw the hat
'As for Peter, only Mari saw his hat.'

(Szabolcsi 1994: 205)

Assuming that Ds are phase heads, I consider determiners to be the hosts of uninterpretable features (uCase and $u\varphi$). According to the principle of feature inheritance, determiners transfer uCase to nouns. Like C-heads, determiners attempt to transfer $u\varphi$ to their complements. However, $u\varphi$ cannot be transferred to nouns, as N-heads bear interpretable phi-features. Thus, $u\varphi$ remain on D-heads as a side effect of transfer of uCase to N-heads. Both uninterpretable phi-features and case are visible on Ds in Russian:

(236) a. On kupil ètu antikvarnuju knigu.
he.NOM bought this.ACC.FEM.PL antique.ACC.FEM.PL book.ACC
'He bought this antique book.'

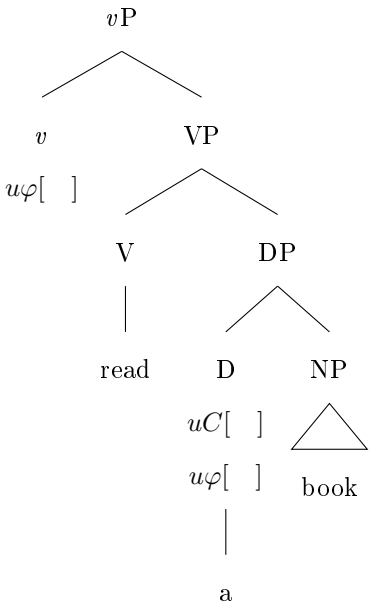
b. On ne polučil ètoj antikvarnoj knigi.
he.NOM not receive this.GEN.FEM.PL antique.GEN.FEM.PL book.GEN
'He did not receive this antique book.'

The problem in (236a) is that case and phi-features spread from N-heads to adjectives. To account for the adjectival agreement, I adopt a solution proposed in Matushansky (2005), extending it to $u\varphi$:

(237) Case marking inside the xNP is a result of a special operation applying after the Spell-Out (concord is a good candidate for a PF branch operation). (Matushansky 2005: 165)

Note that there is an alternative approach to feature spreading within a determiner phrase. Contrary to Matushansky (2005), Carstens (2001) proposes that both determiners and adjectives have uninterpretable phi-features, which are valued by Multiple Agreement with $i\varphi$ of nouns. Although Multiple Agree seems to be a possible solution to feature spreading within DPs, I will demonstrate that adjectives must be deprived of $u\varphi$. I postpone the detailed analysis until the section on head sharing. Assuming that the feature spreading in the DP is a post-syntactic phenomenon, I conclude that D is the only host of $u\varphi$ in the DP domain:

(238)



The final part of this section is devoted to the phase status of PPs. The corroborating evidence comes from extraction from Dutch PPs. The argument is based on so called R-pronouns, which are locative pronouns containing /r/ phoneme (e.g. *daar* 'there', *er* 'there', *waar* 'where'). Since van Riemsdijk (1978) considers PPs to be islands, extraction is allowed only in exceptional cases, including R-pronouns:

(239) It is impossible to relate X, Y in the structure ... X_i ... [P"' ... [P' ... Y ...]] ... X_j unless (a) Y = r-pronoun (b) Y = modifying clause (c) Y = motional postposition (Van Riemsdijk 1978: 159)

According to van Riemsdijk (1978: 192), there is an additional structure level P" which contains an escape hatch for R-pronouns ([Spec, PP]). Only phrases that move through [Spec, PP] can proceed to higher syntactic positions. This allows van Riemsdijk to account for the difference between (240a) and (240b). In (240a), *waar* 'where' moves through [Spec, PP] while *wie* 'who' in (240b) is not an R-pronoun and cannot move through [Spec, PP], rendering (240b) ungrammatical.

(240) a. Waar$_i$ heb je $[_{PP}$ t_i op $t_i]$ gerekend*?*
where have you on counted
'What did you count on?'

b. *Wie$_i$ heb je $[_{PP}$ op t_i $]$ gerekend*?*
who have you on counted
'Who did you count on?' (van Riemsdijk 1978: 135–137)

Given the extraction data from van Riemsdijk (1978), I conclude that prepositional phrases are phases. The next step is to determine whether the phase head is P or a little *p*. The motivation for the Split-P hypothesis is discussed in Svenonius (2007). Svenonius derives *p*P from the notions of the Figure and the Ground:

(241) The Figure is the entity, object, or substance which is located or in motion, and the Ground is the location, object, or substance with respect to which the Figure is located. (Svenonius 2007: 77)

In (242), the Ground is the complement of the preposition and the Figure is the object of the verb:

(242) Max stuck his finger in his nose.

Svenonius demonstrates that there is an asymmetrical relation between the Figure and the Ground; the Figure cannot become the complement of the preposition and the Ground cannot be the object of the verb:

(243) # Max stuck his nose around his finger. (Svenonius 2007: 78)

Svenonius concludes that the Ground is the argument of P while the Figure is the argument of p. Thus pP parallels vP, where the object is argument of V and the subject is the argument of v.

Further evidence for the Split-P hypothesis comes from Flemish Dutch. Standard Dutch has postpositions to express strict directional meaning:

(244) *Lola springt de kast op.*
Lola jumps the cupboard on
'Lola jumps onto the cupboard.' (Aelbrecht and Den Dikken 2011: 3)

(244) can only have directional meaning. To get an additional locative meaning, the preposition must be used:

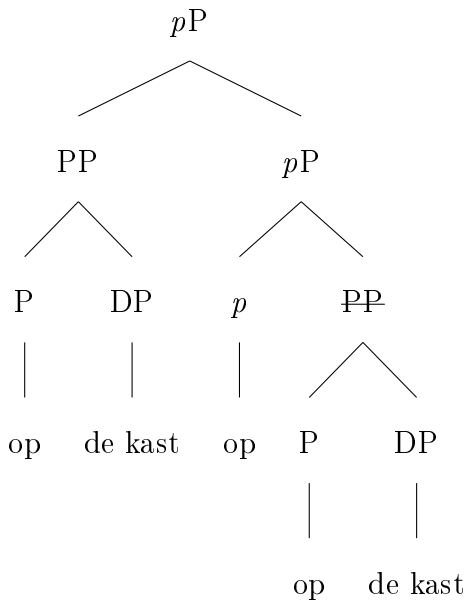
(245) *Lola springt op de kast.*
Lola jumps on the cupboard
Locative: Lola is on the cupboard, jumping up and down.
Directional: Lola's jump causes her to end up on the cupboard.
(Aelbrecht and Den Dikken 2011: 3)

To express strict directionality, Flemish Dutch uses preposition doubling instead of a simple postposition (note that the locative interpretation is ruled out):

(246) *Lili springt op de kast op.*
Lili jumps on the cupboard on
'Lili jumps onto the cupboard.'
'Lili jumps up and down on the cupboard.' (Aelbrecht and Den Dikken 2011: 3)

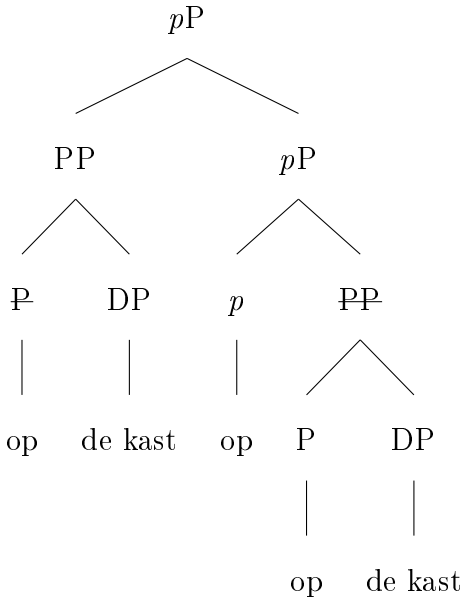
Preposition doubling in Flemish allows us to see the postpositional mechanism that is hidden in Standard Dutch. I argue that (246) should receive the following structural interpretation (strikethrough indicates deletion) [1]:

(247) Flemish preposition doubling



In (247), the lower copy of the PP is not pronounced. In addition to that, Standard Dutch does not pronounce a P-head of the PP in [Spec, pP], deriving the postpositional word order:

(248) Dutch postpositions



I conclude that preposition doubling in Flemish provides corroborating evidence for

[1] For the sake of brevity, I do not discuss an alternative approach to Dutch postpostions based on PathP (see Koopman 2000 for an extensive discussion).

the Split-P hypothesis. Thus I assume that the phase head is p. This parallels the phasehood of v.

The final question is whether p has uninterpretable features. As can be seen in (248), the PP must move to [Spec, pP]. Thus, a p-head bears an uninterpretable edge feature (uEF) to ensure that movement to [Spec, pP] takes place. Furthermore, p-heads assign case to DPs that are c-commanded by these p-heads. As a side effect of the case assignment, p-heads bear $u\varphi$ to phi-agree with c-commanded DPs. The presence of $u\varphi$ on p can be confirmed by prepositional agreement in Irish:

(249) *Bhí mé ag caint leofa inné.*
was I PROG talk **with.**3PL yesterday
'I was talking to them yesterday.' (Brennan 2008: 106)

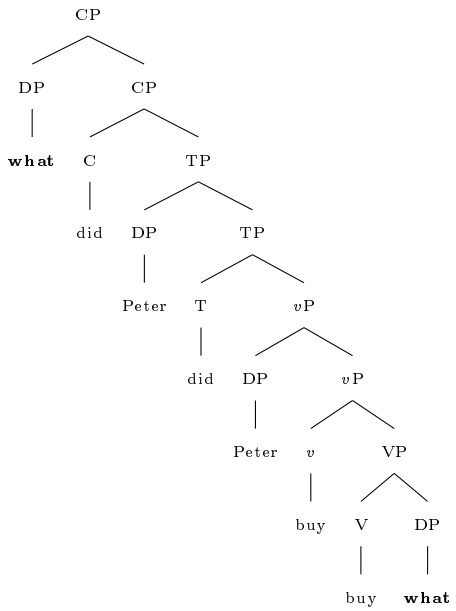
This section was devoted to the discussion of uninterpretable features such as Case, $u\varphi$, and uEF. In the next section, I will demonstrate that uninterpretable and sharing are closely connected phenomena.

4.3 The syntax of Parallel Merge

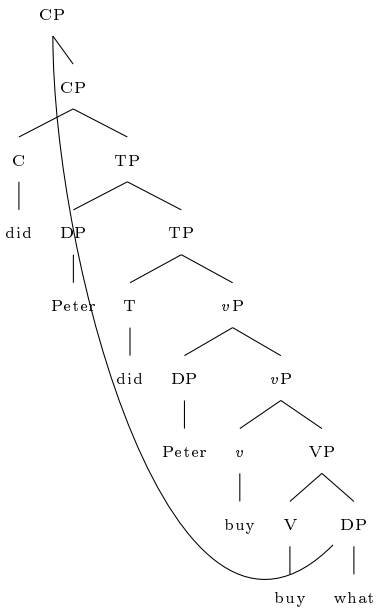
Before proceeding to the discussion of sharing relations, we need to clarify the notion of multidominance (i.e. one node has two mothers), which can be used in two different ways. First of all, multidominance can be used to completely replace Internal Merge, i.e. movement. Since the inception of minimalism, movement has been analysed in terms of Copy and Merge (see Chomsky 2015:chapter 3, Section 3.5 and Nunes 2004). However, there is nothing within the Narrow Syntax that would prevent us from representing movement via multidominance (see Starke 2001, Gärtner 2002, and Citko 2005):

(250) What did Peter buy?

(251) a. **Copy plus Merge**



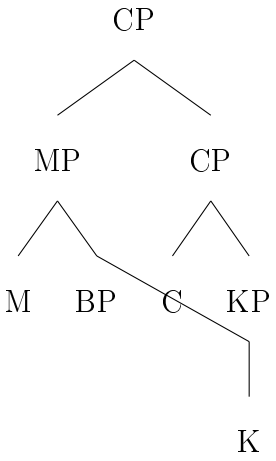
b. **Multidominance**



In (251b), the CP, which hosts the DP *what*, dominates the VP *buy what*, which initially contained the dislocated DP. This dominance configuration between the source phrase and the goal phrase is an essential part of Internal Merge. According to the terminology of Gračanin Yuksek (2007), (251b) is a case of vertical sharing (due to the dominance relation).

The second instance of multidominance is Parallel Merge, which Gračanin Yuksek (2007) calls horizontal sharing:

(252)

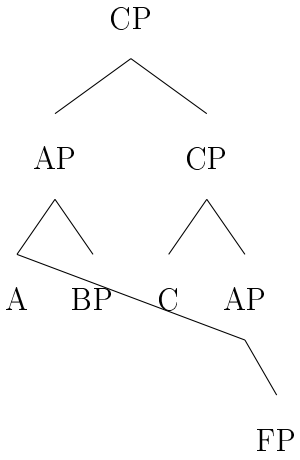


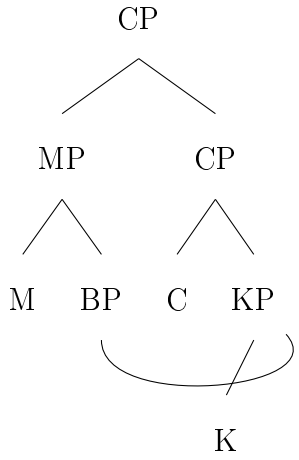
In (252), the MP (the goal phrase of BP) does not dominate the KP (the source phrase of BP), which makes Parallel Merge different from Internal Merge. In the present thesis, I will only discuss Parallel Merge. The representation of Internal Merge by multidominance is still subject to further research.

4.4 Restrictions on Parallel Merge

When applying Parallel Merge, we have two sharing options:

(253) a. Head Sharing b. Phrase Sharing





The lexical categories that I will consider in this section are { C, T, N, V, Adj, Adv, D, P }, since the existence of these categories is uncontroversial to any syntactitian. The question is which lexical heads or phrases projected by them can be shared.

(254) Sharing criterion

If a given element can be restored in multiple positions after being deleted, this is an instance of Parallel Merge.

4.4.1 Head sharing

When it comes to head sharing, the hypothesis is that Parallel Merge can be applied only to elements with the uninterpretable features. The reason for this sharing is to reduce the number of uninterpretable features in a given derivation in order to render it more economical. As is discussed in the introductory section, uninterpretable features are hosted by phase heads, unless a phase head transferred its uninterpretable features to a lower non-phase head (e.g. T inherits the $u\varphi$-features from C). Hence, I defend the following hypothesis for head sharing:

(255) Head Sharing Hypothesis

i. In a given derivation, only heads that possess uninterpretable features can be shared.

ii. All other heads cannot be shared.

Recall that uninterpretable phi-features are used in narrow syntax only if phi-agreement is a side effect of other syntactic operations:

(256) **Correlation between phi-agreement and uninterpretable features**

Phi-agreement between X and Y involves uφ if and only if there is a syntactic operation which values an uninterpretable feature uF of X or Y or there is a syntactic operation which transfers an uninterpretable feature uF of X (Y) to Y (X).

Before proceeding to the discussion of head sharing, I would like to state that only lexical items with argument structure are explored in the section. This is done to exclude phrases that comprise only the head. For that reason, adverbs are not discussed

in this section, since they do not have argument structure in Russian, English, and Dutch.

C-sharing

The head sharing hypothesis is borne out immediately. As we can see in (257), C cannot be shared due to the lack of uninterpretable features. The only uninterpretable features possessed by C-heads are $u\varphi$, which are transferred to T:

(257) a. Russian

*Petja skazal čto idet dožd', a Ivan polagal ~~čto~~ idet sneg.
Peter.NOM said that goes rain.NOM and Ivan.NOM believed that goes snow.NOM

'Peter said that it is raining and Ivan believed ~~that~~ it is snowing.'

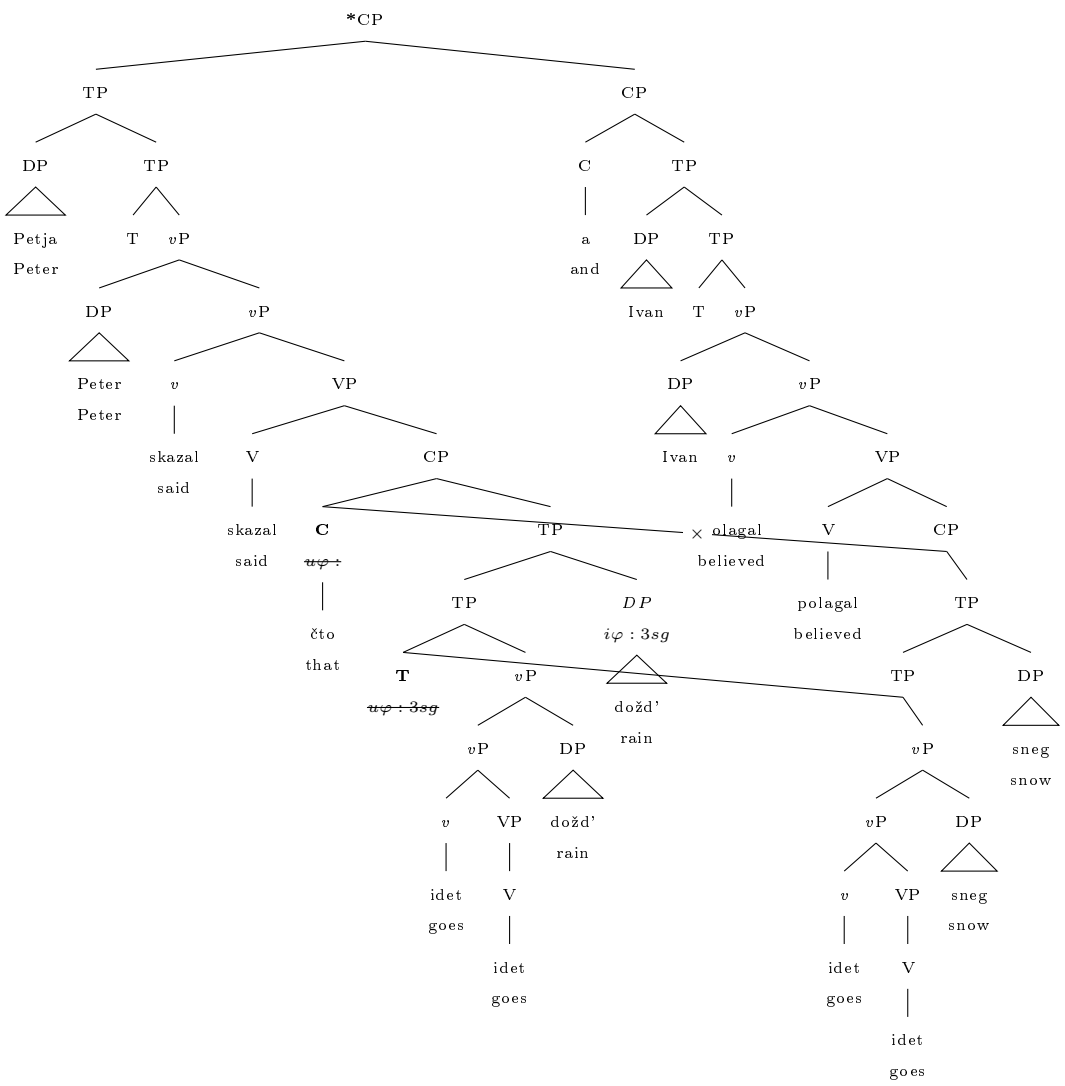
b. Dutch

*Peter zei dat het regent en Jan geloofde ~~dat~~ het sneeuwt.
Peter said that it rains and Jan believed that it snows

'Jan said that it is raining and Peter believed ~~that~~ it is snowing.'

Consider, for instance, the tree structure of the Russian sentence in (257):

(258)



In (258), C transfers its uninterpretable phi-features to T, which is indicated by striking these features out. Once T has acquired $u\varphi$:, it is shared between clauses in order to reduce the presence of uninterpretable features. The unvalued uinterpretable feature of T is valued and marked for deletion by the subject DP *dožd'* 'rain', which bears interpretable phi-features 'third person, singular'. From the perspective of deleted uninterpretable features, the derivation in (258) must converge. However, having transferred its $u\varphi$: to T, C is deprived of all uninterpretable features. Thus, C cannot be shared and the derivation in (258) crashes, resulting in an ungrammatical sentence in (257).

Other conjunctions are also unable to be shared due to the same lack of uninterpretable phi-features. The temporal conjunction *when* cannot be shared on its own:

(259) a. Russian

*Saša napisal stat'ju, kogda na ulice bylo solnečno, a
Alex.NOM wrote article.ACC when on street.LOC was sunny and
Petja igral na pianino, ~~kogda~~ nebo bylo oblačnym.
Peter.NOM was.playing on piano.LOC when sky.NOM was overcast

'Alex wrote an article when it was sunny outside, and Peter was playing the piano ~~when~~ the sky was overcast.'

b. English

*Alex wrote an article when it was sunny outside, and Peter was playing the piano ~~when~~ the sky was overcast.

c. Dutch

*Alex schreef een artikel toen het buiten zonnig was, en Peter
Alex wrote an article when the outside sunny was and Peter
speelde piano ~~toen~~ de lucht bewolkt was.
was.playing piano when the sky overcast was

'Alex wrote an article when it was sunny outside, and Peter was playing the piano ~~when~~ the sky was overcast.'

The conjunction of reason *because* cannot be shared on its own:

(260) a. Russian

*Saša prodal dom potomu čto nalogi stali vyše, a
Alex.NOM sold house.ACC because taxes.NOM became higher and
Petja kupil lodku ~~potomu čto~~ on byl bogat.
Peter.NOM sold car.ACC because he.NOM was rich

'Alex sold the house because the taxes became higher and Peter bought a boat ~~because~~ he was rich.'

b. English

*Alex sold the house because the taxes became higher and Peter bought a boat ~~because~~ he was rich.

c. Dutch

*Alex verkocht het huis omdat de belastingen hoger werden en
Alex sold the house because the taxes higher became and
Peter kocht een boot ~~omdat~~ hij rijk was.
Peter bought a boat because he rich was

'Alex sold the house because the taxes became higher and Peter bought a boat ~~because~~ he was rich.'

The conditional conjunction *if* cannot be shared on its own:

(261) a. Russian

*Saša poedet na konferenciju esli sta'ja budet gotova
Alex.NOM goes on conference.LOC if article.NOM will.be ready
vovremja a Petja ostanetsja doma ~~esli~~ ego rejs
on.time and Peter.NOM to vacation.ACC if his flight.NOM
budet otmenen.
is cancelled

'Alex goes to the conference if the article is ready on time and Peter stays home ~~if~~ his flight is cancelled.'

b. English

*Alex goes to the conference if the article is ready on time and Peter stays home ~~if~~ his flight is cancelled.

c. Dutch

*Alex gaat naar de conferentie als het artikel op tijd klaar is, en
Alex goes to the conference if the article on time ready is and
Peter blijft thuis ~~als~~ zijn vlucht wordt geannuleerd.
Peter stays home if his flight is cancelled

'Alex goes to the conference if the article is ready on time and Peter stays home ~~if~~ his flight is cancelled.'

The conjunction of concession *although* cannot be shared on its own:

(262) a. Russian

*Saša pošel v školu xotja kanikuly uže načalis'
Alex.NOM went to school.ACC although vacation.NOM already began
a Petja pobežal v magazin ~~xotja~~ on xotel ostat'sja
and Peter.NOM ran to the shop.ACC alhtough he.NOM wanted
doma.
to.stay home

'Alex went to school although the vacation has already begun and Peter ran to the shop ~~alhtough~~ he wanted to stay home.'

b. English

*Alex went to school although the vacation has already begun and Peter ran to the shop ~~alhtough~~ he wanted to stay home.

c. Dutch

*Alex ging naar school hoewel de vakantie al begonnen was,
Alex went to school although the vacation already begun was
en Peter rende naar de winkel *although* hij thuis wilde blijven.
and Peter ran to the shop although he home wanted stay
'Alex went to school although the vacation has already begun and Peter ran to the shop ~~alhtough~~ he wanted to stay home.'

The conjunction of purpose *in order to* cannot be shared on its own:

(263) The conjunction of purpose *in order to* cannot be shared on its own.

Russian

a. *Saša čitaet knigi čtoby rasslabit'sja posle trudnogo
Alex.NOM reads books.ACC in.order.to relax after hard
dnja, *a* Petja p'et pivo ~~čtoby~~ počuvstvovat'
day.ACC and Peter.NOM drinks beer.ACC in.order.to feel
sebja sčastlivym.
himself happy
'Alex reads books in order to relax after a hard day and Peter ~~reads~~ scientific magazines ~~in order to~~ learn something new.'

b. English

*Alex reads books in order to relax after a hard day and Peter drinks beer ~~in order to~~ feel happy.

c. Dutch

*Alex leest boeken om te ontsnappen na een zware dag, en
Alex reads books in.order to relax after a hard day and
Peter drinkt bier ~~om~~ zich gelukkig te voelen.
Peter drinks beer in.order himself happy to feel
'Alex reads books in order to relax after a hard day and Peter drinks beer ~~in order to~~ feel happy.'

Overall, I conclude that C cannot be shared if it is deprived of uninterpretable features. C-heads, however, can be shared if they possess uFs. Consider, for instance, the following cases of sluicing, which deletes a TP while keeping a *Wh*-phrase in [Spec, CP]:

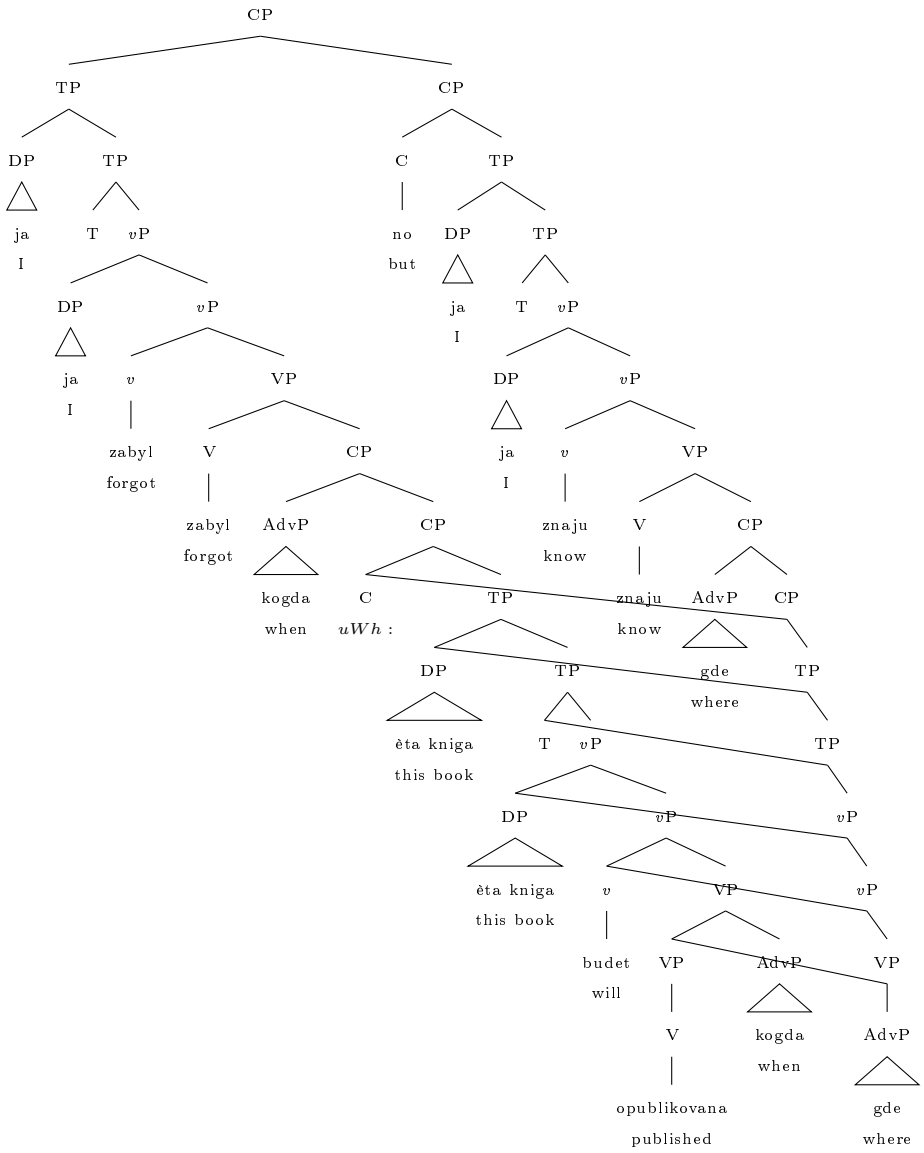
(264) Russian

a. Ja zabyl, kogda èta kniga budet opublikovana, no ja
I.NOM forgot when this book.NOM will.be published but I.NOM
znaju, gde ~~èta kniga budet opublikovana~~.
know where this book.NOM will.be published
'I forgot when this book will be published, but I know where ~~this book will be published~~.'

b. Ja zabyl, kogda ~~èta kniga budet opublikovana~~, no ja
I.NOM forgot when this book.NOM will.be published but I.NOM
znaju, gde èta kniga budet opublikovana.
know where this book.NOM will.be published
'I forgot when ~~this book will be published~~, but I know where this book will be published.'

In (264a), sluicing follows its antecedent; in (264b), sluicing operates backwards. It is usually assumed that sluicing is licensed by a *wh*-feature of a complementizer (see Merchant 2001). Following this line of reasoning, I propose that sluicing is licensed by an uninterpretable *wh*-feature (u*Wh*) of a phonologically null C. Furthermore, C-heads used with sluicing must bear a EPP-feature, which requires a *Wh*-phrase to move to [Spec, CP]. Since a C licensing sluicing possesses two uFs, which are u*Wh* and EPP, this C can be shared. Shared complementizers with u*Wh* and EPP allows syntax to generate both directions of slucing (264a and 264b) from a single structure derived by Parallel Merge:

(265)



In (265), the null C with *uWh:* is shared between clauses. This allows sluicing to operate forwards and backwards (see 264a and 264b), since the null C with *uWh:* is simultaneously present in several clauses and can independently license sluicing in each of these clauses. This multidominance analysis of sluicing should not be considered exhaustive and is still subject to further research.

T-sharing

As is demonstrated in the section on C-sharing, T-heads inherit its unvalued $u\varphi$: from C-heads. Moreover, T-heads assign structural nominative case to subjects; phi-agreement between a T-head and a subject DP is an indication of case assignment. Finally, T-heads possess uEF, which ensure that subjects move to [Spec, TP]. As

T-heads possess a bundle of uninterpretable features, T-heads can be shared:

(266) a. Russian

Petja budet igrat' na skripke, a Vasja ~~budet~~ pet' pesni.
Peter.NOM will play on violin.LOC and Vasja.NOM will sing songs.ACC

'Peter will play the violin, and Vasja ~~will~~ sing songs.'

b. English

Peter will play the violin, and Sam ~~will~~ sing songs.

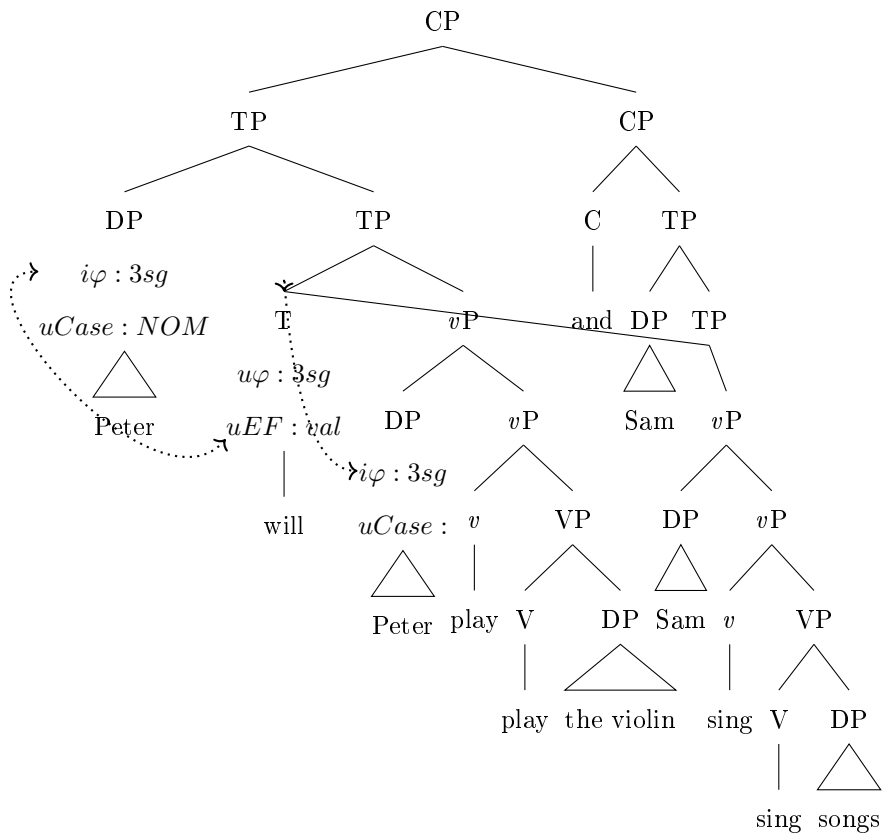
c. Dutch

Peter zal viool spelen en Jan ~~zal~~ liedjes zingen.
Peter will violin play and Jan will songs sing

'Peter will play the violin, and Jan ~~will~~ sing songs.'

In (267), T inherits its uninterpretable phi-features from C, which results in T-sharing. Furthermore, T has the uninterpretable edge feature (uEF:) in order to comply with the EPP-principle. The $u\varphi$: of T are valued by the lower copy of the DP 'Peter', which is then moved to [Spec, TP] to value the uEF : feature .The presence of uEF : and $u\varphi$: allows T to be shared:

(267)



Verb sharing

As is demonstrated in the section on uninterpretable features, little vs are phase heads that host uninterpretable features. First of all, v-heads possess edge features to ensure subject movement to [Spec, vP]. The valuation of the edge features of v-heads leads to additional phi-agreement between subject DPs and v-heads . This agreement requires a separate set of $u\varphi$. Phi-agreement between subject DPs and v-heads can be seen in Russian: phi-features of a verb must match phi-features of its subject (see 268). Furthermore, v-heads assign structural accusative case to direct objects. Finally, v-heads have $u\varphi$ to phi-agree object DPs which are valued as accusative by these v-heads. Again, phi-agreement between v-heads and object DPs is a side effect of case assignment. As v-heads possess a bundle of uninterpretable features, v-heads can be shared.

So far, I have only considered v-heads. However, the featural composition of regular V-heads also needs to be considered. Since v, which is a phase head and a host of uninterpretable features, is a copy of V, both v and V bear the same

bundle of uninterpretable features ($u\varphi$ for subject agreement, $u\varphi$ for object agreement, and uEF) and can be shared (see 268). Furthermore, shared v-heads and V-heads must bear several sets of $u\varphi$ for subject agreement and several sets of $u\varphi$ for object agreement. This complex bundle of phi-features is an essential consequence of Parallel Merge. Since shared verbs are simultaneously present in several conjuncts, they must phi-agree with a subject and an object in each conjunct. The difference between v-heads and V-heads is that only v-heads can have their uninterpretable features valued. Since v-heads are copies of V-heads, they form a non-trivial chain (see Nunes 2004). During the linearization, a v-head, a copy with no unvalued features, survives, while a V-head, which has unvalued features, is reduced to avoid a crash at LF. Note that head movement is a type of Internal Merge, which is vertical sharing in Gračanin Yuksek's terms. As was mentioned in the section on Parallel Merge, I do not use shared structures in cases of vertical sharing. Instead, Internal Merge including head movement is treated as copying.

(268) a. Russian

Maša kupila knigu, a Lena
Mary.FEM.NOM.SG bought.SG.FEM book.ACC and Helen.NOM
~~kupila~~ žurnal.
bought.SG.FEM magazine.ACC

'Mary bought a book, and Helen ~~bought~~ a magazine.'

b. English

Mary bought a book, and Helen ~~bought~~ a magazine.

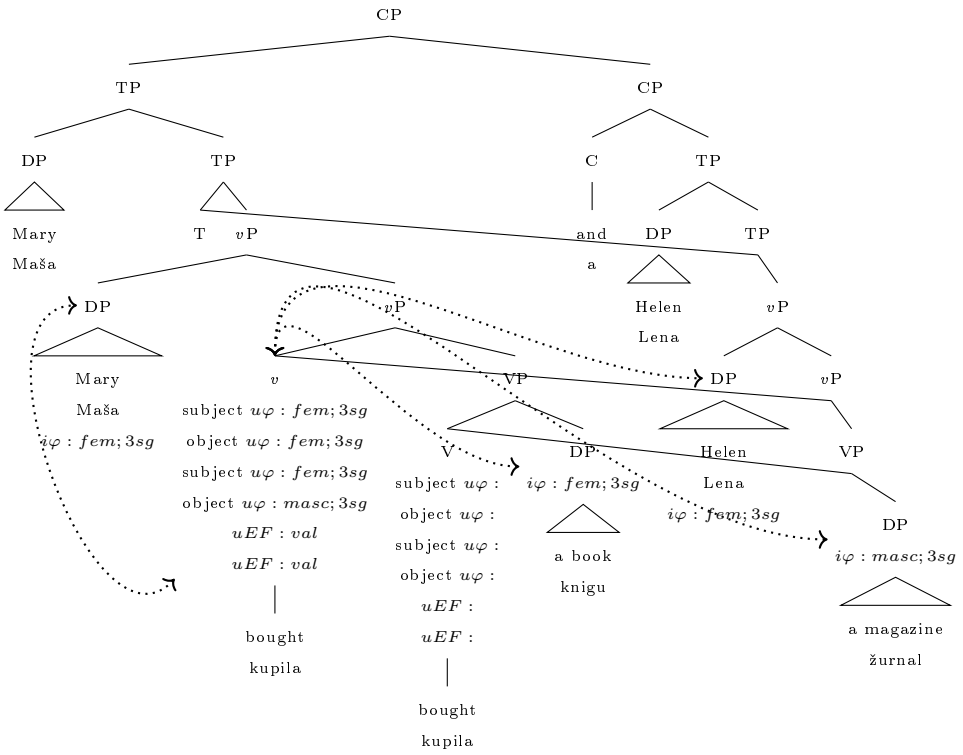
c. Dutch

Maria kocht een boek, en Helen ~~kocht~~ een tijdschrift.
Maria bought a book and Helen bought a magazine

'Mary bought a book, and Helen ~~bought~~ a magazine.'

In (269), a little v and a V-head have four sets of $u\varphi$. Two sets of $u\varphi$ is responsible for phi-agreement with an object; the other sets are responsible for phi-agreement with a subject. The little v and the V-head also have two uEF : to satisfy the EPP-condition in each conjunct. Thus V and v can be shared:

(269)



When (269) is linearized, only uninterpretable phi-features valued by a subject and object located in the antecedent clause can be phonologically realized at PF. Consequently, the antecedent verb cannot overtly agree with the subject and object located in the Gapping clause:

(270) a. Jan drinks whisky, and his friends ~~drink~~ beer.

b. *Jan drink whisky, and his friends ~~drink~~ beer.

The Parallel Merge approach to verb sharing is challenged by agreement feature mismatch. Under Gapping, deleted verbs and their antecedents can differ in agreement features:

(271) a. English

Jan drinks whisky, and his friends ~~drink~~ beer.

b. Russian

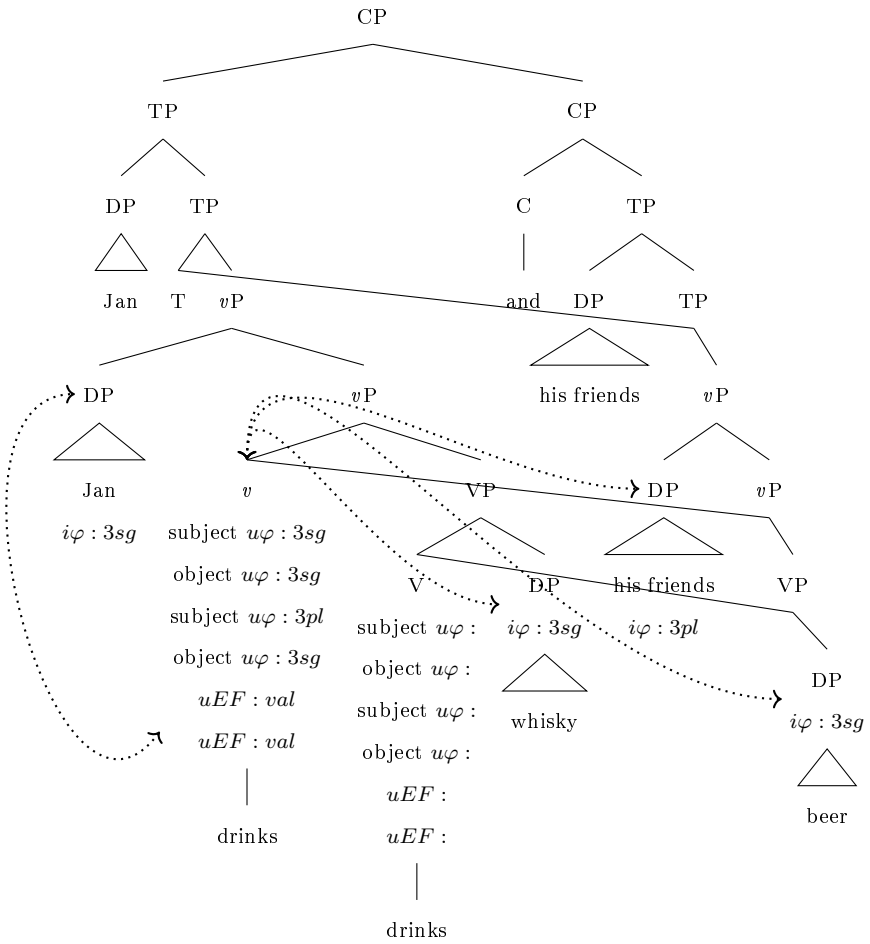
Jan p'et viski, a ego druz'ja ~~p'jut~~ pivo.
Jan.NOM drinks whisky.ACC and his friends.NOM drink beer.ACC
'Jan drinks whisky, and his friends ~~drink~~ beer.'

c. Dutch

Jan drinkt whisky en zijn vrienden ~~drinken~~ bier.
Jan drinks whisky and his friends drink beer
'Jan drinks whisky, and his friends ~~drink~~ beer.

In (271), subjects differ in number. Thus, subject $u\varphi$s receive different values. However, only phi-values assigned in the antecedent clause are phonologically realized:

(272)



My discussion of verb sharing is incomplete without evidence from polysynthetic languages that allow verbs to morphologically agree with subjects and objects. This, however, is subject to further research.

Determiner sharing

McCawley (1993) introduced the phenomenon of determiner sharing and provided the first description of its core traits. First, McCawley noticed that determiner sharing depends on Gapping:

(273) a. Determiner sharing happens simultaneously with Gapping.

Too many Irish setters are named Kelly, ~~too many~~ German shepherds ~~are named~~ Fritz, ~~too many~~ Irish setters ~~are named~~ Nanook. (McCawley 1993: 245)

b. Determiner sharing happens without Gapping.

*Too many Irish setters are named Kelly, ~~too many~~ German shepherds are named Fritz, ~~too many~~ Irish setters are named Nanook. (McCawley 1993: 245)

Furthermore, McCawley discovered that non-definite articles cannot be shared:

(274) *An Irish setter should be named Kelly and ~~a~~ German shepherd ~~should be named~~ Fritz. (McCawley 1993: 245)

Finally, McCawley states that only conjunct-initial determiners can be shared:

(275) *In Hartford, how many cathedrals are there, and/or in Detroit, ~~how many~~ opera houses ~~are there~~? (McCawley 1993: 246)

In (275), the complex determiner *how many* is preceded by the PP *in Detroit* in the second conjunct. Thus, *how many* is no longer clause-initial and cannot be shared.

Although McCawley is the first one to describe the phenomenon of determiner sharing, his description is far from complete. It is unclear how limited the set of determiners that can be shared is: indefinite articles and numerals, for instance, should also be tested in sharing configurations. Moreover, McCawley does not provide an explanation to the relation between determiner sharing and Gapping. These and related issues are extensively considered in Ackema and Szendröi (2002).

The core idea of Ackema and Szendröi is that determiner sharing is an instance of dependent ellipsis licensed by Gapping. Thus, determiner sharing involves two applications of ellipsis: the first one is Gapping and the second one is determiner ellipsis, which is parasitic on Gapping. The rule of dependent ellipsis is formulated as follows:

(276) Dependent ellipsis

The 0 head in coordinate ellipsis licenses the heads of its dependents to be 0. (Ackema and Szendröi 2002: 9)

(276) allows Ackema and Szendröi to rule out determiner sharing between a subject and an object in double object constructions:

(277) *Henry VIII gave too many wives ~~too many~~ presents. (Ackema and Szendröi 2002: 10)

In (277), the complex determiner *too many* cannot be elided because its deletion is not triggered by Gapping. When it comes to the licensing of subject determiner sharing, Ackema and Szendröi observe that T-Gapping suffices to license subject determiner sharing:

(278) The girls will drink whiskey and ~~the~~ boys ~~will~~ drink wine. (Ackema and Szendröi 2002: 10)

Furthermore, it is mentioned that numerals and indefinite articles cannot be shared in subject positions, even if this dependent ellipsis is licensed by T-Gapping:

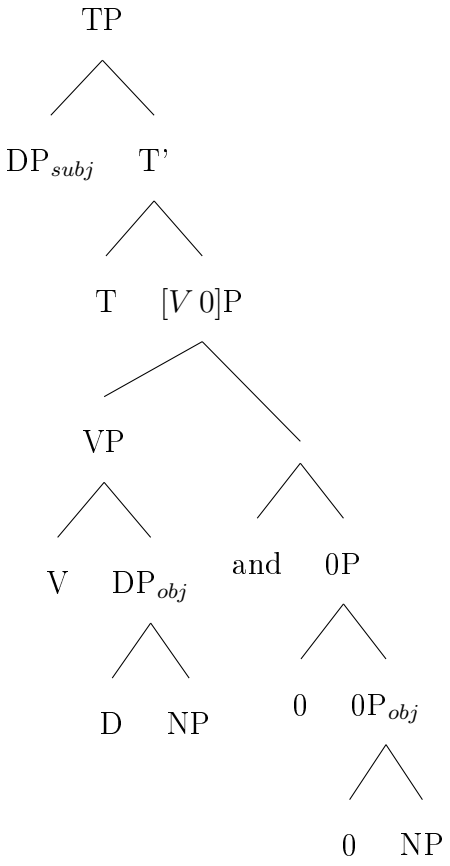
(279) a. *An Irish setter is usually named Kelly, ~~a~~ German shepherd ~~is named~~ Fritz, and ~~a~~ Husky ~~is named~~ Nanook.

b. *Two girls will drink whiskey and ~~two~~ boys ~~will drink~~ wine.

(Ackema and Szendröi 2002: 11)

Determiner sharing is not restricted by the subject domain. Ackema and Szendröi assume that determiner sharing is also possible in objects. However, this type of sharing requires VP-coordination:

(280)



(Ackema and Szendröi 2002: 18)

Assuming that (280) is correct, Ackema and Szendröi predict that object determiner sharing depends on V-Gapping. This prediction is borne out:

(281) *Bob will give too many magazines to Jessica and ~~will~~ hand ~~too many~~ newspapers to Joanne. (Ackema and Szendröi 2002: 18)

In (281), the V-head *hand* is not null and cannot license determiner ellipsis.

The structure of (280) can also account for the fact that determiners shared between conjuncts must be conjunct-initial (the observation was originally made in McCawley 1993):

(282) *Bob gave too many magazines to Jessica and Harry ~~gave too many~~ newspapers to Joanne. (Ackema and Szendröi 2002: 18)

In (282), the second conjunct must be a TP in order to host a subject. Thus, (282) is TP-coordination, which is not the grammatical environment for object determiner sharing.

So far, I have only discussed approaches that derive determiner sharing through actual ellipsis. I now consider an approach that uses multidominance relations to produce cases of determiner sharing (Citko 2006).

Citko's main objection to the approach outlined in Ackema and Szendröi (2002) is that dependent ellipsis does not account for the ungrammaticality of φ-features mismatches between the elided determiner and its antecedent:

(283) a. **Fido zobaczył tą kotkę, a Whiskers psa.*
Fido saw this-FEM cat-FEM and Whiskers dog-MASC
'Fido saw this cat and Whiskers saw this dog.'

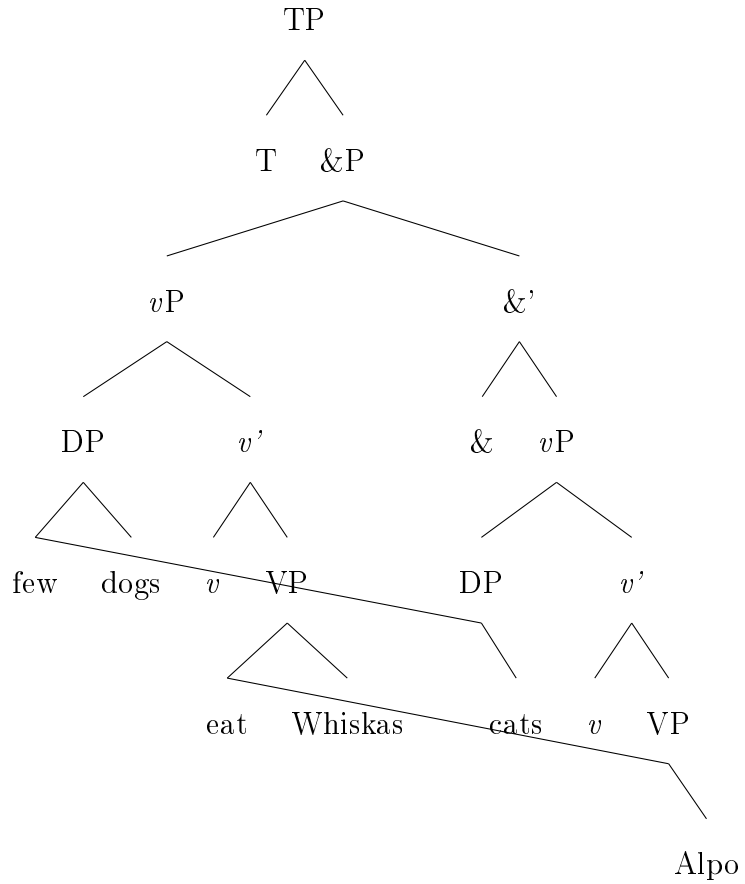
b. **Fido zobaczył tego kotkę, a Whiskers psa.*
Fido saw this-MASC cat-FEM and Whiskers dog-MASC
'Fido saw this cat and Whiskers saw this dog.'

(Citko 2006: 86)

In (283), the antecedent determiner and the elided determiner do not have the same gender feature, which results in ungrammaticality. To account for this matching requirement, Citko proposes that the shared determiner is introduced into the derivation via Parallel Merge:

(284) a. *Mało psów je Whiskas a kotów Alpo.*
few dogs eat Whiskas and cats Alpo
'Few dogs eat Whiskas and cats Alpo.'

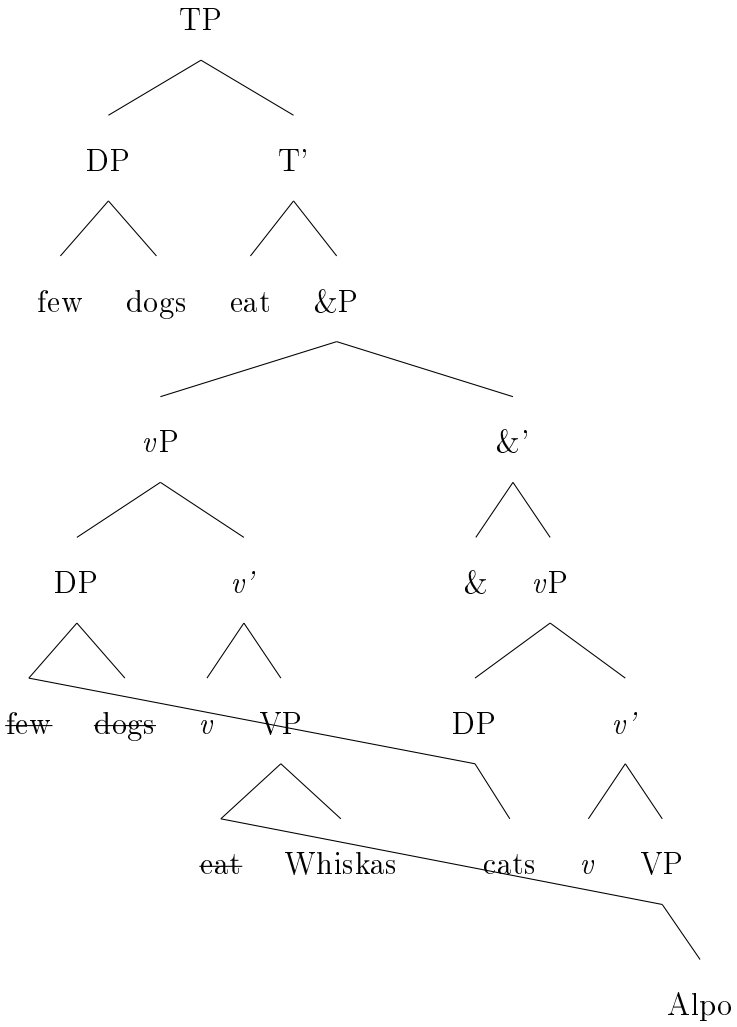
b.



(Citko 2006: 90)

To make (284b) linearizable, the shared finite verb must move to the T-head and the DP *few dogs* containing the shared determiner *few* must move to [Spec, TP]. These operations satisfy the EPP-requirement and restore antisymmetry, which is essential for linearisation purposes:

(285)



(Citko 2006: 90)

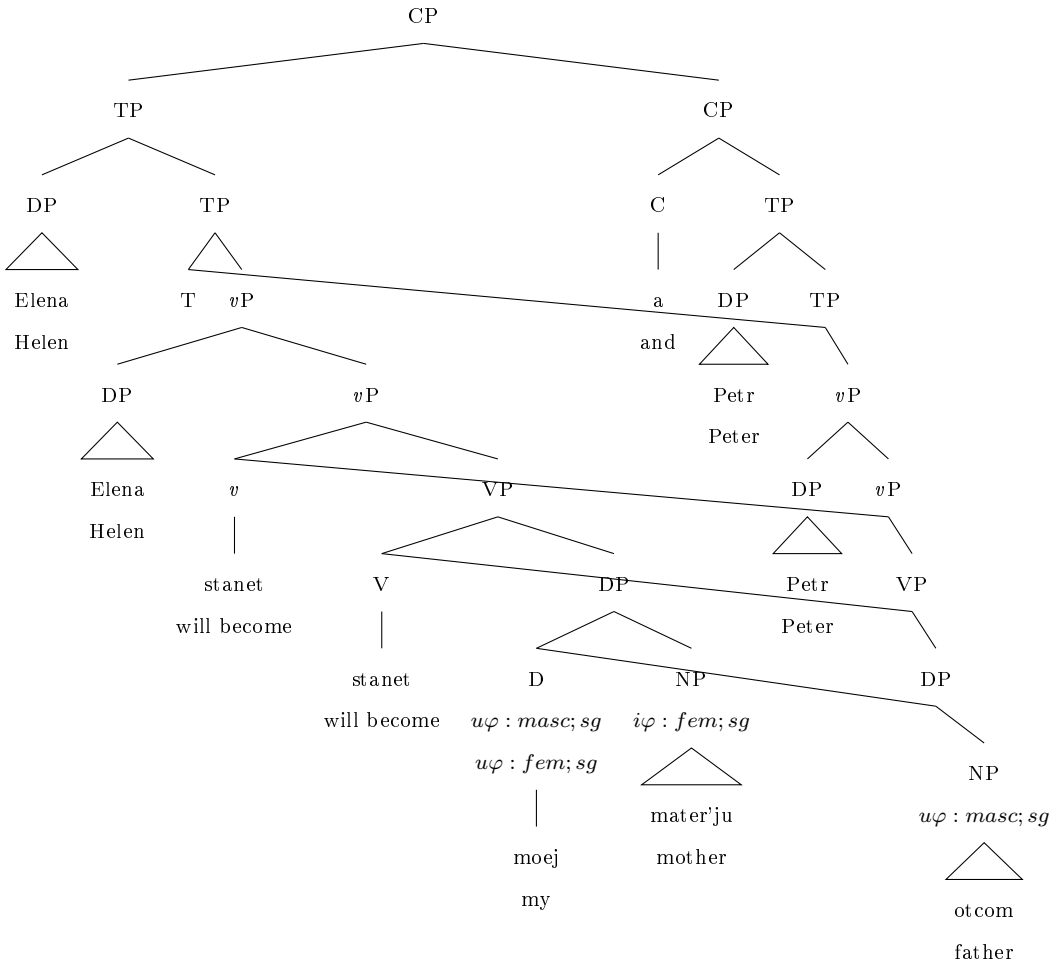
Although Citko assumes that the impossibility of feature mismatch in (283) is the motivation for Parallel Merge, feature mismatch is not always prohibited under determiner sharing. Consider, for instance, the following Russian sentence with Gapping:

(286) Elena stanet moej mater'ju, a Petr
Helen.NOM will.become my.FEM.SG.INSTR mother.INSTR and Peter.NOM
~~stanet~~ ~~moim~~ otcom.
will.become my.MASC.SG.INSTR father.INSTR
'Helen became my mother, and Peter ~~became~~ ~~my~~ father.'

In (286), the determiner *my* obtains a feminine gender in the antecedent clause and receives a masculine gender in the Gapping clause. Despite the fact that gender features of *my* differ between clauses, determiner sharing is still grammatical in (286). The grammaticality of (286), however, does not necessarily mean that the Parallel

Merge approach should be rejected. In this thesis, I argue that a determiner shared between conjuncts receives several sets of uninterpretable phi-features, if values of phi-features differ between conjuncts. However, only one set of uninterpretable phi-features will determine the form of its host at PF. In (286), the shared determiner has two sets of uninterpretable phi-features, "feminine, singular" and "masculine, singular". Since the determiner is phonologically present only in the antecedent conjunct, it morphologically agrees with the noun in the antecedent clause, which is feminine and singular:

(287)



To sum up, I have considered three major approaches to determiner sharing. McCawley (1993) treats determiner sharing as deletion depending on Gapping. However, McCawley does not provide any syntactic mechanism that would account for the correlation between determiner sharing and Gapping. Ackema and Szendröi (2002) refine McCawley's approach by proposing a licensing condition on determiner sharing: in

coordinate ellipsis (i.e. Gapping), the head deleted by Gapping licenses the heads of complements and specifiers to be deleted. For instance, Ackema and Szendröi (2002) argue that subject determiner sharing depends on T-Gapping, since the subject DP is [Spec, TP]. Object determiner sharing, by contrast, depends on V-Gapping: the object DP is a verbal complement. Finally, Citko (2006) proposes that determiner sharing accompanied by Gapping is derived by Parallel Merge. Under Citko's approach, a determiner and a finite verb are shared between conjunct. In order to restore antisymmetry and make the structure linearizable, the shared elements must be moved (see Moro 2000). Under subject determiner sharing, for instance, a DP with a shared determiner must be moved to [Spec, TP] and a shared verb must be moved to T. The major drawback of Citko's approach is the motivation for movement. Under Citko's theory, movement takes place in order to restore linear order. It is unclear why Narrow Syntax should be involved in linearization, which is the task of PF. Having discussed previous approaches to determiner sharing, I will now consider determiner sharing from the perspective of uninterpretable features.

As was discussed in the introductory section, determiners are phase heads. Consequently, D-heads are the original hosts of uninterpretable features associated with DPs (i.e. Case and $u\varphi$) and we expect that determiner sharing is grammatical. When it comes to Case, I argue that the determiner transfers its case feature to the noun phrase. Otherwise, it would be unexplained how nouns acquire case while not being phase heads. The remaining uninterpretable features of determiner are $u\varphi$. Since nouns have interpretable phi-features, determiners do not transfer $u\varphi$: nouns cannot simultaneously possess $u\varphi$ and their interpretable counterparts. Thus, determiners keep their $u\varphi$, which are valued by nouns c-commanded by determiners. The prediction that determiners can be shared is indeed borne out (in the present thesis, I limit myself to subject determiner sharing):

(288) a. Russian

Vse belki edjat orexi a ~~vse~~ sobaki ~~edjat~~
all.NOM.PL parrots.NOM eat nuts.ACC and all.NOM.PL dogs.NOM eat

mjaso.
meat.ACC
'All squirrels eat nuts, and ~~all~~ dogs ~~eat~~ meat.'

b. English

All squirrels eat nuts and ~~all~~ dogs ~~eat~~ meat.

c. Dutch

Alle eekhoorns eten noten en ~~alle~~ honden ~~eten~~ vlees.
all parrots eat nuts and all dogs eat meat
'All squirrels eat nuts and ~~all~~ dogs ~~eat~~ meat.'

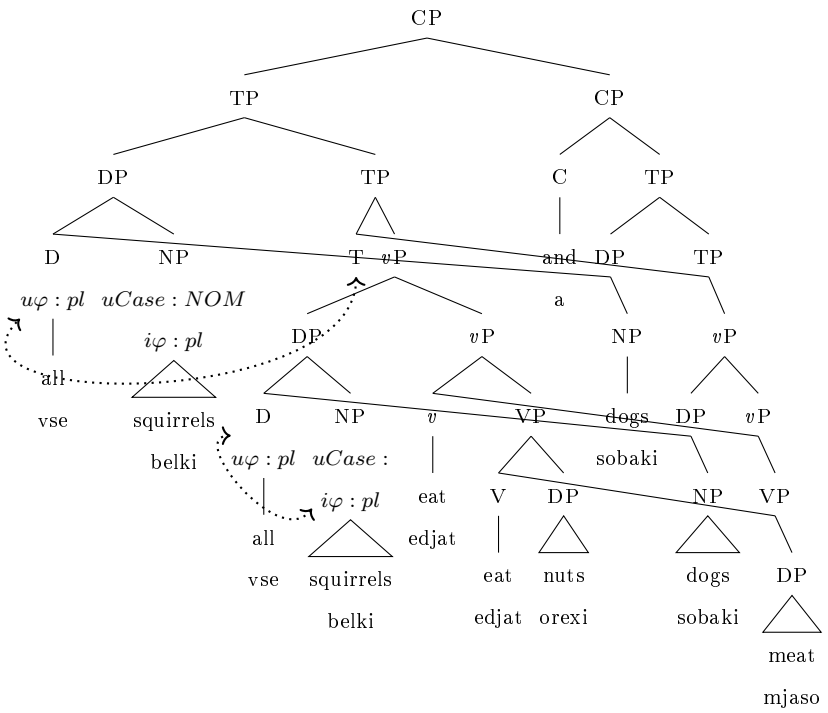
In (288), the universal quantifier *all*, which is a determiner, is shared between conjuncts. Due to its rich morphology, Russian indicates the presence of $u\varphi$ and Case on D. Since D transfers its case feature to N, case morphology of the determiner is a post-syntactic phenomenon (see Matushansky 2005). $u\varphi$, by contrast, are not transferred to the nominal head, which has interpretable phi-features. $u\varphi$ of the D-head allows determiners to be shared. Consider the following examples, in which the universal quantifier *all* agrees in number and gender with the noun phrase:

(289) a. Lena s"ela vse orexi.
Helen.NOM ate all.ACC.PL nuts.ACC
'Helen ate all the nuts.'

b. Lena s"ela ves' sup.
Helen.NOM ate all.ACC.SG.MASC soup.ACC
'Helen ate all the soup.'

The tree structure in (290) demonstrates that the uninterpretable phi-feature is valued in [Spec,vP] and that the uninterpretable Case feature is valued as nominative, which is a structural case, in [Spec,TP]. This analysis provides a motivation for determiner sharing: determiners are shared because they bear uninterpretable phi-features. The correlation between Gapping and determiner sharing is still an open question. For now, I can only postulate that determiner sharing is dependant on Gapping. To account for this correlation, one must consider how determiner sharing interacts with other ellipsis phenomena. This, however, is subject to further research.

(290)



Noun sharing

To exclude the cases of N'-ellipsis, which is NP-sharing, and ensure that it is the N-head that is shared between conjuncts, I only consider nouns with argument structure. Such N-heads possess a bundle of uninterpretable features that makes nominal heads the perfect candidates for sharing. Consider, for instance, the noun *department*, which has the following argument structure:

(291)

Semantic argument	Syntactic realization
The area of specialization	PP (of (English) / voor (Dutch)+DP) / DP_{gen} (Russian)

As was discussed in the section on determiners, nominal heads also bear the uninterpretable case feature, which they acquire from determiners (I assume that there is no light *n* above the NP). Thus, the nominal head *department* hosts an uninterpretable case feature [uCase:]. These uninterpretable features cause the N-head *department* to be shared:

(292) a. Russian

Petja osnoval kafedry matematiki, a Vasja
Peter.NOM founded departments.ACC mathematics.GEN and Vasja.NOM
~~osnoval~~ ~~kafedry~~ lingvistiki.
founded departments.ACC linguistics.GEN

'Peter founded departments of mathematics, and Sam ~~founded departments~~ of linguistics.'

b. English

Peter founded departments of mathematics, and Sam ~~founded departments~~ of linguistics.

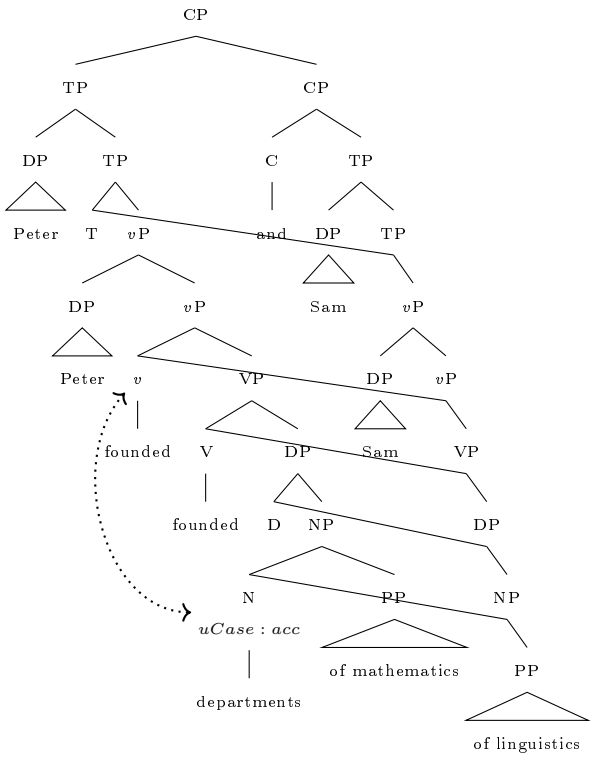
c. Dutch

Peter richtte instituten voor wiskunde op, en Jan ~~richtte~~
Peter founded departments of mathematics on and Jan founded
~~instituten~~ voor taalkunde ~~op~~.
departments of linguistics on

'Peter founded departments of mathematics, and Jan ~~founded departments~~ of linguistics.'

In (293), the N-head *department* has an uninterpretable case feature, which is valued as accusative by the little verb *founded*. Thus, the N-head *department* can be shared:

(293)



Adjective sharing

Adjectives are known to agree in phi-features with nouns that they modify. This concord in the extended projection of the N-head is especially prominent in languages

with rich morphology. Consider, for instance the following Russian sentence:

(294) Russian

Mal'čik, gordyj Janom, otkryl dver', a
boy.MASC.NOM.SG proud.MASC.NOM.SG Jan.INSTR opened door.ACC and
devočka, gordaja Annoj, otkryla okno .
girl.FEM.NOM.SG proud.FEM.NOM.SG Anna.INSTR opened window.ACC

'The boy proud of Jan opened the door and the girl proud of Anna opened the window.'

In (294), the adjective *gordyj* 'proud' agrees in number in gender with mal'čik 'boy', which is [masc], [Nom], and [sg], and devočka 'girl', which is [fem], [Nom], and [sg]. Given the presence of phi-features on Adj-heads, we would expect adjectival heads to be shared. However, adjectives cannot be shared if they are contained within an extended projection of an N-head:

(295) a. Russian

*Mal'čik, gordyj Janom, otkryl dver',
boy.MASC.NOM.SG proud.MASC.NOM.SG Jan.INSTR opened door.ACC
a devočka, ~~gordaja~~ Annoj, ~~otkryl~~
and girl.FEM.NOM.SG proud.FEM.NOM.SG Anna.INSTR opened
okno .
window.ACC

'The boy proud of Jan opened the door and the girl ~~proud~~ of Anna ~~opened~~ the window.'

b. English

*The boy proud of Jan opened the door and the girl ~~proud~~ of Anna ~~opened~~ the window.

c. Dutch

*De jongen, trots op Jan, opende de deur en het meisje, ~~trots~~ op
the boy proud on Jan opened the door and the girl proud on
Anna, ~~opende~~ het raam.
Anna closed the window

'The boy proud of Jan opened the door and the girl ~~proud~~ of Anna ~~opened~~ the window.'

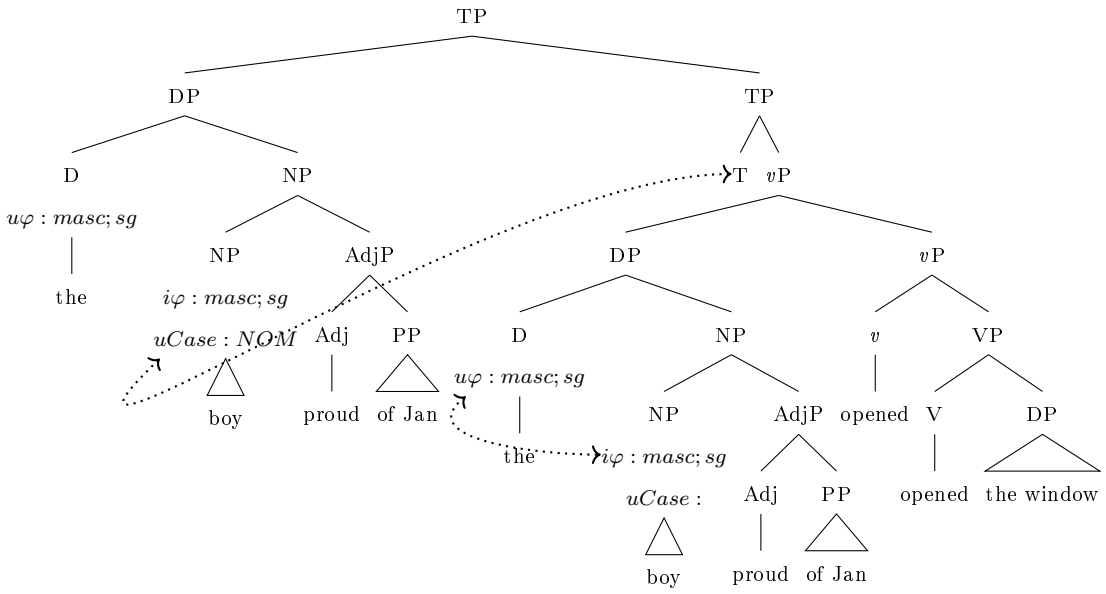
In (295), the adjective *proud* has the following argument structure, which guarantees that it is the Adj-head that is shared in (295):

(296)

Semantic argument	**Syntactic realization**
The stimulus of being proud	PP (English and Dutch) / DP_{instr} (Russian)

The ungrammaticality of Adj-sharing causes us to conclude that adjectives are essentially deprived of uninterpretable phi-features. Following the logic of Matushansky (2005), I assume that φ-feature spreading which happens in the nominal domain is a post-syntactic phenomenon. Thus, Adj-heads acquire phi-morphology at PF without possessing any uninterpretable phi-features. For instance, (297) demonstrates that the Adj-head *proud* does not possess any unnterpretable features. Consequently, Adj-heads cannot be shared, which can be seen in (295).

(297)



Nevertheless, Adj-heads can be shared in predicative positions, as they are merged with the v-head, which possesses $u\varphi$ and uEF (see the section on verb sharing for a detailed discussion). Thus, adjectives merged with the little verb can be shared:

(298) a. Russian

Piter byl gord Janom, a
Peter.MASC.NOM.SG was proud.MASC.SG Jan.INSTR and
Marija ~~byla~~ ~~gorda~~ Annoj.
Maria.FEM.NOM.SG was proud.FEM.NOM.SG Anna.INSTR
'Peter was proud of Jan and Maria ~~was~~ ~~proud~~ of Anna.'

b. English

Peter was proud of Jan and Maria ~~was~~ ~~proud~~ of Anna.

c. Dutch

Peter was trots op Jan en Maria ~~was~~ ~~trots~~ op Anna.
Peter was proud on Jan and Maria was proud on Anna
'Peter was proud of Jan and Maria ~~was~~ ~~proud~~ of Anna.'

The predicative adjectives in (298) must agree in phi-features with the subject of conjunct which hosts the pronounced copy of the predicative adjective. In this respect, predicative adjectives behave like little verbs. This similarity can be demonstrated by the following Russian examples:

(299) a. Piter byl gord Janom, a
Peter.MASC.NOM.SG was proud.MASC.SG Jan.INSTR and
Marija ~~byla~~ ~~gorda~~ Annoj.
Maria.FEM.NOM.SG was proud.FEM.SG Anna.INSTR
'Peter was proud of Jan and Maria ~~was~~ ~~proud~~ of Anna.'

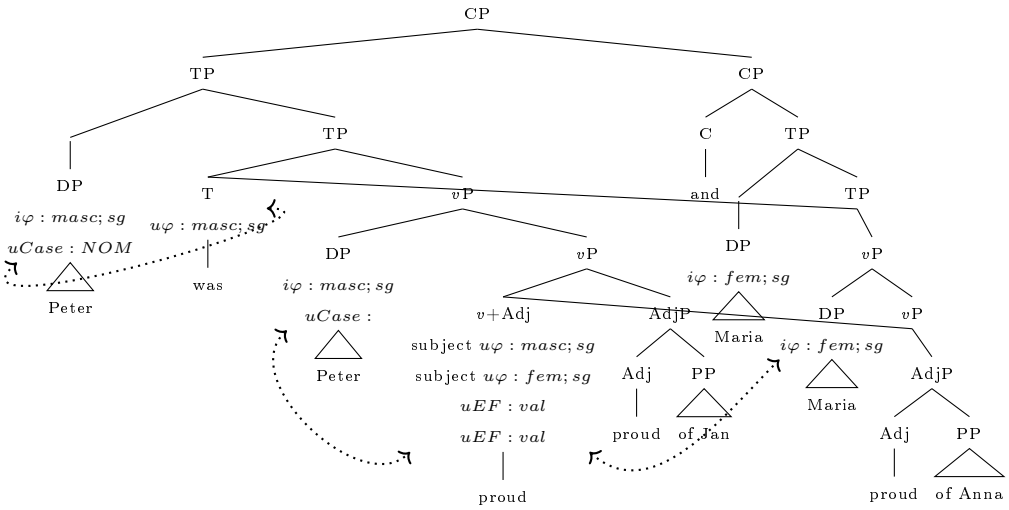
b. *Piter byla gorda Janom, a
Peter.MASC.NOM.SG was proud.FEM.SG Jan.INSTR and
Marija ~~byla~~ ~~gorda~~ Annoj.
Maria.FEM.NOM.SG was proud.FEM.SG Anna.INSTR
'Peter was proud of Jan and Maria ~~was~~ ~~proud~~ of Anna.'

c. Piter kupil dom, a
Peter.MASC.NOM.SG bought.MASC.SG house.ACC and
Marija ~~kupila~~ mašinu.
Maria.FEM.NOM.SG bought.FEM.SG car.ACC
'Peter bought a house and Maria ~~bought~~ a car.'

d. *Piter kupila dom, a Marija
Peter.MASC.NOM.SG bought.FEM.SG house.ACC and Maria.FEM.NOM.SG
~~kupila~~ mašinu.
bought.FEM.SG car.ACC
'Peter bought a house and Maria ~~bought~~ a car.'

In (299), the predicative adjective *gord* 'to be proud' and the past form of the little verb *kupil* 'bought' must agree in Number and Gender with the subject of the antecedent clause. Agreement with the subject of the Gapping clause is not allowed, although the little verb and the predicative adjective possess a separate set of uninterpretable phi-features for each subject:

(300)



Preposition sharing

One of the well-established facts in the literature on Gapping is that prepositions cannot be shared:

(301) a. Russian

*Piter sidit na stule, a Jan ~~sidit~~ ~~na~~ divane.
Peter.NOM sits on chair.LOC and Jan.NOM sits on couch.LOC
'Peter sits on the chair and Jan ~~sits~~ ~~on~~ the couch.'

b. English

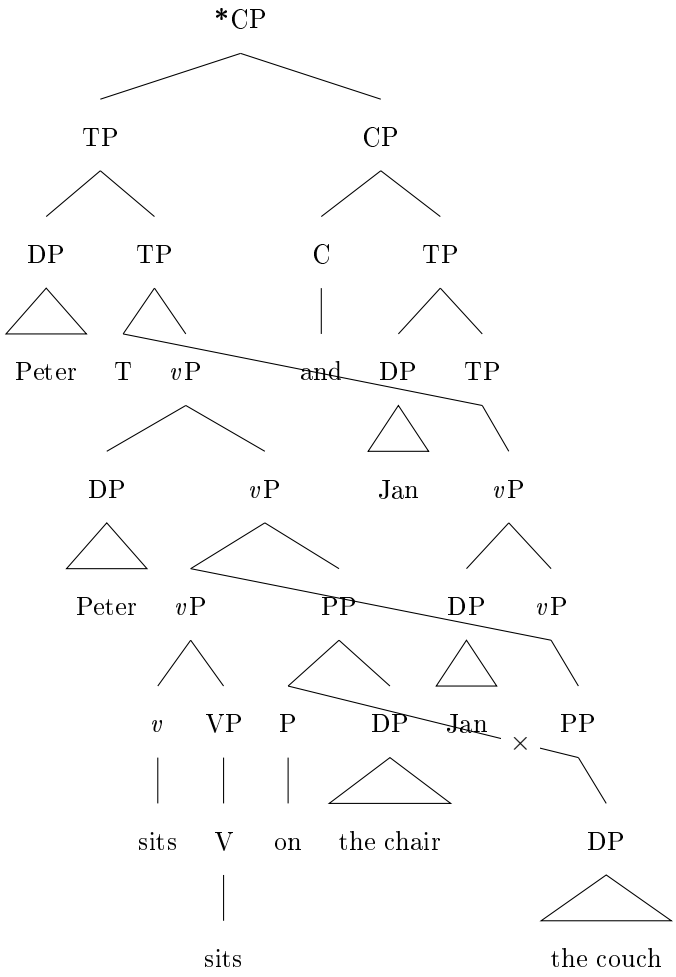
*Peter sits on the chair and Jan ~~sits~~ ~~on~~ the couch.

c. Dutch

*Peter zit op de stoel, en Jan ~~zit~~ ~~op~~ de bank.
Peter sits on the chair and Jan sits on the couch

'Peter sits on the chair and Jan ~~sits~~ ~~on~~ the couch.'

(302)



The impossibility of preposition sharing could be explained by the major constituents requirement formulated in Hankamer (1973). However, there is a counterexample to Hankamer's requirement:

(303) a. Dutch

Jan stond [2 meter achter mij] en Marie ~~stond~~ [$_{PP}$ 3 meter ~~achter~~ ~~mij~~]
Jan stood 2 meter behind me and Marie stood 3 meter behind me

'Jan stood 2 meters behind me and Marie ~~stood~~ 3 meters ~~behind me~~.'

(Corver and Van Koppen 2017: 8)

b. English Sam stood 2 meters behind me and Peter ~~stood~~ 3 meters ~~behind me~~.

c. Russian

Petja stojal v dvux metrax za mnoj, a Vasja
Peter.NOM stood in two meters.LOC behind me.GEN and Vasja.NOM
~~stojal~~ v trex metrax ~~za~~ ~~mnoj~~.
stood in three meters.LOC behind me.GEN

'Peter stood 2 meters behind me and Vasja ~~stood~~ 3 meters ~~behind me~~.'

In (303), the second remnant of Gapping '3 meters' is only a sub-part of the PP '3 meters behind me', which is a major constituent.

Although prepositions cannot be shared, postpositions seem to be the perfect target of sharing under Gapping:

(304) a. German

Martha geht die Treppe hinauf und Peter ~~geht~~ die Rampe ~~hinauf~~.
Martha goes the stairs up and Peter goes the slope up

'Martha goes the stairs up and Peter ~~goes~~ the slope ~~up~~.' (Hartmann 2000: 148)

b. Dutch

De hond rent achter Peter aan en de kat ~~rent~~ achter Jan ~~aan~~.
the dog runs after Peter towards and the cat runs after Jan towards

'The dog runs after Peter towards and the cat ~~runs~~ after Jan ~~towards~~.'

c. Dutch

De hond loopt op Peter af en de kat ~~loopt~~ op Jan ~~af~~.
the dog runs after Peter towards and the cat runs after Jan towards

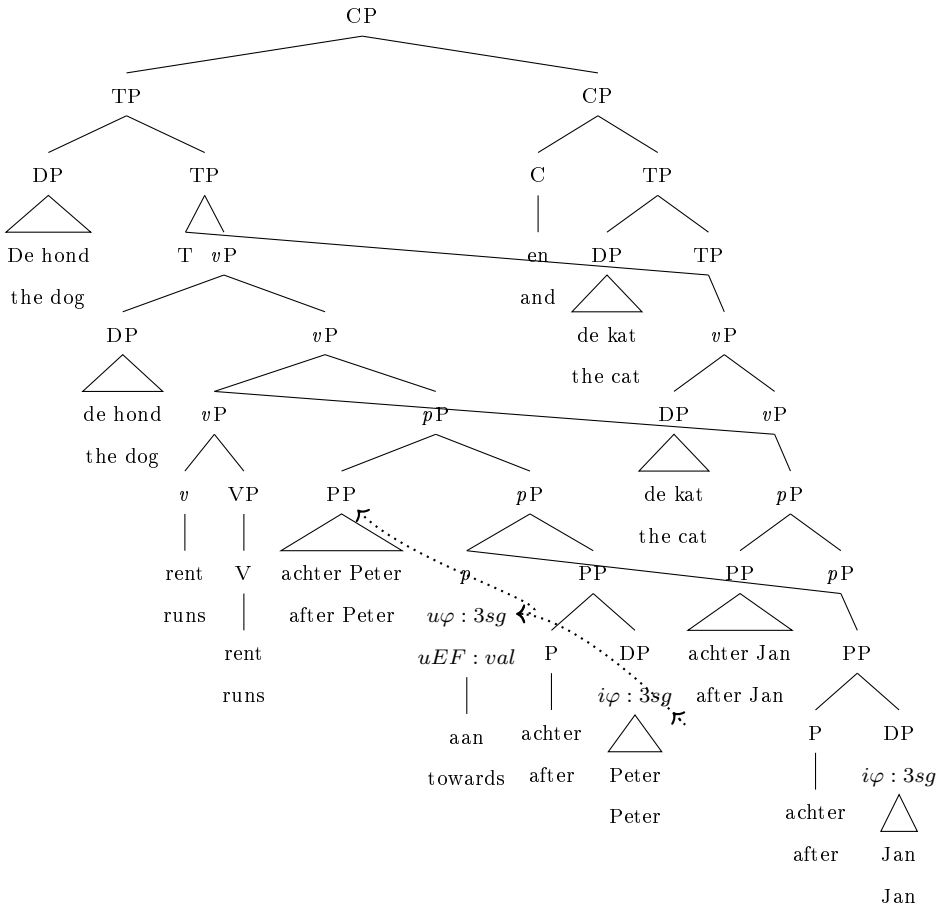
'The dog runs after Peter towards and the cat ~~runs~~ after Jan ~~towards~~.'

The evidence provided in (304) remains unaccounted for if we assume that postpositions mentioned above and regular prepositions fall into the same category. Thus, I argue that the postpositions in (304) are actually little prepositions (recall the Split-P hypothesis discussed in Svenonius 2007). In the section on uninterpretable features, I proposed that light *p*s are phase heads. Like *v*-heads, *p*-heads assign case to nouns c-commanded by little *p*s. Although Dutch does not display any case morphology, one could assume that the postpositions in (304) assign locative to the DP *Jan*. As a side effect of case assignment, *p*-heads possess $u\varphi$ to phi-agree with c-commanded DPs. Prepositional agreement is visible in languages like Irish:

(305) *Bhí mé ag caint leofa inné.*
was I PROG talk **with.**3PL yesterday
'I was talking to them yesterday.' (Brennan 2008: 106)

Lastly, postpositions have the edge feature (uEF:) that causes the movement of the PP to [Spec, *p*P]. Given these assumptions, the Dutch sentence in (304) will have the following syntactic representation:

(306)



In (306), the uninterpretable phi-features of the *p aan* 'towards' are valued by the DP *Peter*, while the edge feature of the *p aan* 'towards' is valued by the PP *achter Peter* 'after Peter'.

Conclusion

In this section, I have established a correlation between uninterpretable features and head sharing: only heads with uninterpretable features can be shared. For instance, a C-head cannot be shared if it transfers its $u\varphi$ to a T-head and does not have other uninterpretable features. A C-head, however, can be shared under sluicing, as

it has a uWh feature, which licenses sluicing. T-heads can be shared, since they possess $u\varphi$, which inherit from C-heads and uninterpretable edge features. V-heads can be shared, as they have $u\varphi$ and uEF, which results in phi-agreement with subjects. Moreover, v-heads have uninterpretable edge features, which are valued when a subject is merged in [Spec, vP]. Determiners transfer their uninterpretable case features to N-heads, but they retain their $u\varphi$. Thus, determiner sharing is possible (see McCawley 1993, Ackema and Szendröi 2002, and Citko 2006). N-heads can be shared, since they inherit uninterpretable case features from determiners. Adj-heads projecting adjuncts of NPs do not have any uninterpretable features: phi-agreement between adjectives and nominal heads is a post-syntactic phenomenon. Thus, Adj-heads projecting adjuncts of NPs cannot be shared. However, Adj-heads used in predicative positions can be shared: to become predicative, an adjective must move to a v-head, where it acquires $u\varphi$ and becomes available for sharing. Finally, prepositions do not have any uninterpretable features, so they cannot be shared. In other words, P-heads cannot be affected by Gapping (see Hankamer 1973). Postpositions (little ps), by contrast, can be shared, since they host $u\varphi$ features, which are a side effect of case assignment to DPs. Prepositional agreement is visible in languages like Irish. Moreover, postpositions have uninterpretable edge features, which requires PPs to move to [Spec,pP]. This movement can be found in West Flemish (see Aelbrecht and Den Dikken 2011). The sharing properties of heads are summarized in the table below:

(307)

Heads	Uninterpretable features	Sharing
C	-	-
T	$u\varphi$; uEF	+
V	$u\varphi$; uEF	+
v	$u\varphi$; uEF	+
D	$u\varphi$	+
N	$uCase$	+
Adj (in non-predicative positions)	-	-
Adj (in predicative positions)	$u\varphi$; uEF	+
P	-	-
p	$u\varphi$; uEF	+

I conclude the section by repeating the Head Sharing Hypothesis:

(308) Head Sharing Hypothesis

i. In a given derivation, only heads that possess uninterpretable features can be shared.

ii. All other heads cannot be shared.

4.4.2 Phrase sharing

As will be demonstrated in this section, the main restriction imposed on phrase sharing is as follows: if a head can be shared, a phrase projected by it can also be shared.

(309) Phrase sharing hypothesis

Only if a head can be shared, a phrase projected by it can also be shared.

AdvP sharing

Sharing of AdvP is the main problematic issue for the phrase sharing hypothesis. Recall that I do not consider Adv-sharing in the section on head sharing, since adverbs

do not have argument structure. Consequently, we cannot truly distinguish between Adv-sharing and AdvP sharing. Nevertheless, adverbial phrases can be shared. Although I do not have a solution to this issue, I provide a possible rationale for AdvP sharing.

Before the discussion of AdvP sharing, we must determine whether AdvPs possess any uninterpretable features, which are the motivation for sharing. There are indeed languages that require adverbial phrases to agree in phi-features with the arguments of the verb. This phenomenon of adverbial agreement can be found, for instance, in Dagestanian languages, a large group of Caucasian languages. Consider the following example from Archi:

(310) *buwa* *dez* *dītaru* *χ̄oalli* *barʃi* *erdi*
mother.ii.SG 1.SG.DAT.II.SG early.ii:SG bread.iii bake.GER.III.SG AUX.II.SG
'Mother was baking me the bread early.'
(Kibrik 1979: 70)

In (310), the adverb *early* agrees in Class and Number with the agent *mother*. Thus, AdvPs modifying verbs possess uninterpretable phi-features. However, adverbs do not have argument structure and we cannot claim that Adv-heads can be shared on their own.

AdvPs can be shared, since they possess uninterpretable phi-features:

(311) a. Russian

Petja bystro s"el puding, a Vasja ~~bystro~~ ~~s"el~~
Peter.NOM quickly ate pudding.ACC and Vasja.NOM quickly ate
piccu.
pudding.ACC
'Peter quickly ate pudding and Sam ~~quickly ate~~ pizza.'

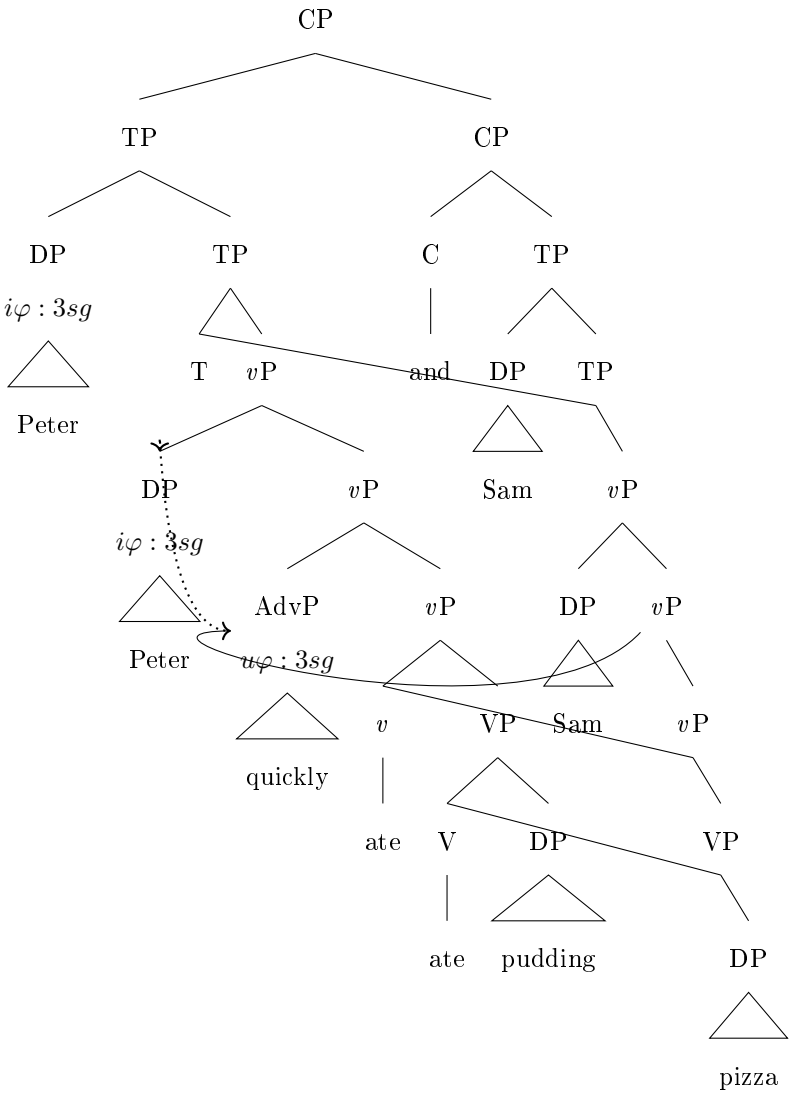
b. English

Peter quickly ate pudding and Sam ~~quickly ate~~ pizza.

c. Dutch

Peter at snel pudding, en Jan ~~at~~ ~~snel~~ pizza.
Peter ate quickly pudding and Jan ate quickly pizza
'Peter quickly ate pudding and Sam ~~quickly ate~~ pizza.'

(312)



In (312), the adverbial phrase *quickly* has uninterpretable phi-features that are valued by the Agent *Peter*. It is the presence of uninterpretable phi-features that allows AdvPs to be shared.

CP sharing

CPs cannot be shared, since C-heads transfer their uninterpretable phi-features to T-heads. This prediction is indeed borne out. Consider, for instance, the subordinating conjunction *when*:

(313) a. Russian

*Saša napisal stat'ju, kogda ego sestra igrala na
Alex.NOM wrote article.ACC when his sister.NOM played on
ulice, a Petja ~~napisal~~ roman, ~~kogda~~ ~~ego~~ ~~sestra~~
street.LOC and Peter.NOM wrote novel.ACC when his sister.NOM
~~igrala~~ ~~na~~ ~~ulice~~.
played on street.LOC

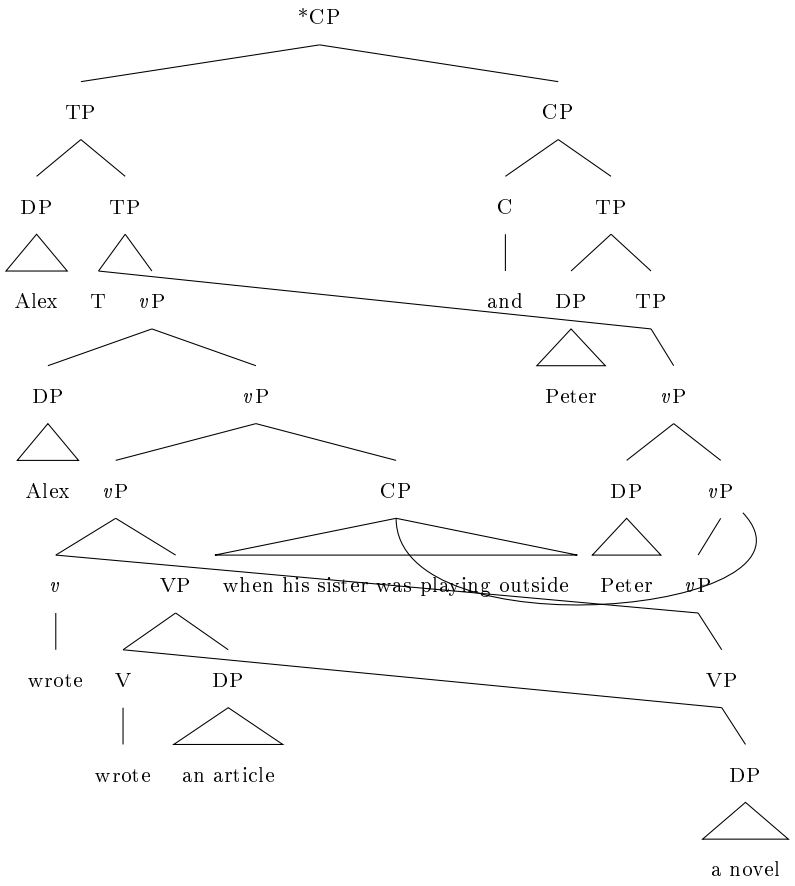
'Alex wrote an article when his sister was playing outside, and Peter ~~wrote~~ a novel ~~when his sister was playing outside~~.'

b. English

*Alex wrote an article when his sister was playing outside, and Peter ~~wrote~~ a novel ~~when his sister was playing outside~~.

In (313), the CP "when his sister was playing outside" cannot be shared between conjuncts, as the C "when" projecting the CP "when his sister was playing outside" is deprived of uninterpretable features. The only uninterpretable features of C, which are $u\varphi$, are transferred to T. Thus The ungrammatical English sentence in (313) will obtain the following syntactic representation:

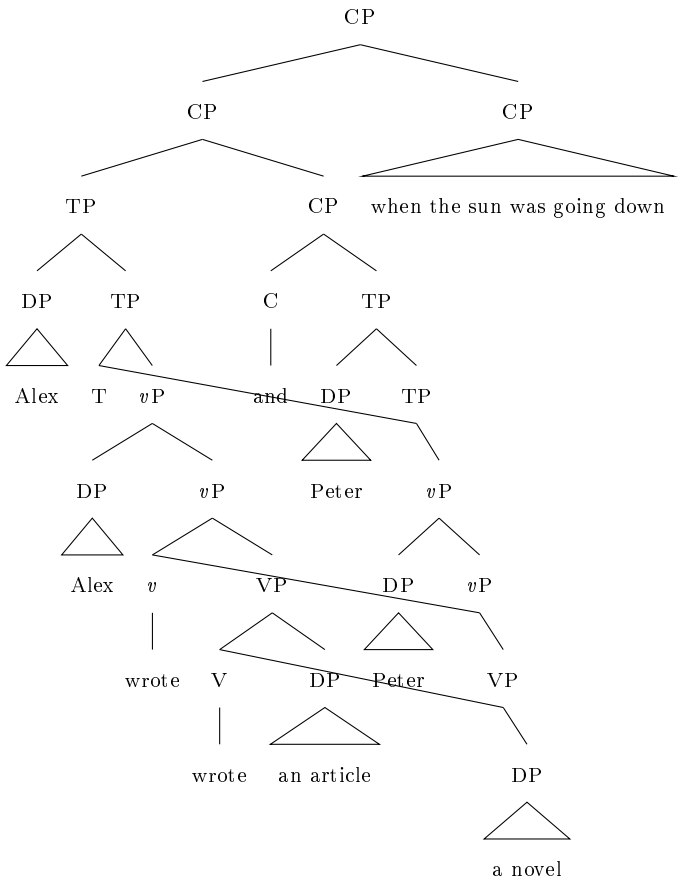
(314)



Note that bound pronominal determiners in (313) ensure that the CP is actually present in each conjunct. Otherwise, the adverbial CP could be interpreted as a single adjunct modifying coordinated clauses:

(315) a. Alex wrote an article, and Peter ~~wrote~~ a novel when the sun was going down.

b.



Although Right Node Raising is beyond the scope of this chapter, I would like to mention that Russian RNR is compatible with CP sharing:

(316) RNR in Russian

Petja napisal ~~knigu~~, ~~kogda ego sestra~~ ~~igrala~~ ~~na ulice~~,
Peter.NOM wrote book.ACC when his sister.NOM played on street.LOC
a Vasja pročital knigu, kogda ego sestra igrala na ulice.
and Vasja.NOM read book when his sister.NOM played on street.LOC

'Peter wrote ~~a book~~ ~~when his sister was playing outside~~, and Vasja read a book when his sister was playing outside.'

The interaction of CP sharing with RNR and other ellipsis phenomena is subject to further research.

TP sharing

TPs can be shared as T-heads are the hosts of uninterpretable phi-features. TP sharing results in sluicing:

(317) a. Russian

Ja videl Petju včera, no ja ne pomnju gde ~~ja~~
I.NOM saw Peter.ACC yesterday but I.NOM not remember where I.NOM
~~videl Petju včera~~.
saw Peter.ACC yesterday

'I saw Peter yesterday, but I do not remember where ~~I saw Peter yesterday~~.'

b. English

I saw Peter yesterday, but I do not remember where ~~I saw Peter yesterday~~.

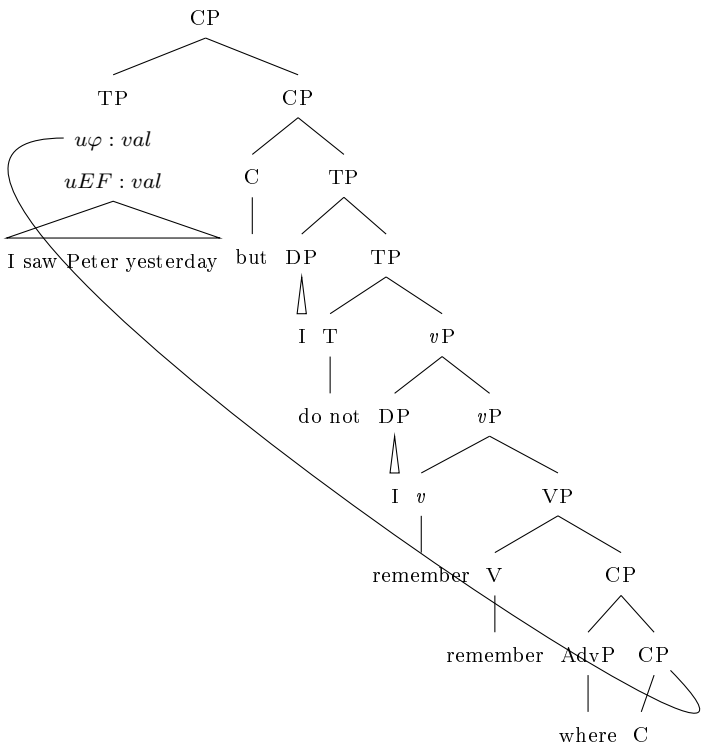
c. Dutch

Ik zag Peter gisteren, maar ik herinner niet waar ~~ik zag Peter~~
I saw Peter yesterday but I remember not where I saw Peter
~~gisteren~~.
yesterday

'I saw Peter yesterday, but I do not remember where ~~I saw Peter yesterday~~.'

Although the uninterpretable features of T-heads are valued within TPs, these uninterpretable features are still present as the features of the TP causing TP-sharing. In other words, valued uninterpretable features of a head X are inherited by a phrase XP projected by the head X, even though these valued uninterpretable features are syntactically inert. In (318), the TP "I saw Peter yesterday" inherits two valued uninterpretable features from its T-head. These uninterpretable features are $u\varphi : val$ and $uEF : val$:

(318)



DP-sharing

DPs can be shared because D-heads are the hosts of $u\varphi$, as is discussed in the section on head sharing:

(319) a. Russian

Petja poslal svoego brata v magazin, a Vasja
Peter.NOM sent his brother.ACC to shop.ACC and Vasja.NOM
~~poslal~~ ~~svoego~~ ~~brata~~ v kino.
sent his brother.ACC to cinema.ACC

'Peter sent his brother to the shop, and Alex ~~sent~~ ~~his~~ ~~brother~~ to the cinema.'

b. English

Peter sent his brother to the shop, and Alex ~~sent his brother~~ to the cinema.

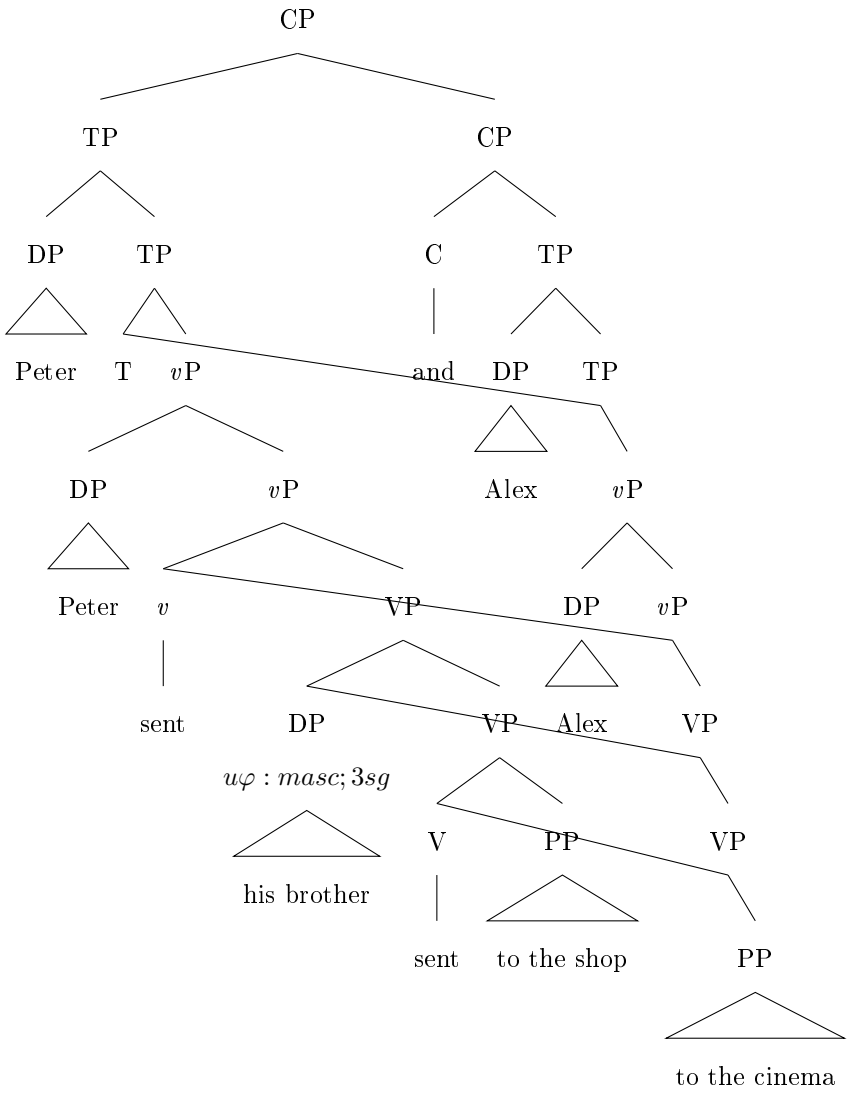
c. Dutch

Peter stuurde zijn broer naar de winkel, en Jan ~~stuurde~~ ~~zijn~~
Peter sent his brother to the store and Jan sent his

~~broer~~ naar de bioscoop.
brother to the cinema
'Peter sent his brother to the shop, and Alex ~~sent~~ ~~his~~ ~~brother~~ to the cinema.'

In (320), the DP "his brother" has valued uniterpretable phi-features, which the DP receives from its D-head "his". $u\varphi$: $masc; 3sg$ allow the DP "his brother" to be shared:

(320)



NP sharing

NPs can be shared because N-heads acquire the uninterpretable case feature from D-heads. NPs projected by these N-heads still have the uninterpretable case feature. NP sharing results in N'-ellipsis:

(321) a. Russian

Petja prodal éti starinnye knigi, a Saă ~~prodal~~
Peter.NOM sold these antique books.ACC and Alex.NOM sold
te ~~starinnye~~ ~~knigi~~.
those antique books.ACC

'Peter sold these antique books and Alex ~~sold~~ those ~~antique books~~.'

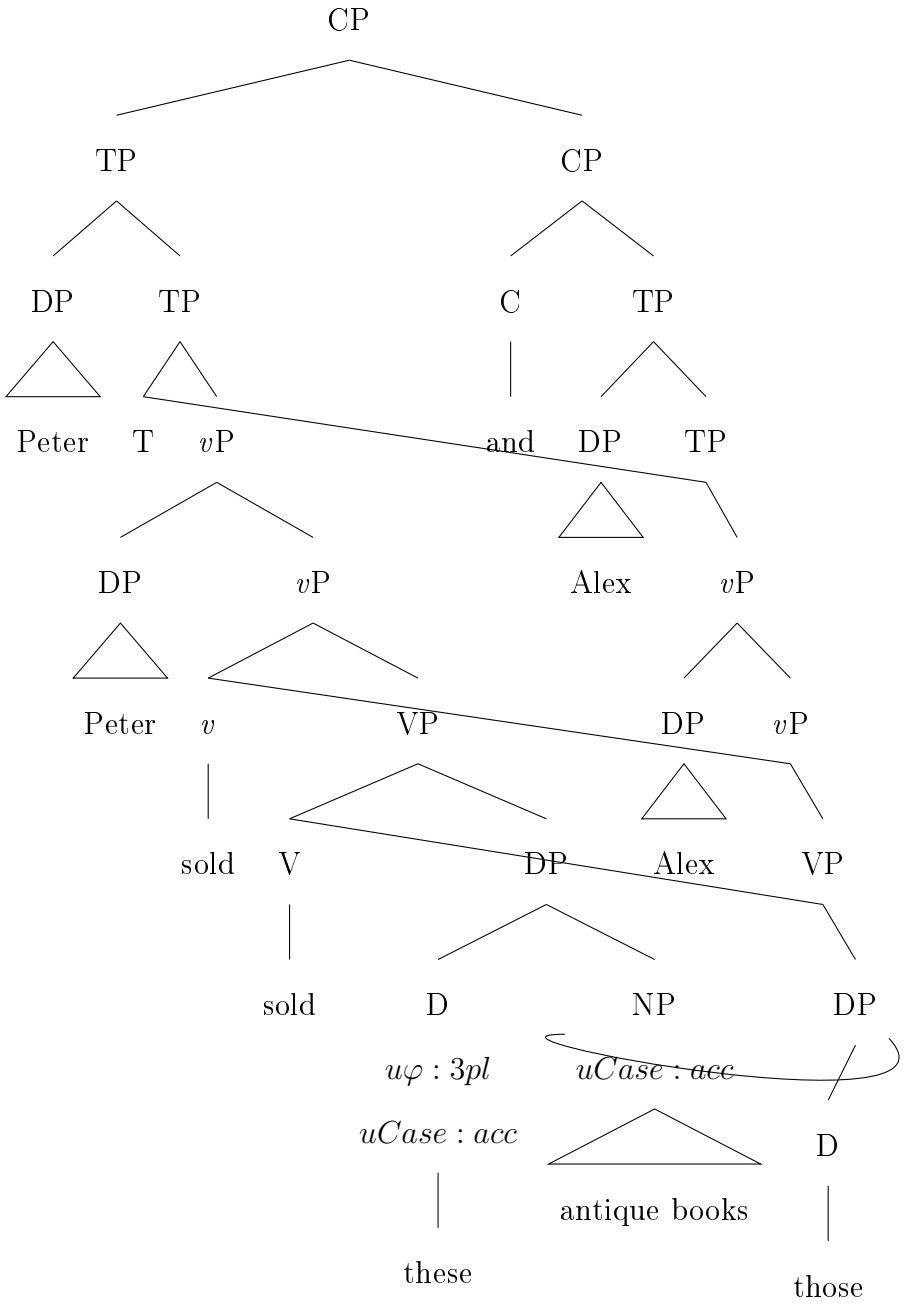
b. English Peter sold these antique books and Alex ~~sold~~ those ~~antique books~~.

c. Dutch

Peter heeft deze antieke boeken verkocht en Jan ~~heeft~~ die ~~antieke~~
Peter has these antique books sold and Jan has those antique
~~boeken~~ ~~verkocht~~.
books sold

'Peter sold these antique books and Alex ~~sold~~ those ~~antique books~~.'

(322)



AdjP sharing

AdjPs cannot be shared as Adj-head which are not used in predicative positions are deprived of uninterpretable features:

(323) a. Russian

*Petja napisal očen' strannye knigi, a Vasja ~~napisal~~
Peter.NOM wrote very strange book.ACC and Vasja.NOM wrote
~~očen'~~ ~~strannye~~ stat'i.
very strange articles.ACC

'Peter wrote very strange books, and Vasja ~~wrote very strange~~ articles.'

b. English

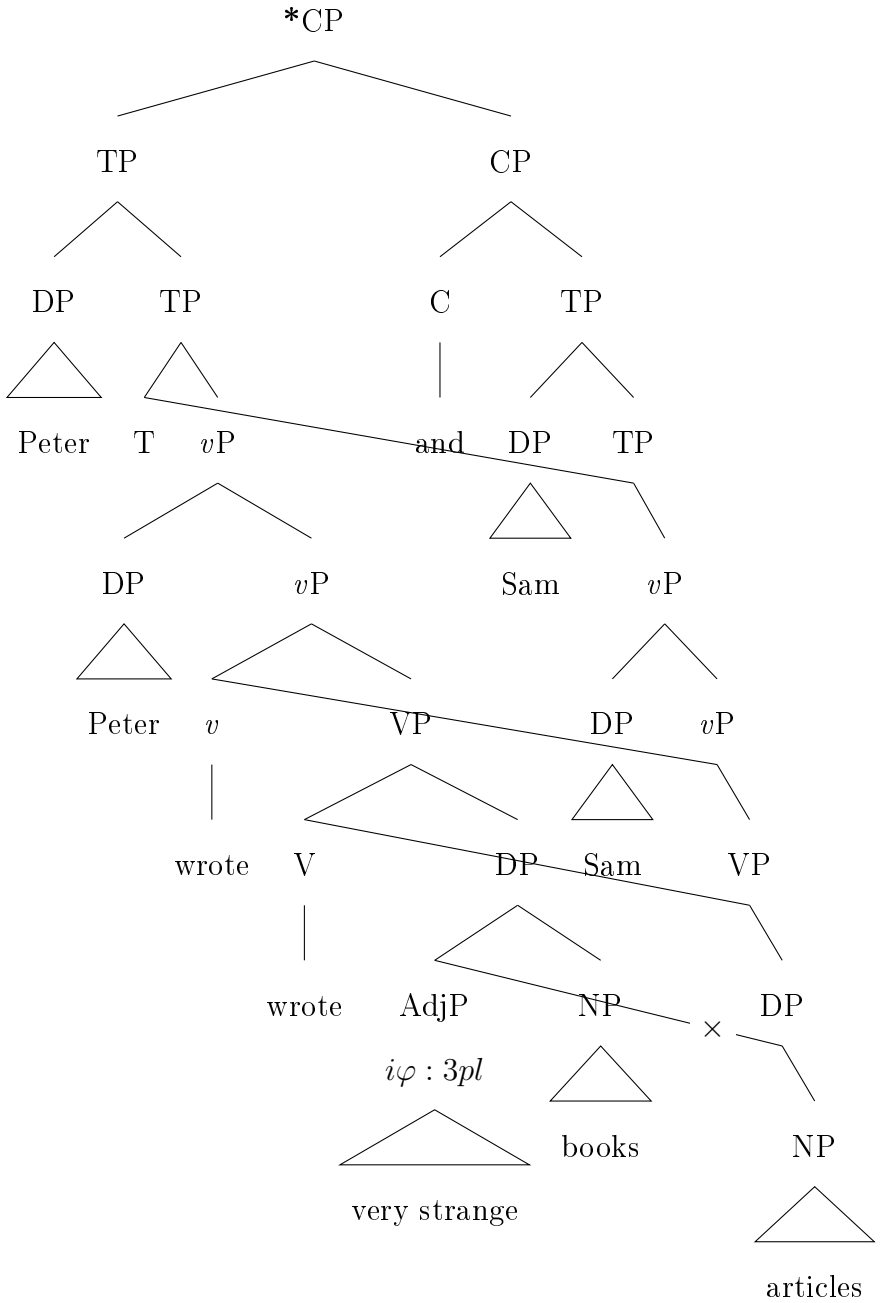
*Peter wrote very strange books, and Sam ~~wrote very strange~~ articles.

c. Dutch

*Peter schreef heel vreemde boeken, en Jan ~~schreef heel vreemde~~ artikelen.
Peter wrote very strange books and Jan wrote very strange articles.

'Peter wrote very strange books, and Jan ~~wrote very strange~~ articles.'

(324)



VP sharing

VPs can be shared as V-heads possess uninterpretable phi-features to agree with object DPs (see the section on head sharing):

(325) a. Russian

Petja ne možet est' ris, a Vasja možet ~~est'~~ ~~ris~~.
Peter.NOM not can eat rice.ACC and Vasja.NOM can eat rice.ACC

'Peter cannot eat rice, and Vasja can ~~eat rice~~.'

b. English

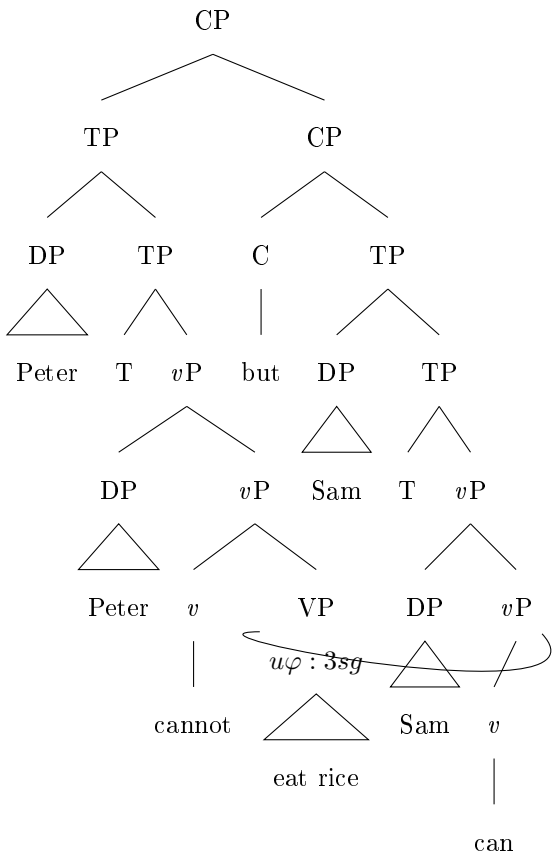
Peter cannot eat rice but Sam can ~~eat rice~~.

c. Dutch

Peter wil niet rijst eten, maar hij moet ~~rijst~~ ~~eten~~.
Peter wants not rice eat but he must rice eat

'Peter does not want to eat rice but he must ~~eat rice~~.'

(326)



In (326), the uninterpretable phi-features of the shared VP *eat rice* are received from the V-head, which phi-agrees with the object DP "rice".

*p*P sharing

*p*Ps can be shared because little prepositions are the hosts of uninterpretable phi-features. *p*Ps receive these uninterpretable features from *p*-heads.

(327) a. Russian

Petja položil svoj košelek na stol, a Saša ~~položil~~
Peter.NOM put his wallet.ACC on table.LOC and Alex.NOM put
svoj noutbuk ~~na stol~~.
his wallet.ACC on table.LOC

'Peter put his wallet on the table and Alex ~~put~~ his laptop ~~on the table~~.'

b. English

Jim put his wallet on the table and Sam ~~put~~ his laptop ~~on the table~~.

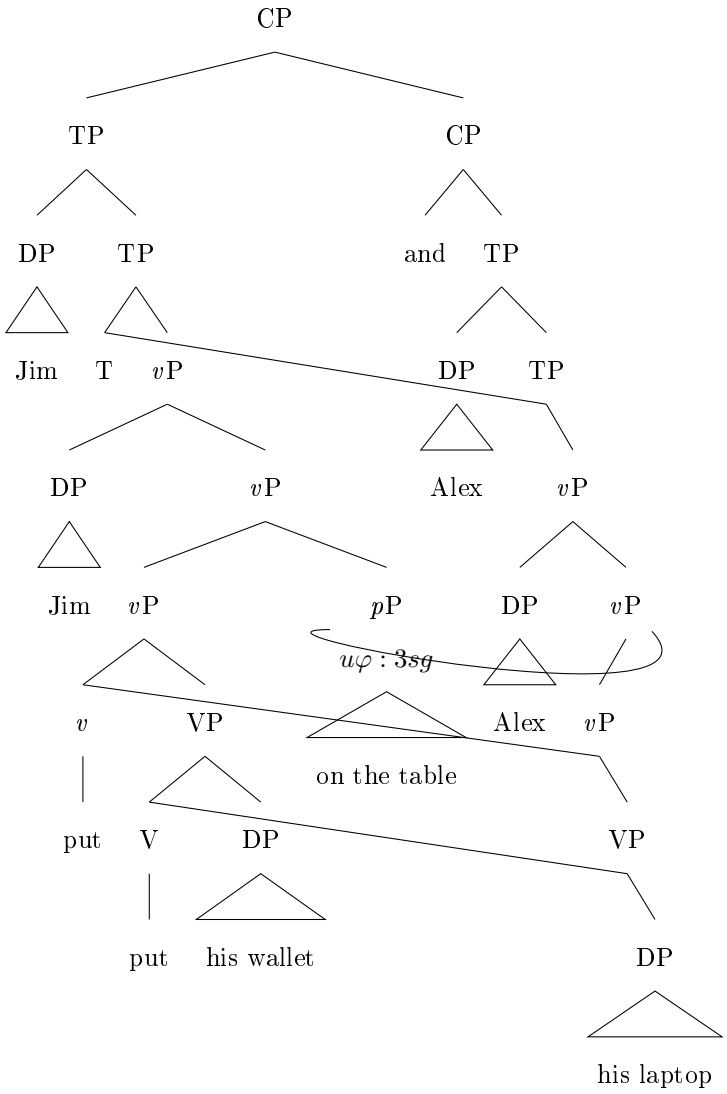
c. Dutch

Peter legde zijn portemonnee op de tafel en Jan ~~legde~~ zijn laptop ~~op~~
Peter put his wallet on the table and Jan put his laptop on
~~de tafel~~.
the table

'Jim put his wallet on the table and Jan ~~put~~ his laptop ~~on the table~~'

In (328), the uninterpretable phi-features of the little preposition are valued by the DP *the table*. Then $u\varphi : 3sg$ are inherited by the *p*P projected by the little preposition, which results in *p*P sharing:

(328)



4.5 Chapter summary

In this chapter, I have established a correlation between sharing and uninterpretable features:

(329) (329) Head Sharing Hypothesis

i. In a given derivation, only heads that possess uninterpretable features can be shared.

ii. All other heads cannot be shared.

Phrase sharing hypothesis

Only if a head can be shared, a phrase projected by it can also be shared.

I conclude the chapter with the following tables that show the correlation between uninterpretable features and sharing:

(330a).

Heads	**Uninterpretable features**	**Sharing**
C	-	-
T	$u\varphi$; uEF	+
V	$u\varphi$; uEF	+
v	$u\varphi$; uEF	+
D	$u\varphi$	+
N	$uCase$	+
Adj (in non-predicative positions)	-	-
Adj (in predicative positions)	$u\varphi$; uEF	+
P	-	-
p	$u\varphi$; uEF	+

(331)

Phrases	**Uninterpretable features**	**Sharing**
CP	-	-
TP	$u\varphi$; uEF	+
VP	$u\varphi$	+
DP	$u\varphi$	+
NP	$uCase$	+
AdjP (in non-predicative positions)	-	-
pP	$u\varphi$	+

In the final chapter, I will define the rule of Gapping using Parallel Merge.

Chapter 5

The mechanism of Gapping

5.1 Introduction

In this chapter, I discuss the rule of Gapping. I assume that Gapping is derived by linearization of structures with Parallel Merge. The licensors of Gapping are conjunctions that introduce contrast. Gapping licensors assign contrastive values to Topic and Focus features of Gapping remnants. I also argue that Gapping stems from high coordination of TPs and low coordination of vPs. The chapter concludes with a discussion of the benefits of the Parallel Merge approach to Gapping.

5.2 The semantics of Gapping licensors

In this section, I discuss the cases of *i* 'and' and *a* 'and', as they constitute the most prominent examples of interaction with Gapping. Out of these two conjunctions, only *a* 'and' can license Gapping:

(332) a. Maša prigotovila sup, a Lena ~~prigotovila~~ rostbif.
Mary cooked soup and Helen cooked roast.beef
'Mary cooked the soup and Helen cooked the roast beef'

b. *Maša prigotovila sup, i Lena ~~prigotovila~~ rostbif.
Mary cooked soup and Helen cooked roast.beef
'Mary cooked the soup and Helen cooked the roast beef'

The hypothesis that I propose in this thesis is that *a* 'and' possesses a contrast feature, which allows it to license Gapping. *i* 'and', by contrast, is deprived of the contrast feature and this prevents *i* 'and' from licensing Gapping. The contrast feature is obligatory for all Gapping licensors. However, we must develop a criterion which indicates the presence of the contrast feature, since *a* 'and' is not the only conjunction compatible with Gapping. A partial solution to this problem is formulated in Boone (2014). According to Boone, a non-hierarchical relation between conjuncts arises when both clauses have equal discourse status. A hierarchical relation, on the contrary, requires that one of the conjuncts be modified by the other:

(333) Illustration of hierarchical relations

a. John had dinner, before Mary came home. situating relation

b. If John already had dinner,Mary doesn't have to cook. conditional relation

c. Mary didn't cook, because John already had dinner. causal relation

(Boone 2014: 81)

If one attempts to analyse the semantics of *i* 'and' and *a* 'and', it can be worked out that they comply with Boone's hypothesis. Unfortunately, Boone does not provide any diagnostic tests one can use to show the semantic difference between *i* and *a*, so here we can only rely on intuitive semantic analysis. The correlative part of the semantics of *a* is definitely non-hierarchical, as it involves comparison of events with equal discourse status:

(334) Event 1 *a* Event 2 (non-hierarchical relation)

Maša prigotovila sup, a Lena prigotovila rostbif.
Mary cooked soup and Helen cooked roast.beef
'Mary cooked the soup and Helen cooked the roast beef'

The consequential part of *i* and *a* involving an expected or unexpected course of events is hierarchical, since the first conjunct is a cause and the second one is a consequence:

(335) a. Cause *i* Consequence (hierarchical relation)

Na ulice šel dožd', i my ostalis' doma.
on street went rain and we stayed home
'It was raining outside and we stayed home.'

b. Cause *a* Consequence (hierarchical relation)

Na ulice svetilo solnce, a my ostalis' doma.
on street was.shining sun and we stayed home
'It was sunny outside and we stayed home.'

The last bit of the meaning that requires an explanation is the listing function of *i* 'and'. The enumeration of events should not be considered as hierarchical because the semantic status of the conjuncts is equal. However, the conjunction *i* 'and' cannot license Gapping, even though it encodes a non-hierarchical relation of listing:

(336) *Maša prigotovila sup, i Lena ~~prigotovila~~ rostbif.
Mary cooked soup and Helen cooked roast.beef
'Mary cooked the soup and Helen cooked the roast beef.'

Boone assumes that Gapping can occur only in sentences with non-hierarchical relations and formulates the principle of Gapping licensing:

(337) **Non-hierarchical Licensing Condition on Gapping and Fragments (NLC)**:

Gapping and Fragments are licensed when antecedent and ellips are in a non-hierarchical relation in the discourse component.

(Boone 2014: 81)

Although Boone's hypothesis provides a tempting generalization for Gapping licensors, it fails to account for the discrepancy between *i* 'and' and *a* 'and'. In the next section I discuss a syntactic diagnostic tool that can determine whether a conjunction

is compatible with Gapping or not: the presence of a contrastive feature determines compatibility with Gapping.

A syntactic element can acquire the contrastive feature either through the course of derivation (derivational contrast) or as a part of its lexical entity (inherited contrast). Derivational contrast exists, for instance, between Gapping remnants and their antecedents. Inherited contrast can be found in certain conjunctions by means of the following empirical algorithm. If a given conjunction is able to head a clause with the positive polarity item *tože* 'also', this conjunction is compatible with Gapping. Consider, for instance, the following sentences, which have VP-ellipsis licensed by *tože* 'also':

(338) a. Vse my ljubim Mambu, i Sereža tože /ljubit
all we.NOM love Mamba.ACC and Sergei.NOM also loves
Mambu/$_{VP}$.
Mamba.ACC
'We all love Mamba, and Sergei also loves Mamba.'

b. *Vse my /ljubim Mambu/$_{VP}$, i Sereža tože /~~nenavidit~~
all we.NOM love Mamba.ACC and Sergei.NOM also hates
~~Mambu~~/$_{VP}$.
Mamba.ACC
'We all love Mamba, and Sergei also hates Mamba'

In (338b), the VP following *tože* 'also' does not coincide with the VP in the antecedent clause. Thus, the VP cannot be recovered from the context and (338b) is treated as ungrammatical. Furthermore, the meaning of *tože* 'also' encodes the concept of semantic identity between conjuncts. As Gapping emphasizes contrast between clauses, the semantics of semantic identity encoded by *tože* 'also' is not compatible with Gapping:

(339) a. Maša prigotovila sup, a Lena ~~prigotovila~~ rostbif.
Mary cooked soup and Helen cooked roast.beef
'Mary cooked the soup and Helen ~~cooked~~ the roast beef.'

b. *Maša prigotovila sup, a Lena tože ~~prigotovila~~ rostbif.
Mary cooked soup and Helen also cooked roast.beef

(340) **Rheme Repetition Deletion (henceforth referred to as RRD)**

$$< SUBJ_i \quad VP_l \quad [...] \quad CONJ \quad SUBJ_j \quad tože \quad \sout{VP_l} >,$$

where $SUBJ_i \neq SUBJ_J$, [...] stands for intervening phrases, which may or may not be present.

If a conjunction allows deletion of coinciding VP (i.e. rhemes) in conjoined clauses, then the clause which has the structure of (340) will be grammatical. If a conjunction prohibits such elimination, the clause of the above structure will be ungrammatical. Rheme repetition is indicated by the presence of the positive polarity item *tože* 'also'. Thus, this type of ellipsis may be treated as an instance of the polarity ellipsis, triggered by the presence of the polarity adverb *tože* 'also'. The semantics of this polarity item is crucial for the diagnostics, since it indicates that the whole VP following *tože* 'also' must be recoverable from the preceding context.

The last issue to be clarified here is the choice of deletion as a mechanism of the criterion. It is motivated by the reasoning that the repetition of identical lexical items can lower the acceptability rate, although not rendering the sentence ungrammatical. Hence, ellipsis is exploited here in order to avoid this undesired factor, as exemplified by the following sentences:

(341) a. *?* Vse my ljubim Mambu, i Sereža tože
all we.NOM love Mamba.ACC and Sergei.NOM also loves
/ljubit Mambu/$_{VP}$.
Mamba.ACC
'We all love Mamba, and Sergei also loves Mamba.'

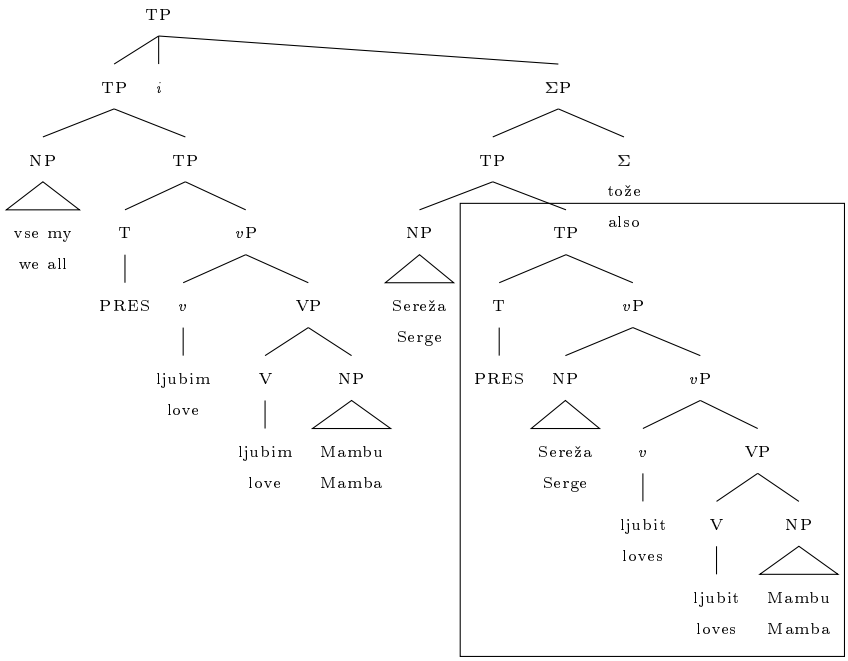
b. Vse my ljubim Mambu, i Sereža tože /~~ljubit~~
all we.NOM love Mamba.ACC and Sergei.NOM also loves
~~Mambu~~/$_{VP}$.
Mamba.ACC
'We all love Mamba, and Sergei also loves Mamba'

The application of RRD is illustrated below; the framed sub-tree is being deleted:

(342) a. Vse my ljubim Mambu, i Sereža tože /~~ljubit~~
all we.NOM love Mamba.ACC and Sergei.NOM also loves

~~Mambu~~/$_{VP}$.
Mamba.ACC
'We all love Mamba, and Sergei also ~~loves Mamba~~.'

b.



Russian has a number of simple conjunctions, from which are the major ones have been selected (according to the Russian Corpus Grammar (http://rusgram.ru)). It is then worthwhile testing them according to our criterion.

(343)

Major simple conjunctions

a 'and', *i* 'and', *zato* 'but', *no* 'but', *odnako* 'but', *ili* 'or', *libo* 'or', *ibo* 'because', *poskol'ku* 'since', *daby* 'so that', *čtob* 'so that', *čtoby* 'so that', *esli* 'if', *kaby* 'if', *koli* 'if', *raz* 'since', *xotja* 'although', *kogda* 'when', *poka* 'as long as', *budto* 'as though',*kak* 'as', *čto* 'that', *neželi* 'than',*slovno* 'as if', *čem* 'than'.

The conjunction *a* 'and' is not compatible with RRD:

(344) *Saša est sup, a Maša tože ~~est'~~ ~~sup~~.
Alex.NOM eats soup.ACC and Mary will eats soup.ACC
'Alex eats the soup, and Mary also ~~eats the soup~~.'

The conjunction *i* 'and', on the contrary, is compatible with RRD:

(345) Saša est sup, i Maša tože ~~est'~~ ~~sup~~.
Alex.NOM eats soup.ACC and Mary will eats soup.ACC
'Alex eats the soup, and Mary also ~~eats the soup~~.'

Once I have applied RRD, I can predict that only *a* 'and' can license Gapping. The prediction is borne out:

(346) a. Saša budet est' sup, a Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC and Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, and Mary ~~will eat~~ the roast beef.'

b. *Saša budet est' sup, i Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC and Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, and Mary ~~will eat~~ the roast beef.'

Overall, the application of RRD results in the following distribution:

(347) a. $< RRD^{+} >$ Conjunction is compatible with RRD.

i 'and', *xotja* 'although', *ibo* 'because', *poskol'ku* 'since', *daby* 'so that', *čtob* 'so that', *čtoby* 'so that', *esli* 'if', *kaby* 'if', *koli* 'if', *poka* 'as long as', *kogda* 'when'.

b. $< RRD^{-} >$ Conjunction is incompatible with RRD.

a 'and', *zato* 'but', *ili* 'or', *libo* 'or', *budto* 'as though',*kak* 'as', *neželi* 'than',*slovno* 'as if', *čem* 'than'.

As can be noticed in further examples, only conjunctions from the subclass $< RRD^{-} >$ license Gapping:

(348) a. Saša budet est' sup, a Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC and Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, and Mary ~~will eat~~ the roast beef.'

b. Saša budet est' sup, zato Maša ~~budet est'~~
Alex.NOM will eat.INF soup.ACC but Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, but Mary ~~will eat~~ the roast beef.'

c. Saša budet est' sup, ili Maša ~~budet est'~~
Alex.NOM will eat.INF soup.ACC or Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, or Mary ~~will eat~~ the roast beef.'

d. Saša budet est' sup, libo Maša ~~budet est'~~
Alex.NOM will eat.INF soup.ACC or Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, or Mary ~~will eat~~ the roast beef.'

e. Saša budet est' sup, budto Maša ~~budet est'~~
Alex.NOM will eat.INF soup.ACC as.though Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, as though Mary ~~eats~~ the roast beef.'

f. Saša budet est' sup, kak Maša ~~budet est'~~
Alex.NOM will eat.INF soup.ACC as Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup in the same manner as Mary ~~will eat~~ the roast beef.'

g. Saša budet est' sup bystree, neželi Maša ~~budet est'~~
Alex.NOM will eat.INF soup.ACC faster.ADV than Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup faster than Mary ~~will eat~~ the roast beef.'

h. Saša *budet est'* *sup,* *slovno Maša* ~~*budet est'*~~
Alex.NOM will eat.INF soup.ACC and Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup as if Mary ~~eats~~ the roast beef.'

i. Saša budet est' sup bystree, čem Maša ~~budet est'~~
Alex.NOM will eat.INF soup.ACC faster.ADV than Mary will eat.INF
rostbif.
roast.beef.ACC

'Alex will eat the soup faster than Mary ~~will eat~~ the roast beef.'

All other conjunctions fail to license Gapping:

(349) a. * Saša budet est' sup, i Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC and Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, and Mary ~~will eat~~ the roast beef.'

b. * Saša budet est' sup, xotja Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC although Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup although Mary ~~will eat~~ the roast beef.'

c. * Saša budet est' sup, no Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC but Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, but Mary ~~will eat~~ the roast beef.'

d. * Saša budet est' sup, ibo Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC because Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup because Mary ~~will eat~~ the roast beef.'

e. * Saša budet est' sup, poskol'ku Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC since Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup since Mary ~~will eat~~ the roast beef.'

f. * Saša budet est' sup, daby Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC so.that Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup so that Mary ~~will eat~~ the roast beef.'

g. * Saša budet est' sup, čtob Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC so.that Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup so that Mary ~~will eat~~ the roast beef.'

h. * Saša budet est' sup, čtoby Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC so.that Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup so that Mary ~~will eat~~ the roast beef.'

i. * Saša budet est' sup, esli Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC if Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup if Mary ~~eats~~ the roast beef.'

j. * Saša budet est' sup, kaby Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC if Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup if Mary ~~eats~~ the roast beef.'

k. * Saša budet est' sup, koli Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC if Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup if Mary ~~eats~~ the roast beef'

l. * Saša budet est' sup, kogda Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC when Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup when Mary ~~will eat~~ the roast beef'

m. *Saša budet est' sup, poka Maša ~~budet~~ ~~est'~~
Alex.NOM will eat.INF soup.ACC as.long.as Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, as long as Mary ~~eats~~ the roast beef'

Overall, I conclude that there is a correlation between the subclass $< RRD^{-} >$ and the grammaticality of Gapping:

(350)

Conjunction	RRD	Gapping
i 'and'	+	-
xotja 'although'	+	-
no 'but'	+	-
odnako 'but'	+	-
ibo 'because'	+	-
poskol'ku 'since'	+	-
raz 'since'	+	-
daby 'so that'	+	-
čtob 'so that'	+	-
čtoby 'so that'	+	-
čto 'that'	+	-
esli 'if'	+	-
kaby 'if'	+	-
koli 'if'	+	-
poka 'as long as'	+	-
kogda 'when'	+	-
a 'and'	-	+
zato 'but'	-	+
ili 'or'	-	+
libo 'or'	-	+
budto 'as though'	-	+
kak 'as'	-	+
neželi 'than'	-	+
slovno 'as if'	-	+
čem 'than'	-	+

Although the RRD is sufficient to distinguish between *i* 'and' and *a* 'and', the syntactic differences between these conjunctions are not limited to compatibility with ellipsis licensed by *tože* 'also'. For instance, *i* 'and' can coordinate all phrasal categories, while *a* 'and' is restricted to sentential coordination:

(351) a. **DP i DP**

Ja kupil jabloki i gruši.
I.NOM bought apples.ACC and pears.ACC

'I bought apples and pears.'

b. **AdjP i AdjP**

Ja kupil bol'šie i sladkie jabloki.
I.NOM bought big and sweet apples.ACC

'I bought big and sweet apples.'

c. **AdvP i AdvP**

Ja rabotal tjaželo i dolgo.
I.NOM worked hard and long

'I worked hard and long.'

d. **PP i PP**

Kroški ležali na stole i na krovati.
crumbs.NOM were.lying on table.LOC and on bed.LOC

'Crumbs were lying on the table and on the bed.'

e. **VP i VP**

On možet stroit' doma i razrušat' dvorcy.
he.NOM can build houses.ACC and destroy palaces.ACC

'He can build houses and destroy palaces.'

f. **TP i TP**

Saša budet est' sup, i Maša budet est'
Alex.NOM will eat.INF soup.ACC and Mary will eat.INF
rostbif.
roast.beef.ACC

'Alex will eat the soup, and Mary will eat the roast beef.'

g. **CP i CP**

Ja znaju, čto Saša budet est' sup, i čto Maša
I.NOM know that Alex.NOM will eat.INF soup.ACC and that Mary
budet est' rostbif.
will eat.INF roast.beef.ACC

'I know that Alex will eat the soup and that Mary will eat the roast beef.'

h. **CP i CP**

Ja znaju, čto privedet k sčast'ju, i čto
I.NOM know what.NOM will.lead to happiness.DAT and what.NOM
privedet k stradaniju.
will.lead to suffering.DAT

'I know what will lead to happiness and what will lead to suffering.'

Note that *i* 'and' in (351g) and (351h) can coordinate CPs with overt and non-overt Cs. *a* 'and', by contrast, is restricted to sentential coordination, coordinating only TPs and CPs with non-overt Cs:

(352) a. **DP a DP**

*Ja kupil jabloki a gruši.
I.NOM bought apples.ACC and pears.ACC

'I bought apples and pears.'

b. **AdjP a AdjP**

*Ja kupil bol'šie a sladkie jabloki.
I.NOM bought big and sweet apples.ACC
'I bought big and sweet apples.'

c. **AdvP a AdvP**

*Ja rabotal tjaželo a dolgo.
I.NOM worked hard and long
'I worked hard and long.'

d. **PP a PP**

*Kroški ležali na stole a na krovati.
crumbs.NOM were.lying on table.LOC and on bed.LOC
'Crumbs were lying on the table and on the bed.'

e. **VP i VP**

*On možet stroit' doma a razrušat' dvorcy.
he.NOM can build houses.ACC and destroy palaces.ACC
'He can build houses and destroy palaces.'

f. **TP a TP**

Saša budet est' sup, a Maša budet est'
Alex.NOM will eat.INF soup.ACC and Mary will eat.INF
rostbif.
roast.beef.ACC
'Alex will eat the soup, and Mary will eat the roast beef.'

g. **CP a CP**

*Ja znaju, čto Saša budet est' sup, a čto Maša
I.NOM know that Alex.NOM will eat.INF soup.ACC and that Mary
budet est' rostbif.
will eat.INF roast.beef.ACC
'I know that Alex will eat the soup and that Mary will eat the roast beef.'

h. **CP a CP**

Ja znaju, čto privedet k sčast'ju, a čto
I.NOM know what.NOM will.lead to happiness.DAT and what.NOM
privedet k stradaniju.
will.lead to suffering.DAT
'I know what will lead to happiness and what will lead to suffering.'

Given that *a* 'and' is incompatible with an overt C, one could hypothesise that *a*

'and' is a true C and *i* 'and' does not belong to the category of Cs. This hypothesis could explain why only *i* can be used to coordinate CPs with overt Cs. The reason is that *i* 'and' does not try to occupy the position of a C-head which is occupied by *čto* 'that'. *a*, by contrast, attempts to occupy the position of an overt C-head. This leads to a structural conflict which results in ungrammaticality. The validity of this hypothesis, however, is subject to further research.

So far, I have demonstrated that Gapping and RRD are in complementary distribution: if a conjunction is compatible with RRD, it is not compatible with Gapping. RRD is a diagnostic test used to determine whether a conjunction encodes a contrastive relation. However, I still need to show what a contrastive relation is. To get this piece of evidence, I adopt the concept of focus and contrast proposed by Mats Rooth. Rooth originally analyses focus in terms of alternative sets. Consider the clause of the form $\phi \sim k$, which "embeds a focused phrase and is indexed to a preceding contrasting clause" (Rooth 2016: 9). If one applies this pattern to Gapping, ϕ corresponds to a non-elliptical conjunct and k corresponds to a Gapping conjunct:

(353) [Sam drank vodka]$_{phi}$, and [Peter ~~drank~~ beer]$_{k}$.

Rooth proposes that "a phrase of the form $\phi \sim k$ is associated with the constraint that the antecedent k is an alternative to the semantic object contributed by ϕ" (Rooth 2016: 9). To put it differently, k must be a member of the focus alternative set $[[\phi]]^f$, which consists of all elements that do not have the property of being ϕ. The focus alternative set differs from the standard semantic value of ϕ, $[[\phi]]^o$, which consists of all elements that possess the property of being ϕ:

(354) Rooth's focus alternative principle

$\phi \sim k$ requires that the semantic element k is an element of $[[\phi]]^f$ that is distinct from $[[\phi]]^o$. (Rooth 2016: 10)

If (354) is applied to (353), we get the meaning that Peter's drinking of beer belongs to the set of drinking events that do not involve Sam and vodka. Although Rooth is right in assuming that the set denoted by the Gapping conjunct must be distinct from the

set denoted by the antecedent clause, I propose a more straightforward interpretation of alternative semantics. As is demonstrated in the previous chapters, the subject and object of the Gapping clause must not coincide with the subject and object of the antecedent clause. Consequently, the contrast in (353) should be semantically interpreted as follows:

(355) a. Contrast in Gapping

b. [Sam drank vodka $]_{phi}$, and [Peter ~~drank~~ beer $]_{k}$.

c. Contrastive Topic

{ x: x is Subject_{phi} } $\bigcap$ { y: y is Subject_{k} } $\equiv \emptyset$

{ x: x is Sam } $\bigcap$ { y: y is Peter } $\equiv \emptyset$; Sam $\in$ { x: x is Sam } and Peter $\in$ { y: y is Peter }.

d. Contrastive Focus

({ x: x has the property of φ $\}_{phi}$ $\bigcap$ { y: y has the property of k $\}_{k} \equiv \emptyset$) and ($\text{Subject}_{antecedent} \in$ { x: x has the property of φ $\}_{phi}$ and $\text{Subject}_{Gapping}$ $\in$ { y: y has the property of k $\}_{phi}$)

{ x: x drank vodka $\}_{phi}$ $\bigcap$ { y: y drank beer $\}_{k} \equiv \emptyset$; Sam $\in$ { x: x drank vodka $\}_{phi}$ and Peter $\in$ { y: y drank beer $\}_{k}$.

Notice that I slightly modify Rooth's definition of the alternative set. In (354), Rooth requires that the set **k** must be an element of the set of all sets which are distinct from the set ϕ ($[[\phi]]^{f}$). This set of sets is the alternative set. However, I assume that this requirement is unnecessary. Instead, I propose that the alternative set should be limited to the set denoted by **k** which does not intersect with the set denoted φ:

(356) An updated version of Rooth's focus alternative principle

$\phi \sim k$ requires that the intersection of the set denoted by **k** and the set denoted by ϕ is empty. The set denoted by **k** is called the alternative set.

I argue that alternative semantics is encoded in the conjunctions that license Gapping: the contrastive relation ∼ corresponds to conjunctions bearing an uninterpretable contrastive feature. Let us consider the semantics of the Russian conjunctions *i* 'and' and *a* 'and':

(357) a. Maša pila vodku, a Lena ~~pila~~ vino.
Mary.NOM drank vodka.ACC and Helen.NOM drank wine.ACC
'Mary drank vodka, and Helen ~~drank~~ wine.'

b. *Maša pila vodku, i Lena ~~pila~~ vino.
Mary.NOM drank vodka.ACC and Helen.NOM drank wine.ACC
'Mary drank vodka, and Helen ~~drank~~ wine.'

In (357), the conjunction *a* 'and' indicates that Mary belongs to the set of individuals drinking vodka, Helen belongs to the set of individuals drinking wine, and the intersection of these two sets is empty. Thus, *a* 'and' indicates contrast between conjuncts and bears uCTR:. The presence of uCTR: makes *a* 'and' compatible with Gapping. The conjunction *i* 'and', by contrast, is deprived of uCTR:. *i* 'and' cannot indicate contrast between conjuncts. Instead, *i* 'and' is usually used to enumerate events. In (357), *i* 'and' indicates that Mary's drinking of vodka and Helen's drinking of wine are two independent events. However, *i* 'and' cannot emphasize the contrast between these drinking events. This makes *i* 'and' incompatible with Gapping.

In this section I discussed the diagnostics of eligible Gapping licensors. In the next sections, I consider syntactic processes that these licensors validate. I propose that the conjunctions that are compatible with Gapping bear the uninterpretable contrastive feature [uCTR:], which is valued by topic and focus features of Gapping remnants. I will consider this hypothesis in the remainder of the chapter.

5.3 A multidominance approach to Gapping

In the present thesis, I argue that Gapping is a twofold phenomenon. The surface form of Gapping sentences is the result of Parallel Merge application. These constructions derived by Parallel Merge are linearized at PF. The exact formulation

of the linearization algorithm is beyond the scope of this thesis. However, I assume that linearization of Parallel Merge structures correlates with the direction of tree branching of a given language. The idea dates back to Ross (1970). Ross argues that right-branching languages (e.g. English, Russian, and Dutch) allow forward Gapping, while left-branching ones (e.g. Japanese) allow backward Gapping. It would also be important to determine whether this hypothesis could be extended to other ellipsis phenomena. If Ross' hypothesis is confirmed, it would constitute a directionality restriction on Parallel Merge. However, the validity of this hypothesis is subject to further typological research.

(358) **Linearization of Parallel Merge**

If an element a enters derivation via Parallel Merge, it inevitably creates contradicting linearization instructions of the form $a \prec x$; $x \prec a$, where x is an arbitrary element. In a right-branching language like English, Russian, and Dutch, only linearization instructions of the form $a \prec x$ are transferred to PF. In a left-branching language like Japanese, only linearization instructions of the form $x \prec a$ are transferred to PF.

To understand how the principle in (358) works, let us consider the following cases of Gapping:

(359) a. **English**

I ate fish, Bill ~~ate~~ rice, and Harry ~~ate~~ roast beef. (Ross 1970: 250)

b. **Japanese**

watakusi wa sakand o ~~tabe~~, Biru wa gohan o tabeta
I (prt) fish (prt) tabe, Bill (prt) rice (prt) ate

'I ate fish, and Bill ~~ate~~ rice' (Ross 1970: 251)

In (359), the verb "ate" is shared between conjuncts. Thus, the the verb "ate", for instance, simultaneously precedes and follows the DP "Bill", which results in

contradicting linearization instructions ate $\prec$ Bill and Bill $\prec$ ate. To resolve this linearization conflict and derive Gapping, English deletes Bill $\prec$ ate and generates Forward Gapping. Japanese, by contrast, deletes ate $\prec$ Bill and produces Backward Gapping.

The second aspect of Gapping, which I extensively discuss in this chapter, is feature composition of Gapping remnants. I argue that topic and focus features of Gapping remnants value an unterpretable contrastive feature of a conjunction with [uCTR:]. Furthermore, only conjunctions with uCTR can introduce Gapping clauses:

(360) **Gapping Licensing Principle**

a. The uninterpretable and unvalued contrastive feature of C, which is [uCTR:], is assigned a contrastive value by interpretable contrastive Topic and Focus, which are the features of remnants and antecedents of Gapping.

b. Only Cs with [uCTR:] can introduce clauses with Gapping.

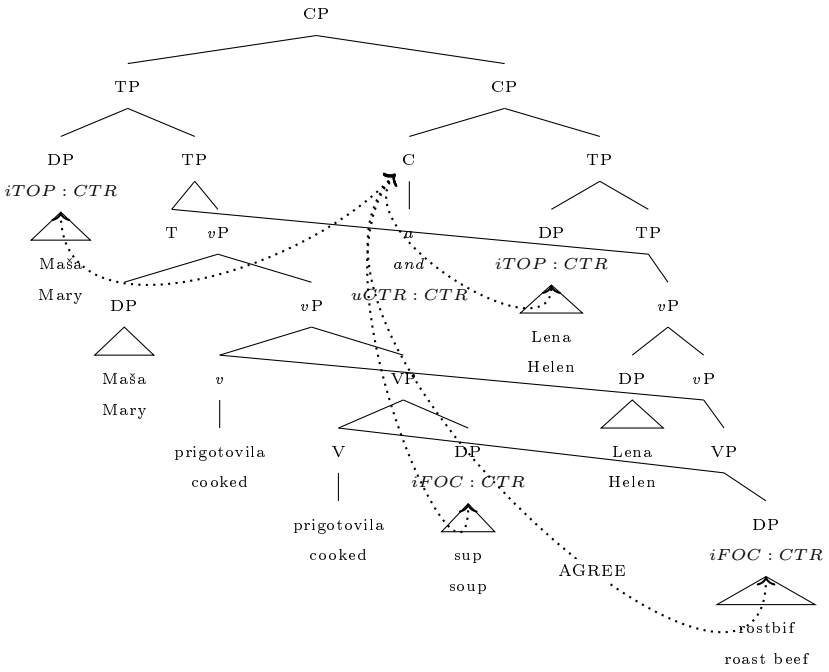
c. Antecedent clauses can be introduced only by Cs with [uCTR:].

The [uCTR]-feature is an obligatory feature of conjunctions which introduce Gapping clauses. The uCTR-feature is assigned a contrastive value by [iTop:CTR] and [iFoc:CTR]. Let us consider the work of this mechanism. In (361b), the conjunction *a* 'and' bears [iCTR:CTR], which is an interpretable contrastive feature with a contrastive value. The conjunction *a* 'and' bears [uCTR:], since it is incompatible with RRD constructions (see the section on Gapping licensors). Consequently, *a* 'and' is a probe. Furthermore, there are two Gapping remnants in (361b), which are the DP *Lena* 'Helen' and the DP *rostbif* 'roast beef'. The Gapping remnants are goals for the probe with [uCTR:] In principle, the DP *Maša* 'Mary' and the DP *sup* 'soup' could also be Gapping remnants if Gapping in English and Russian operated backwards. However, Gapping in English and Russian can only operate forwards in order to comply with the linearization principle in (360). Consequently, the DP *Lena* 'Helen' and

the DP *rostbif* 'roast beef' are the only possible remnants of Gapping in (361b). The DP *Lena* 'Helen' hosts [iTop:CTR] (an interpretable and valued feature of contrastive topic) and the DP *rostbif* 'roast beef' hosts [iFoc:CTR] (an interpretable and valued feature of contrastive focus). The Gapping antecedents, which are the DP *Maša* 'Mary' and the DP *sup*, also host [iTop:CTR] and [iFoc:CTR], since they are contrasted with the Gapping remnants. Once [iTop:CTR] and [iFoc:CTR], which belong to the remnants and antecedents of Gapping, assign a contrastive value to [uCTR:] via Multiple Agree (see Hiraiwa 2001), the derivation of the Gapping conjunct in (361b) converges:

(361) a. Maša prigotovila sup, a Lena ~~prigotovila~~
Mary.NOM cooked soup.ACC and Helen.NOM cooked
rostbif.
roast.beef.ACC
'Mary cooked soup and Helen ~~cooked~~ roast beef.'

b. [1]



As is demonstrated in the previous section, Gapping cannot be licensed if there is no

[1]Note that Russian verbs do not raise to T, which can be confirmed by adverbial placement. In (1), the verb *p'et* 'drinks' cannot raise to a T-head and precede the adverb *často* 'often', which modifies the *v*P *p'et pivo* 'drinks beer':

contrastive conjunction bearing the uCTR-feature:

(362) Gapping

*Maša prigotovila sup, xotja Lena ~~prigotovila~~
Mary.NOM cooked soup.ACC although Helen.NOM cooked
rostbif.
roast.beef.ACC

'Mary cooked soup although Helen ~~cooked~~ roast beef.'

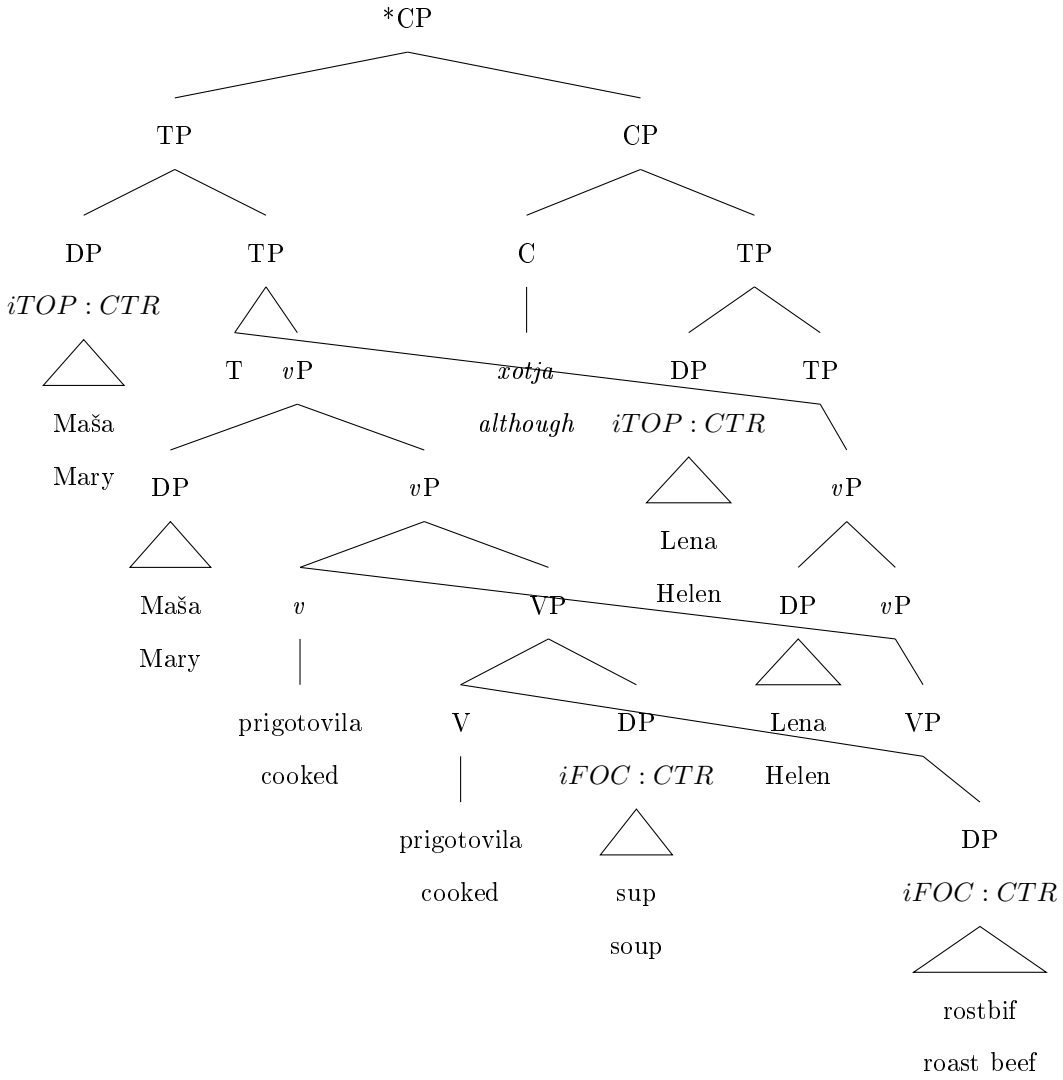
In (362), Gapping is incompatible with *xotja* 'although'. As there is no C-head with uCTR: that introduces the Gapping clause, the Gapping licensing principle is violated and the derivation crashes:

---

(1) a. Ja dumaju čto Ivan často p'et pivo.
I think that Ivan.NOM often drinks beer.ACC
'I think that Ivan often drinks beer.'

b. *?Ja dumaju čto Ivan p'et často pivo.*

(363)



In (363), the C-head *xotja* 'although' does not bear [uCTR:] (see the section on Gapping licensors), which can be assigned a contrastive value by the remnants and antecedents of Gapping. Consequently, the Gapping licensing principle is violated and the derivation in (363) crashes.

Having discussed the interaction of conjunctions with Gapping, I can account for the major distinctive trait of Gapping. The property is that Gapping cannnot occur in embedded clauses:

(364) Embedded Gapping

*Maša prigotovila sup, a ja znaju, čto Lena
Mary.NOM cooked soup.ACC and I.NOM know that Helen.NOM
~~prigotovila~~ rostbif.
cooked roast.beef.ACC

'Mary cooked soup and I know that Helen ~~cooked~~ roast beef.'

In (364), the Gapping clause is not introduced by a C with [uCTR:], since *čto* 'that' is compatible with the RRD:

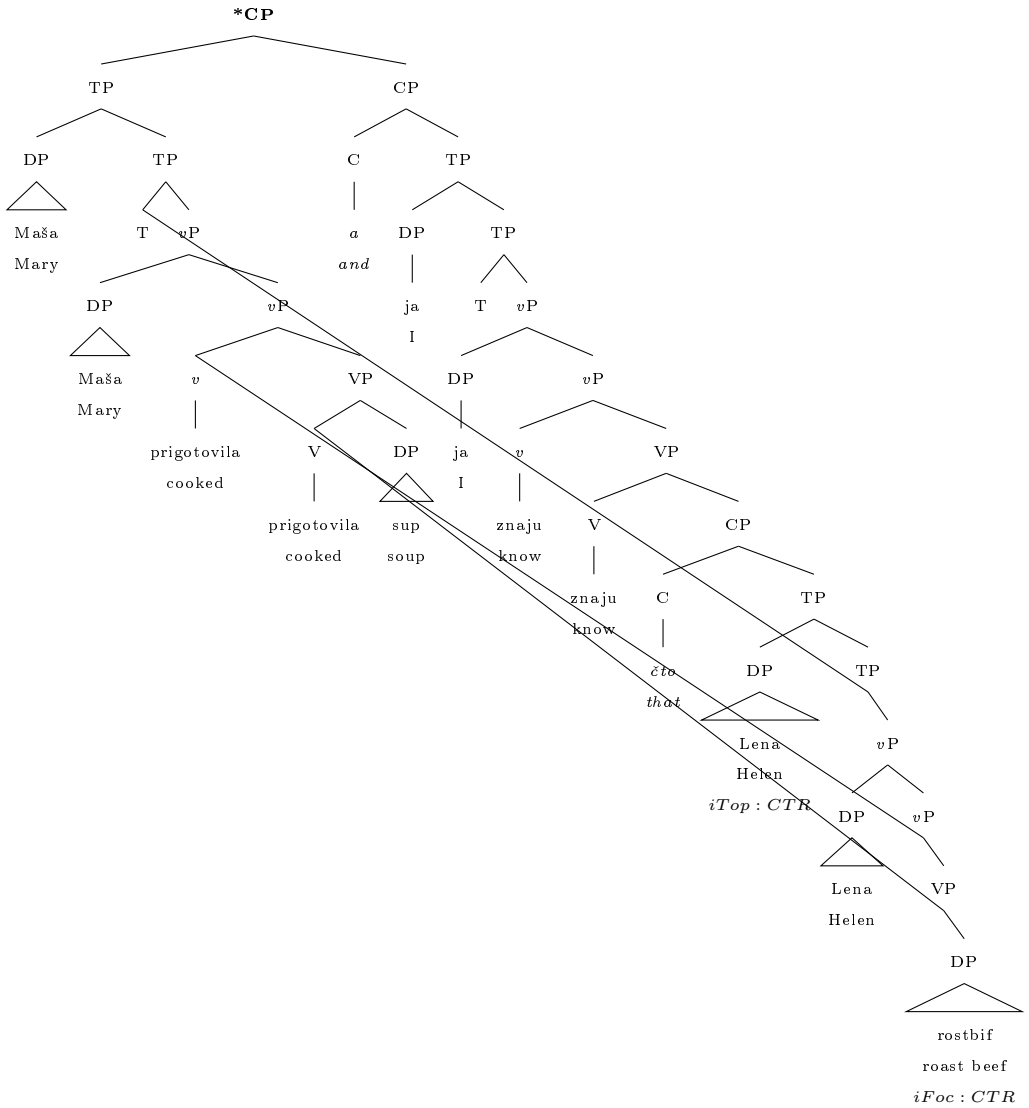
(365) ***čto* 'that' and RRD**

Maša	prigotovila	sup,	a	ja	znaju,	čto	Lena	tože
Mary.NOM	cooked	soup.ACC	and	I.NOM	know	that	Helen.NOM	also
~~prigotovila~~	~~sup~~.							
cooked	soup.ACC							

'Mary cooked soup and I know that Helen also ~~cooked soup~~.'

As *čto* 'that' does not host [uCTR:], the Gapping licensing principle is violated, leading to a derivational crash:

(366)



Furthermore, the Gapping licensing principle allows us to account for the impossibility of embedded antecedents:

(367) Embedded antecedents of Gapping

/*Ja znaju, čto Maša prigotovila sup/, a /Lena
I.NOM know that Mary.NOM cooked soup.ACC and Helen.NOM
~~prigotovila~~ rostbif/.
cooked roast.beef.ACC

'Mary cooked soup and I know that Helen ~~cooked~~ roast beef.'

In (367), the Gapping clause is beyond the scope of *čto* 'that'; only the antecedent clause is embedded. According to the Gapping licensing principle, an antecedent clause cannot be introduced by a C without [uCTR:]. Thus, (367) is ungrammatical, since *čto* 'that' does not bear [uCTR:].

Note that antecedent clause can be introduced by a C with [uCTR:]. Consider, for instance, the conjunction *ili* 'or', which is incompatible with RRD:

(368) *Maša prigotovila sup, ili Lena tože ~~prigotovila~~ ~~sup~~.
Mary.NOM cooked soup.ACC or Helen.NOM also cooked soup.ACC
'Mary cooked soup or Helen also ~~cooked soup~~.'

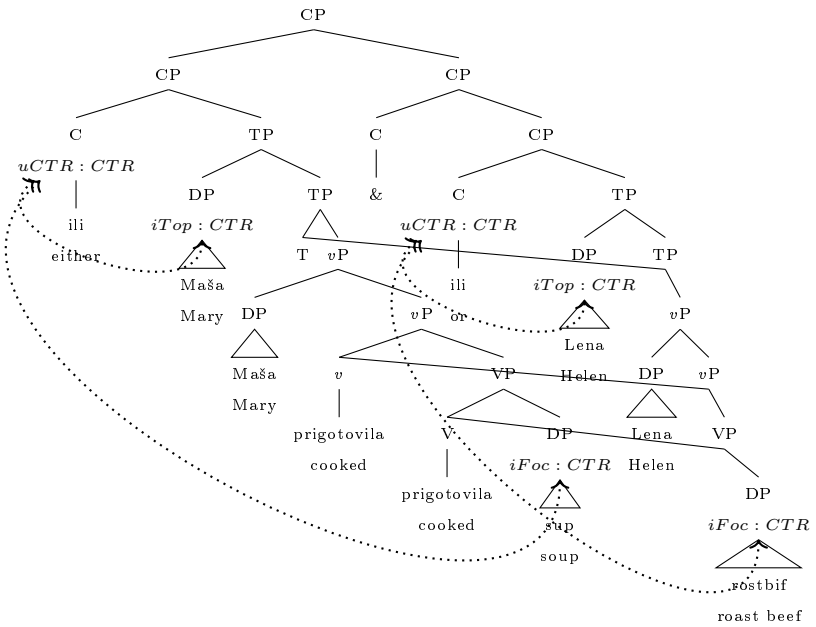
Since *ili* 'or' is incompatible with RRD, it bears [uCTR:] and licenses Gapping:

(369) Maša prigotovit sup, ili Lena ~~prigotovit~~ rostbif.
Mary.NOM cooks soup.ACC or Helen.NOM cooks roast.beef.ACC
'Mary will cook soup or Helen ~~will cook~~ roast beef.'

Ili 'or' can also be used as the initial coordinator *ili...ili* 'either...or' (see Chapter 3 for a discussion of other initial coordinators). As *ili...ili* 'either...or' is derived by doubling of *ili* 'or', which bears [uCTR:], each part of the initial coordinator *ili...ili* 'either...or' hosts [uCTR:]. Thus, *ili...ili* 'either...or' complies with the Gapping licensing principle and can introduce the antecedent clause:

(370) a. Ili Maša prigotovit sup, ili Lena ~~prigotovit~~
either Mary.NOM cooks soup.ACC or Helen.NOM cooks
rostbif.
roast.beef.ACC
'Either Mary will cook soup or Helen ~~will cook~~ roast beef.'

b.



In (370b), the first part of *ili...ili* 'either...or' is assigned a contrastive value by the Gapping antecedents, while the second part of *ili...ili* 'either...or' receives its contrastive value from the Gapping remnants.

In the chapter on the Gapping domain, I provided various arguments against the Gapping analysis which is exclusively based on low coordination. Thus, one could conclude that low coordination should not play any role in Gapping derivation. However, there are cases that can be elegantly explained if one adopts low coordination as a component of Gapping. The necessity of low coordination is corroborated by modal scope phenomena.

In (371), the negated modal *can't* must have a wide scope interpretation under the specified context, since James can order caviar when he does not have dinner with Jane. Consequently, it is not the case that James orders caviar and Mary orders sushi simultaneously:

(371) a. James can't order caviar and Mary chili.

b. Context: James and Mary are having dinner together at a restaurant that serves just caviar and chili. James is an extremely wealthy caviar lover and Mary is an extremely poor chili lover. James' sensitive conscience won't

permit him to order an expensive dish when Mary orders an inexpensive one. However, James generally has no problem with expensive menu choices and is inclined to prefer them.

c. Wide scope $\neg\Diamond(P \wedge Q)$: True

d. Distributive scope $\neg\Diamond P \wedge \neg\Diamond Q$: False

(Potter et al. 2017: 1127)

Low coordination allows us to account for the wide modal scope by placing the modal verb above the coordination of *v*Ps. Although (371) suggests that Gapping is low coordination, there are constructions that disallow wide scope interpretation:

(372) a. James can't order caviar or Mary chili.

b. Context: James and Mary are having dinner together at a restaurant that serves just caviar and chili. James is an extremely wealthy caviar lover and Mary is an extremely poor chili lover. James' sensitive conscience won't permit him to order an expensive dish when Mary orders an inexpensive one. However, James generally has no problem with expensive menu choices and is inclined to prefer them.

c. Wide scope $\neg\Diamond(P \vee Q)$: False

d. Distributive scope $\neg\Diamond P \vee \neg\Diamond Q$: True

(Potter et al. 2017: 1128)

In (372), the wide scope interpretation is unavailable, since it is possible for Mary to order chili, which render the negation of disjunction false. If one assumes that Gapping is pure low coordination, the wide scope interpretation is unexpected.

Furthermore, the following Russian cases demonstrate that both scope readings are available for one Gapping sentence:

(373) Petja ne možet est' ikru, a Saša čili.
Petja not can eat caviar and Saša chilli
'Petja cannot eat caviar and Saša chilli.'

a. $\neg\Diamond$ (P & V)

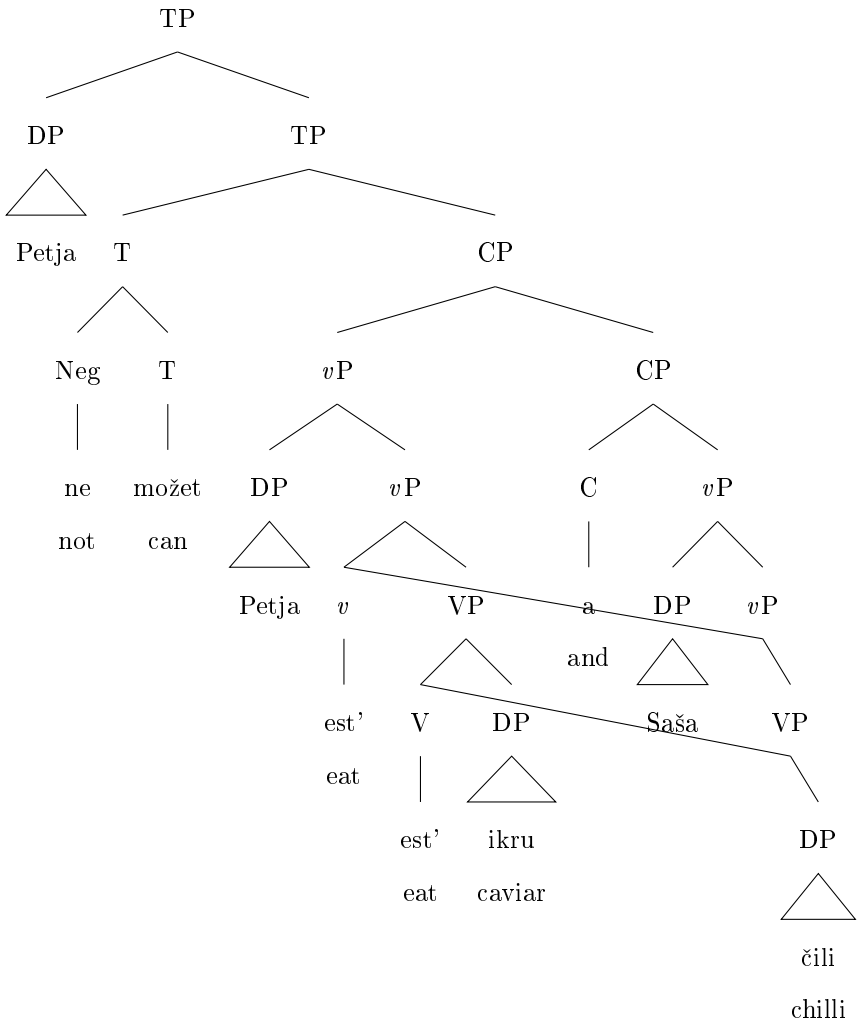
It is not possible for Petja to eat caviar and Saša to eat chilli.

b. (¬◇ P & ¬◇ V)

Petja and Saša have different food preferences. Petja cannot eat caviar and Saša cannot eat chilli.

In (373), the negated modal *ne možet* 'cannot' can have wide scope interpretation if it is not possible for Petja to eat caviar and Vanja to eat beans. Moreover, narrow scope interpretation of (373) is also available, since (373) can be a statement about two independent food preferences. To account for modal scope interpretations, I propose that Gapping stems from two sources, which are low coordination of *v*Ps and high coordination of TPs. Low coordination derives wide scope by placing the modal operator above coordination:

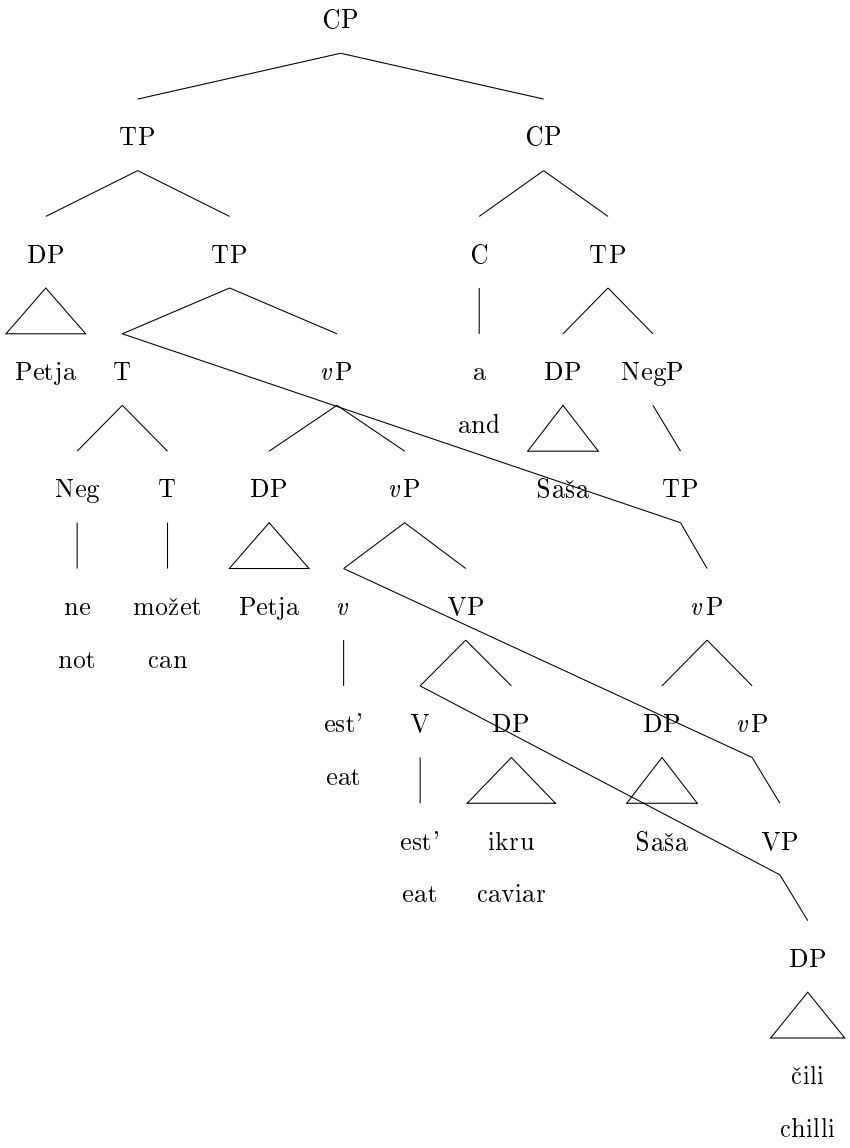
(374) Gapping in *v*P-coordination



High coordination derives distributive scope, as there are two independent TPs and

each of these TPs has a modal verb and a negation head. The fact that the negated modal operator is shared does not affect the distributive interpretation. The negated modal operator is still present in each TP: a T-head is required to project a TP. Thus, the modal verb and the negation head are distributed between TP-conjuncts, which gives rise to distributive interpretation:

(375) Gapping in TP-coordination



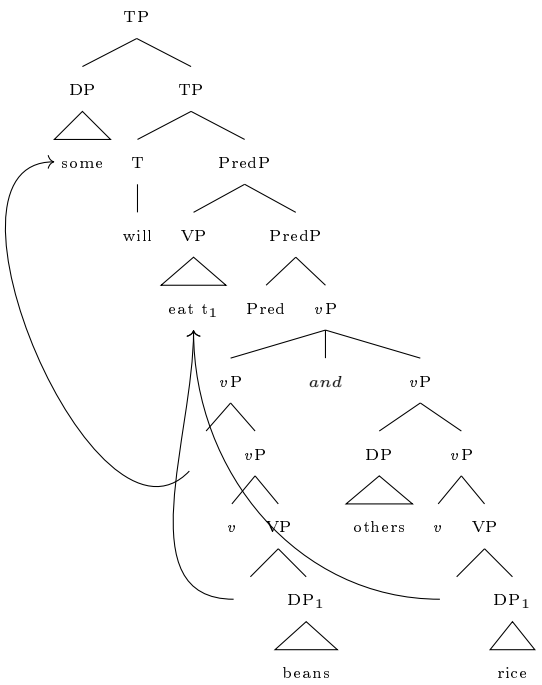
To conclude this section, I explain the necessity of low coordination from a minimalist viewpoint. Low coordination is a preferred option as it requires fewer application of Parallel Merge, as all heads and phrases located above *v*P coordination do not need to be shared (see (374)). Under high coordination, there are two independent TPs, which leads to more applications of Parallel Merge (see (375)).

Despite its advantages, the Parallel Merge approach to Gapping has a significant drawback. It does not predict that the highest verb in a conjunction must be parallel merged. This requirement should not be a general property of Parallel Merge, as other ellipsis phenomena, which do not require sharing of the highest verb, can also be analysed as Parallel Merge. Consider, for instance, Right Node Raising, which does not require the highest verb to be shared. However, Right Node Raising can be successfully treated as an instance of Parallel Merge (see Citko 2017 for a Parallel Merge approach to RNR). Therefore, sharing of the highest verb in a coordination is an challenge to the Parallel Merge approach to Gapping. I will aim to solve this problem in future research.

In the remainder of the chapter, I discuss additional virtues of my approach. As I demonstrated in the chapter on low coordination, the main problem of low coordination is its incompatibility with the Copy theory of Movement. Under Johnson's original account, traces must be used to make ATB-extraction possible:

(376) Some will eat beans and others rice. (Johnson 2009: 305)

(377)

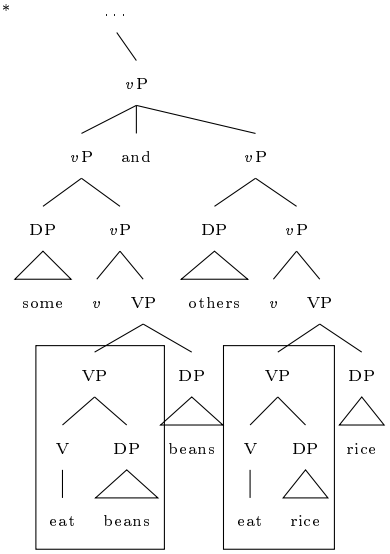


(Johnson 2009: 307)

However, once the Copy theory of Movement is applied, indexed traces are replaced with the respective copies of the moved elements. The highlighted VPs are no longer

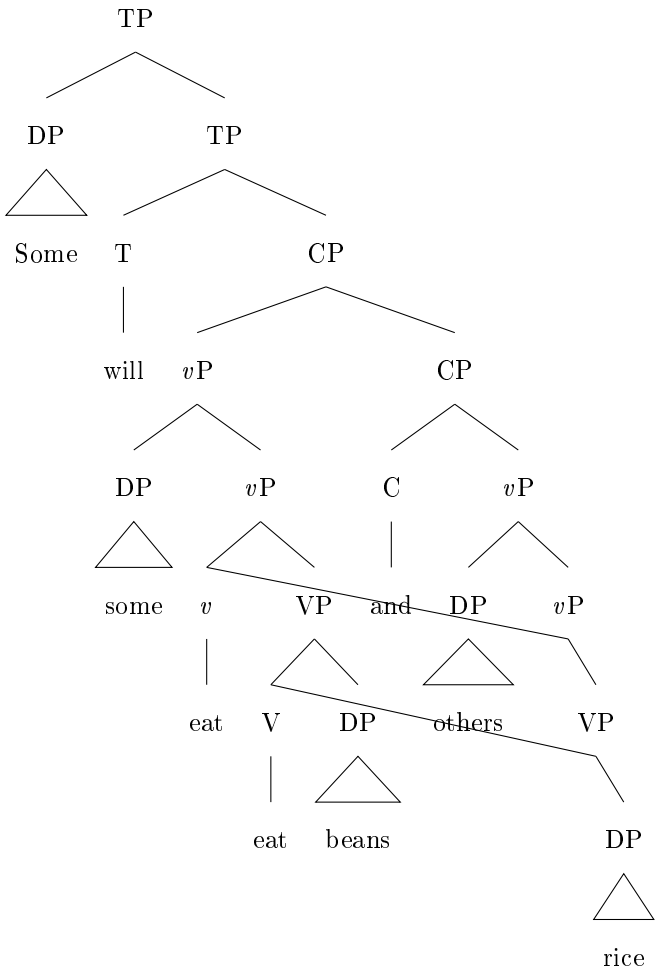
identical and cannot be ATB-moved to [Spec, PredP]. Consequently, an adequate copy of the VPs cannot be formed, which results in a derivational crash:

(378) *



Parallel Merge avoids this problem, as ATB-movement is not used in the derivation of Gapping. The problem of ATB-movement is that it can be applied only to identical elements (see Kasai 2004). Thus the low coordination approach in (377) must extract the DPs from the coordinated *v*Ps and replace them with identical indexed traces: otherwise, the *v*Ps are not identical and unavailable for ATB-movement. Contrary to ATB-movement, Parallel Merge does not need to apply to the whole *v*P. Instead, Parallel Merge just shares reoccurring parts of the *v*P:

(379)



Assuming that voice is a feature of a light verb, I can account for impossibility of voice mismatches under Gapping. Since the v-head with the voice feature is shared between conjuncts, no voice mismatches can take place. As v-sharing requires that there is only one occurrence of a v-head bearing Voice, a single voice feature cannot simultaneously be active and passive:

(380) a. **Active Antecedent Clause,**

Active Gapping Clause

John built the house, and Pam ~~built~~ the garage.

b. **Passive Antecedent Clause,**

Passive Gapping Clause

The house was built by John, and the garage ~~was built~~ by Pam.

c. **Passive Antecedent Clause,**

Active Gapping Clause

*The house was built by John, and Pam ~~built~~ the garage.

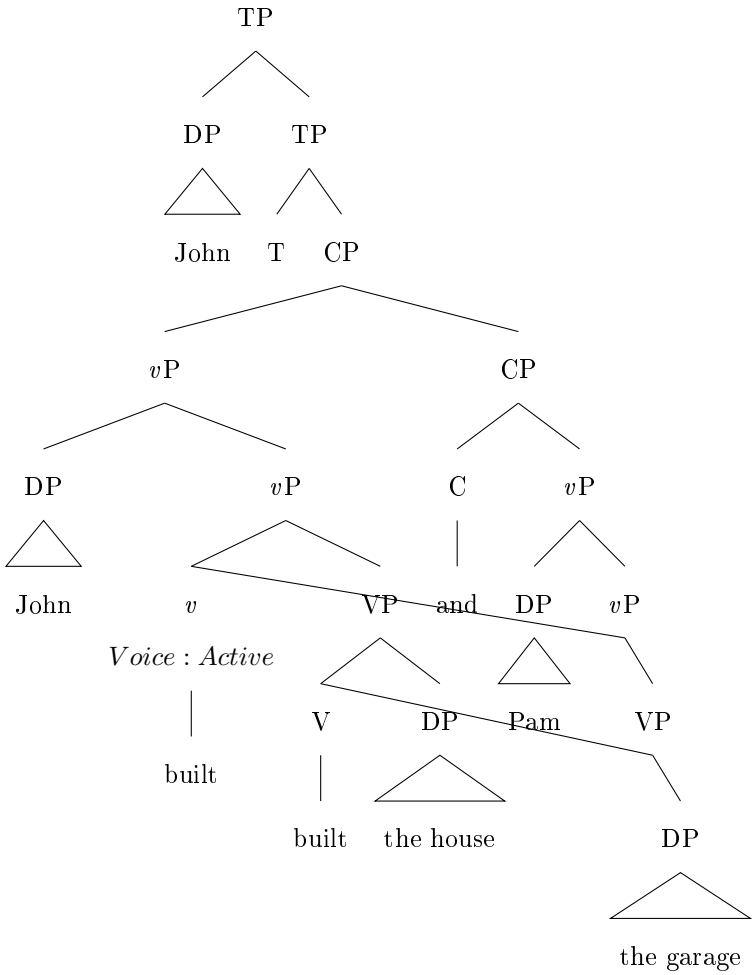
d. **Active Antecedent Clause,**

Passive Gapping Clause

*John built the house, and the garage ~~was built~~ by Pam.

In (381), the *v*-head with the voice feature is shared between conjuncts, so no voice mismatches can take place:

(381)



The final virtue of Parallel Merge is its compatibility with prepositions acting as Gapping remnants:

(382) Saša kuril do obeda, a Petja ~~kuril~~ vmesto ~~obeda~~.
Alex.NOM smoked before lunch.GEN and Peter smoked instead.of lunch.GEN
'Alex smoked before lunch, and Peter ~~smoked~~ instead of ~~lunch~~.'

Note that *vmesto* 'instead of' is a preposition, since it assigns genitive to its nominal complement *obed* 'lunch'. All other cases are incompatible with *vmesto* 'instead of':

(383) a. vmesto obeda
instead.of lunch.GEN
'before lunch'

b. *vmesto obedom
instead.of lunch.INSTR
'before lunch'

c. *vmesto obede
instead.of lunch.LOC
'before lunch'

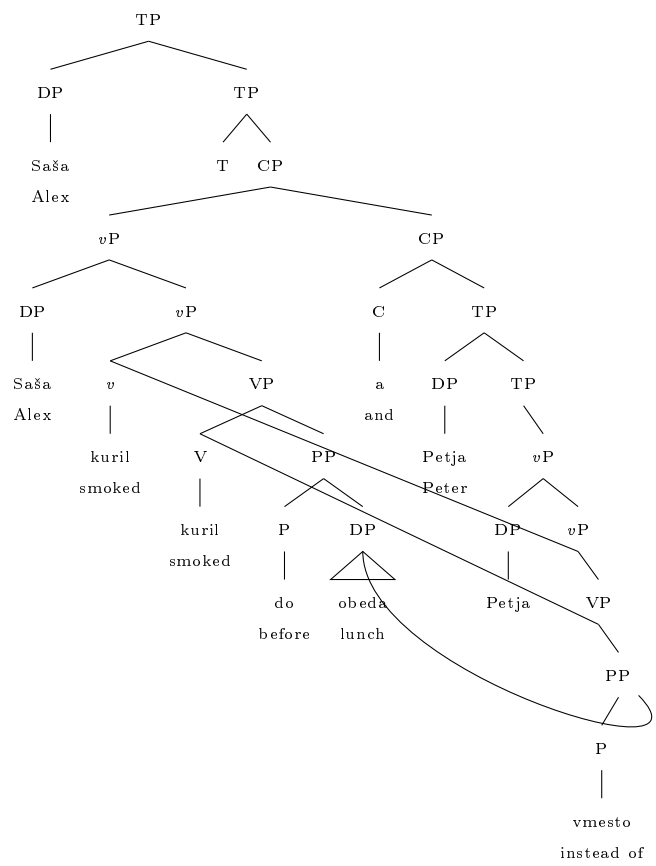
d. *vmesto obedu
instead.of lunch.DAT
'before lunch'

e. *vmesto obed
instead.of lunch.ACC
'before lunch'

f. *vmesto obed
instead.of lunch.NOM
'before lunch'

The possibility of having P-heads as Gapping remnants constitutes a problem for the approaches involving remnant movement. If one assumes that the remnants of Gapping are moved to some higher syntactic position, it would be impossible to move it to the specifier position as a head. One could also try to extract a complement of the P-head *vmesto* 'instead of' and then move the vacated PP to a higher position. Parallel Merge provides a simpler solution by sharing the DP *obeda* 'lunch' between two PPs:

(384)



In (384), the DP *obeda* 'lunch' is a complement of two P-heads, *do* 'before' and *vmesto* 'instead of'. The sharing of the DP *obeda* 'lunch' allows us to generate (382) without head movement. ATB-movement of PPs would also lead to a problem with identity, which is discussed above. Thus Parallel Merge is an optimal solution to derive (382).

5.4 Chapter summary

In this chapter, I discussed the syntactic mechanism of Gapping. These are the key traits of my approach to Gapping:

- Gapping stems from low coordination of *v*Ps and high coordination of TPs.
- Gapping is derived by Parallel Merge.
- Gapping is licensed by conjunctions that bear the uninterpretable and unvalued contrastive feature [uCTR:]. Legitimate conjunctions are established by the criterion based on rheme repetition deletion.

- [$uCTR$:] of Gapping licensors is assigned a contrastive value by topic and focus features of Gapping remnants and antecedents. This ensures that remnants are properly contrasted with their counterparts located in the antecedent clause.

Chapter 6

Conclusion and Prospects for further research

In this thesis, I have attempted to analyse the elliptical phenomenon of Gapping using Parallel Merge. In Chapter 1, I introduce Gapping by contrasting it with other major elliptical phenomena such as VP-ellipsis, Pseudogapping, and Right Node Raising. In Chapter 2, I discuss existing approaches to Gapping, which can be divided into three groups: deletion-based approaches, movement-based approaches, and approaches that combine deletion and movement. In Chapter 3, I argue that Gapping cannot be derived by low coordination with ATB-movement. In Chapter 4, I introduce Parallel Merge, which is a syntactic operation deriving Gapping, and consider categorial restrictions imposed on Parallel Merge. Chapter 4 provides an important motivation for sharing: only heads and phases which host uninterpretable features can be shared between conjuncts (i.e. such heads and phrases can be used by Parallel Merge). In Chapter 5, I define the licensors of Gapping, which are conjunctions with the uninterpretable and unvalued contrastive feature [uCTR:]. It is crucial that Gapping licensors play no role in linearization. The surface order of Gapping clauses is derived by deletion of contradicting ordering instructions generated by Parallel Merge.

I would like to conclude this thesis with prospects for further research. Firstly, the validity of the hypothesis outlined in Ross (1970) should be tested. Ross claims that

right-branching languages (e.g. English) allow forward Gapping, while left-branching ones (e.g. Japanese) allow backward Gapping. It would also be important to determine whether this hypothesis could be extended to other ellipsis phenomena. Secondly, the categorial restrictions discussed in Chapter 4 should be tested with other elliptical phenomena. Finally, the ultimate goal of the proposed research is to provide a basis for a unified theory of ellipsis based on Parallel Merge.

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