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Phrasal and Clausal Exceptive-Additive Constructions Crosslinguistically

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PHRASAL AND CLAUSAL EXCEPTIVE-ADDITIVE CONSTRUCTIONS CROSSLINGUISTICALLY

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ABSTRACT

CLAUSAL AND PHRASAL EXCEPTIVE-ADDITIVE CONSTRUCTIONS

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This work focuses on the syntax and semantics of exceptive and exceptive-additive constructions across different languages. Exceptive-additive constructions are constructions that can be interpreted as ‘except for’ and ‘in addition to’ depending on the context they are used in. The meaning an exceptive-additive construction gets depends on the other functional elements in a sentence. Those constructions get the exceptive meaning when they are put together with universal quantifiers and they get the additive meaning with existentials, *wh*-words and focus associates. In each context only one of the meanings is available.

This work is the first systematic study of the syntactic and semantic properties of such constructions across serval languages: English, Russian, Turkish, Hindi, Persian, Bulgarian.

This works offers a formal theory that explains how exceptive-additive constructions can mean two different things and why are the two readings distributed the way they are.

According to this proposal, the meaning of an exceptive-additive construction is contributed by two operators that can take scope with respect to each other. Their scope determines the resulting meaning. In every case both the additive and the exceptive meaning are generated. However, an attempt to generate the additive meaning with a universal quantifier or the exceptive meaning with a *wh*-question results in a meaning that is ill-formed and for that reason is not available.

This work also adds novel observations supporting the claim that the syntactic structure the standard semantic theory of exceptives assumes is incorrect for some exceptive constructions. In many languages what follows the word *except* is a reduced clause and not a DP. This work proposes the first compositional semantic treatment of clausal exceptives. According to this proposal a clausal exceptive contributes quantification over possible situations and provides the restriction for this quantification. The proposed account captures the known inferences exceptives contribute and the restrictions on their use.

This work also describes clausal exceptive-additive constructions in Persian and Bulgarian and extends the account of the exceptive-additive ambiguity to clausal cases.

Key words: exceptive constructions, clausal exceptives, phrasal exceptives, exceptive-additive ambiguity

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CHAPTER 1

EMPIRICAL DESCRIPTION OF THE EXCEPTIVE-ADDITIVE AMBUGUITY IN CLAUSAL AND PHRASAL CONSTRUCTIONS

1.1 Introduction

This dissertation work is about the meaning and syntax of a special kind of constructions that has generally gone unrecognized in the semantic literature that I call exceptive-additive constructions. Exceptive-additive constructions are constructions that in some contexts mean what *except* means in English. In some other contexts they receive what seems to be the opposite meaning that can be paraphrased as *in addition to*. The constructions of this type exist in many different languages and the overarching goal of this project is to describe the syntactic and semantic properties of those constructions in different languages, understand the distribution of the two possible meanings, and create a semantic theory that captures the semantic properties of each of the two meanings as well as their distribution while remaining faithful to the syntax of these constructions.

Exceptive-additive constructions have some properties in common with the more familiar exceptive constructions in English. Some representative examples of English exceptives are given in (1), (2), and (3).

(1) Every girl except Mary and Ann was there.

(2) Except for Mary and Ann every girl was there.

(3) Every girl but Mary and Ann was there.

English exceptives are relatively well studied and there is a significant amount of literature on this topic (Keenan & Stavi 1986, Hoeksema 1987, 1995, von Fintel 1993, 1994, Moltmann 1995, Gajewski 2008, Garcia-Alvarez 2008, Hirsch 2016, etc). It has been established in the previous literature (Keenan & Stavi 1986, Hoeksema 1987, von Fintel 1993, 1994) that exceptives in (1), (2), and (3) come with the inferences given in (4) (the domain subtraction), in (5) (the containment entailment – Mary and Ann are in the restrictor set) and (6) (the negative entailment).

Inferences associated with exceptives:
(i) The domain subtraction:
(4) Every girl who is not Mary or Ann was there.

(ii) The containment entailment:
(5) Mary and Ann are girls.

(iii) The negative entailment:
(6) Mary and Ann were not there.

Another crucial observation about exceptives that goes back to Horn (1989) is that they are not compatible with existential quantifiers, as illustrated in (7), (8), (9). Following the existing literature (Gajewski 2008, Hirsch 2016), I will refer to the puzzle of explaining this fact as the distribution puzzle.

The distribution puzzle:
(7) * Some girls except Mary and Ann were there.

(8) * Several girls except Mary and Ann were there.

(9) *Three girls except Mary and Ann were there.

This dissertation study has three main starting points.

The first starting point of this dissertation research is the observation that in many different languages the expression that means what *except* means in (1), in other contexts means ‘in addition to’. I will refer to the constructions that are ambiguous in this way as exceptive-additive constructions.

One language where a construction of this kind exists is Russian, where it is introduced by the marker *krome*. When *krome* occurs in the same context as *except* in (1) (i.e. when it is used with a universal quantifier), it contributes the same meaning. Thus the example given in (10) comes with the set of inferences in (4)-(6) characteristic of the exceptive meaning.

(10)

Tam	byli	vse	devočki	krome	Mašy	i	Ani.
there	were	all	girls	krome	Masha	and	Anya

'All girls except Anya and Masha were there'.

However, the minimally different example (11), where *vse* ('all') was substituted by *kakie-to* ('some') is not ungrammatical, unlike the examples in (7), (8), (9).

(11)

Tam	byli	kakie-to	devočki	krome	Mašy	i	Ani.
There	were	some	girls	krome	Masha	and	Anya

'Some girls besides Anya and Masha were there'.

A part of the meaning *krome* contributes in (11) is the opposite to a part of the meaning it contributes in (10). It gets the reading that I call the additive. Like the exceptive meaning, the additive reading comes with the domain subtraction inference in (12) and the containment inference in (13). But instead of a negative inference, there is a positive inference, which is given in (14).

Inferences associated with the additive meaning:
(i) The domain subtraction:

(12) Some girls who are not Masha or Anya were there.

(ii) The containment entailment:

(13) Masha and Anya are girls.

(iii) The positive entailment:

(14) Masha and Anya were there.

English *besides* has a similar behavior. Although (15) is not acceptable for all speakers of English, for those who accept it, *besides* gets the exceptive meaning with the inferences in (4)-(6). However, (16) – a sentence with an existential quantifier – is not ungrammatical unlike examples (7)-(9). This sentence comes with the positive inference (that Mary and Ann were there), along with the containment inference (that Mary and Ann are girls) and the domain subtraction inference (that there is a third girl who is not Mary or Ann who was there).

(15) Every girl besides Mary and Ann was there.

(16) Some girl besides Mary and Ann was there.

Russian *krome* and English *besides* belong to the class of exceptive-additive constructions, the properties of which I study in this dissertation.

An ambiguity of this sort can be found not only in Russian and English, but also in Turkish, Spanish, Hindi, French, Bulgarian, Persian and many other languages. The fact that this pattern is so crosslingustically common suggests that this is not simply a lexical ambiguity.

When I say ‘ambiguity’ I do not imply that the sentences in (10)-(11) and (15)-(16) are ambiguous. In a specific context an exceptive-additive phrase only gets one of the two possible readings. It’s the phrase itself that is ambiguous in the sense that it can give rise to a positive or a negative inference depending on the other elements in a sentence.

The fact that this ambiguity exists was observed previously in the literature. Sevi (2008) discusses Hebrew expression 'xuc mi' that he describes as having 'plus' and 'minus' interpretations.

However, this dissertation is the first systematic study of the environments where the additive reading arises (we know more about the environments where the exceptive reading arises due to the fact that exceptives are well-studied), and it offers the first formal compositional analysis that accounts for the entailments of the additive reading. It also offers the first compositional analysis of the exceptive-additive ambiguity that correctly predicts the inferences that come with each reading and the distributional facts. The distributional facts will be discussed in a systematic way in the next subsection, but the summary is that the additive reading arises with existentials, in questions and with focus associates. The exceptive reading occurs with quantifiers with universal force.

The second starting point of this dissertation research requires some grounding in the existing theories of exceptives. A general intuition that many existing theories of exceptives aim to capture is that the primary job of an exceptive is to restrict the domain of a quantifier: in cases like (1)-(3) the universal quantificational claim is made about the set of girls minus Ann and Mary. According to the classic approach to the semantics of exceptives (von Fintel 1993, 1994), an exceptive phrase introduces a set – an object that can be subtracted from the set in the restrictor, in our case the set of girls. The set the exceptive introduces in (1), (2) and (3) is given in (17). This set is subtracted from the domain of a quantifier and the quantificational claim is made about the reduced domain.

(17) {Mary, Ann}

This by itself, of course, does not explain the containment inference in (5) and the negative inference in (6) and the fact that exceptives are not compatible with existential quantifiers. Von Fintel's theory (1994) has another aspect that accounts for those facts that is called the Leastness Condition (the term is from Gajewski 2008). I will talk about this in detail later.

My second starting point is an observation made in the literature that challenges the core assumption of the classic theory of exceptives – the idea that an exceptive introduces a set of individuals that can be used to restrict the domain of a quantificational DP. Perez-Jimenez and Moreno-Quiben (2012) observe that in Spanish an exceptive marker can be followed by what appears to be a reduced clause rather than a set denoting expression. Those authors present examples from Spanish, like the one in (18), where the exceptive phrase host multiple constituents of different sorts related to different quantificational phrases in the main clause. Similar examples in English were discussed in (Moltmann 1995). I follow Perez-Jimenez and Moreno-Quiben (2012) in assuming that the connectivity effects observed in cases like (18), such as the fact that prepositions inside the exceptive phrase[1] have to match the prepositions in the rest of the clause, speak in favor of the clausal syntactic structure of the exceptive phrase. I will discuss the arguments in favor of the clausal analysis of the exceptive phrase in (18) in more detail later in this work.

(18)	Todos	los	niños	bailaron	con	todas	las	niñas	en	todas	partes,
	all	the	boys	danced	with	all	the	girls	in	all	places,
excepto	Juan	con	Eva	en	la	cocina.					
except	Juan	with	Eva	in	the	kitchen					

All the boys danced with all the girls everywhere, except Juan with Eva in the kitchen.

[1] I use the term *exceptive phrase* to refer to the syntactic constituent introduced by *excepto*.

The classic analysis cannot be extended to those cases in a straightforward way, because the exceptive marker appears to be introducing an object that cannot be put in the restrictor of a quantifier over entities. This is because such restrictors must be of type <et> and a proposition is an object of type <st>.

One goal of this dissertation work is to build a semantic theory of exceptives that would be able to relate two clauses (a clause with quantificational and a clause following an exceptive marker) in such a way that the containment entailment and the negative entailment are predicted, the distribution puzzle is explained, and the domain subtraction inference is accounted for.

The third starting point of the current study is the observation that in several languages where exceptive-additive constructions exist, exceptive-additive markers also seem to combine with reduced clauses. In this study I will focus on Bulgarian and Persian – the two languages with this property that I was able to identify. Those construction differ from Spanish *excepto* and English *except* in being able to get the additive interpretation in some contexts. For example, Bulgarian *osven* can mean *except* and host multiple constituents, as shown in (19). *Osven* can also have the additive meaning and host multiple constituents, one illustrative example of this is given in (20).

(19) Vsjako momče govori s vsjako momiče, osven Ivan s Iva.
Every boy talks with every girl osven Ivan with Iva
'Every boy talks with every girl except Ivan with Iva'.

(20) Osven s maika mi včera, govorih za tova i s bašta mi dnes.
Osven with mom my yesterday, talked for this also with father my today
'In addition to talking about this with my mom yesterday, I also talked about this with my father today.'

Given that some exceptives must be clausal, the question we need to ask is if there are any exceptives that introduce constituents of a smaller syntactic type - DPs. One logical possibility is that all apparently phrasal exceptives are derived via movement of a DP out of an exceptive clause and deleting the rest of the clausal material. I will argue that there is evidence that phrasal exceptives are different objects from the syntactic point of view than clausal exceptives.

The overall goal of this dissertation project is to develop a unified semantic theory of exceptive-additive ambiguity for clausal and phrasal exceptives and relate clausal and phrasal exceptive operators in a systematic way.

The discussion in the remainder of this Chapter goes as follows. In Section 1.2 I introduce the classic approach to the semantics of exceptives that is based on the idea that an exceptive subtracts a set from the domain of an operator and adds the Leastness Condition. Then in Section 1.3 I introduce the puzzle posed by the exceptive-additive ambiguity. I describe exceptive-additive constructions in English, Russian, Hindi and Turkish. In Section 1.4, I demonstrate that in some languages exceptives are clausal and show why the classic approach cannot be straightforwardly extended to those cases. I consider and reject one simple hypothesis according to which a reduced exceptive clause has the polarity that is opposite with respect to the polarity of its antecedent and is simply coordinated with it. In Section 1.5 I present the data from Bulgarian and Persian, where additive-exceptive ambiguity exists and where those constructions seem to have clausal syntax. I show why this presents a further complication for the classic approach to the semantics of exceptives.

In Section 1.6 I discuss the structure of this dissertation and provide a brief description of each chapter. I introduce the key ingredients of my proposal about the exceptive-additive ambiguity and its relation to von Fintel's treatment of exceptives that my analysis is built on. In Section 1.7 I discuss the alternative proposals about the meaning of exceptives that exist in the semantic literature and explain why they cannot be extended to cover the exceptive-additive ambiguity.

1.2 Classic Approach to the Semantics of Exceptives

An approach to the semantics of exceptives that captures the negative entailment and the containment entailment and explains the distribution puzzle was proposed by von Fintel (1993, 1994).

I will introduce von Fintel's system by using an example with a *but*-exceptive. This is the exceptive construction this analysis was designed for. One example illustrating its usage is given in (21).

(21) Every girl but Ann and Mary was there.

The sentence in (21) is true if every girl who is not Ann or Mary was there. However, von Fintel observes that it is not enough to simply subtract a set {Ann, Mary} from the domain of 'every'. This will not guarantee that Ann and Mary are girls and that they did not come. It also does not account for the fact that (22) is not a well-formed sentence. Subtracting a set from a domain of the existential quantifier in (22) would make the sentence more informative: an existential is more informative on a smaller domain.

(22) *Some girl but Ann and Mary was there.

According to this theory, the contribution of an exceptive is twofold. An exceptive subtracts a set from the domain of a quantifier and states that this is the minimal set that has to be subtracted in order for the quantificational claim to be true. The last claim is known in the literature as the Leastness Condition (Gajewski 2008). The Leastness Condition derives the containment entailment and the negative entailment and explains the distribution puzzle in a straightforward way.

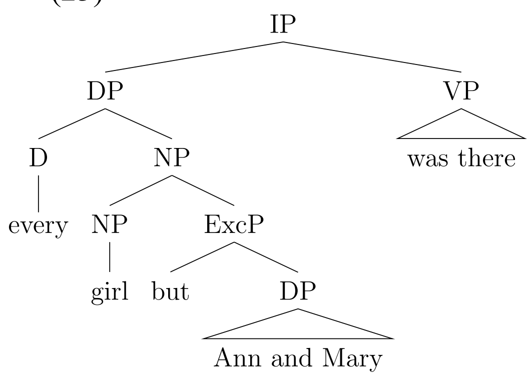
In the specific example (21), Leastness is the claim that if either Ann or Mary are not removed from the set of girls, the universal quantificational claim is false.

Since the subtraction of this set is necessary for the quantificational claim to be true, Mary and Ann have to be girls and have to be among the people who did not come. Otherwise the quantificational claim could not change its truth-value depending on whether we include those two individuals in the domain of quantification or exclude them.

Putting things informally, sentences with existential quantifiers like the one in (22) are predicted by this theory to be ungrammatical because it is not possible for an existential quantificational claim to be true on a reduced domain that does not include Ann and Mary and yet be false if a bigger domain that includes those two individuals is considered. Thus, exceptives with existentials are predicted to yield a contradiction irrespective of the meaning of other lexical items in the sentence. The assumption here is that sentences with those properties are perceived as ungrammatical in natural languages (Gajewski 2002). Formal implementation of these ideas is discussed below.

Under the assumption that the *but*-phrase forms a constituent with *girls*, the structure of the sentence in (21) is given in (23).

(23)



But has a complex semantics given in (24). It combines with its own sister (the set denoted by the DP immediately following it), then with a set in the restrictor of the determiner, then with the determiner and with the scopal argument of the determiner[2].

(24) $[[\text{but}]]^g = \underbrace{\lambda B_{<et>}.}_{\text{sist of } \textit{but}} \ \underbrace{\lambda A_{<et>}.}_{\text{restr set}} \ \underbrace{\lambda D_{<<et><<et>t>>}.}_{\text{determiner}} \ \underbrace{\lambda P_{<et>}.}_{\text{scope}}$

$$\underbrace{D(A\text{-}B)(P)=1}_{\text{Domain subtraction}} \ \& \ \underbrace{\forall Y[D(A\text{-}Y)(P)=1 \rightarrow B \subseteq Y]}_{\text{Leastness}}$$

The first conjunct in (24) is just the quantificational claim, where the set denoted by the sister of *but* is subtracted from the domain of the quantifier. The second conjunct is the Leastness Condition (I follow Gajewski (2008, p.75) in using this term to refer to this component of the meaning of exceptives). It quantifies over sets. It states that if any set is subtracted from the domain of the quantifier and the resulting quantificational claim is true, then this set contains the set denoted by the sister of *but*. The result of interpreting the structure in (23) is given in (25).

(25) $[[(23)]]^g = 1$ iff $\forall x[x \text{ is a girl } \& \ x \notin \{\text{Ann, Mary}\} \rightarrow x \text{ was there}]$ &
$\forall Y[\forall x[x \text{ is a girl } \& \ x \notin Y \rightarrow x \text{ was there}] \rightarrow \{\text{Ann, Mary}\} \subseteq Y]$

---

[2] For simplicity of exposition I switch back and forth between the set talk and the function talk here.

The first conjunct in (25) is the domain subtraction: this is a universal quantificational claim made on a domain that excludes Ann and Mary.

The second conjunct is the Leastness Condition. An equivalent formulation of it (achieved by contraposition) is given in (26).

(26) $\forall Y[\neg\{\text{Ann, Mary}\}\subseteq Y \rightarrow\neg\forall x[x \text{ is a girl } \& \ x\notin Y\rightarrow x \text{ was there}]] =$
$\forall Y[\neg\{\text{Ann, Mary}\}\subseteq Y \rightarrow\exists x[x \text{ is a girl } \& \ x\notin Y \ \& \ \neg \ x \text{ was there}]]$

What (26) says is that if we subtract a set that does not contain at least one of the elements in {Ann, Mary} the quantificational claim is going to be false. For example, if we subtract the empty set (the result of this will be equivalent to no subtraction at all), it is not true that every girl came. Even if we subtract a set that contains all girls who are not Mary, there still will be a girl who was not there. This can be the case only if Mary is a girl who was not there. In a similar way, if we subtract a set that contains all girls who are not Ann, there is still a girl who was not there (Ann).

Von Fintel (1994) also gives a formal proof that shows that (26) is equivalent to saying that Ann and Mary are girls who were not there. For simplicity let's use the constants given in (27) to denote the set of girls, the set containing just Ann and Mary, and the set of people who were there. With this in mind, the formal proof is given in (28) (von Fintel 1994).

(27) A:={z: z is a girl}, B:={Mary, Ann}, C:={x: x was there}

(28) $\forall Y[A \cap \overline{Y} \subseteq C \rightarrow B \subseteq Y]$[3] $\equiv$

$\forall Y[A \cap \overline{C} \subseteq Y \rightarrow B \subseteq Y] \equiv$

$B \subseteq A \cap \overline{C}$

$\{\text{Ann, Mary}\} \subseteq (\{z: z \text{ is a girl}\} \cap \overline{\{x: x \text{ was there}\}})$

Thus, in this system, the negative entailment (the inference that Ann and Mary were not there) and the containment entailment (the inference that Ann and Mary are girls) follow from the Leastness Condition.

One great advantage of von Fintel's approach to the semantics of exceptives over other existing approaches is that it provides a unified treatment for exceptives operating on universal and negative quantifiers. The meaning for (29) – the sentence with a negative quantifier predicted by this approach is shown in (30). The first conjunct is the domain subtraction: if we don't consider those two individuals, no girl was there. The second conjunct is the Leastness Condition.

(29) No girl but Anna and Mary was there.

(30) $[[(29)]]^g = 1$ iff $\neg\exists x[x \text{ is a girl} \ \&\ x \notin \{\text{Ann, Mary}\} \ \&\ x \text{ was there}] \ \&$
$\forall Y[\neg\exists x[x \text{ is a girl} \ \&\ x \notin Y \ \&\ x \text{ was there}] \rightarrow \{\text{Ann, Mary}\} \subseteq Y]$

To understand what Leastness gives us in this case, let's give the same names for the relevant sets (shown in (31)). Then the Leastness Condition is equivalent to the first line in (32). As the proof provided by von Fintel given here in (32) shows, it is equivalent to saying that Ann and Mary are both girls who were there. This correctly captures the

[3] The set theoretic tautologies employed here are as follows. For any sets A, B and C:

(i) $A \cap \overline{Y} \subseteq C = A \cap \overline{C} \subseteq Y$

(ii) $\forall Y[A \subseteq Y \rightarrow B \subseteq Y] \equiv B \subseteq A$

meaning that (29) has, specifically, the fact that it comes with the positive inference and with containment.

(31) A:={z: z is a girl}, B:={Mary, Ann}, C:={x: x was there}

(32) $\forall Y[A \cap \overline{Y} \cap C = \varnothing \rightarrow B \subseteq Y] \equiv$
$\forall Y[A \cap \overline{Y} \subseteq \overline{C} \rightarrow B \subseteq Y] =$
$\forall Y[A \cap C \subseteq Y \rightarrow B \subseteq Y] \equiv$
$B \subseteq A \cap C =$
$\{Ann, Mary\} \subseteq (\{z: z \text{ is a girl }\} \cap \{x: x \text{ was there}\})$

As was noted earlier, the solution to the distribution puzzle is also in the Leastness Condition. It guarantees a contradiction between the first conjunct and the second conjunct in cases where a quantifier has existential force. This accounts for the fact that the example with *some girl* in (22) is ungrammatical.

More formally, under the assumptions about the meaning of *but* that we made in (24), (22) will get the meaning given in (33).

(33) $[[(22)]]^g = 1$ iff $\exists x[x \text{ is a girl } \& \ x \notin \{Ann, Mary\} \& \ x \text{ was there}]$ &
$\forall Y[\exists x[x \text{ is a girl } \& \ x \notin Y \& \ x \text{ was there}] \rightarrow \{Ann, Mary\} \subseteq Y]$

There is no model where the two conjuncts in (33) can be simultaneously true. The existential quantifier has different properties than the universal quantifier. It is upward entailing on its domain.

The Leastness Condition is essentially negation of all the alternatives that are formed by substitution of the set that was subtracted originally by other sets that are missing at least one of the elements of the original set. This is more obvious in the formulation in (34), which is derived from the second conjunct in (33) by contraposition.

(34) $\forall Y[\neg\{Ann, Mary\} \subseteq Y \rightarrow \neg\exists x[x \text{ is a girl } \& \ x \notin Y \& \ x \text{ was there}]]$

Because the empty set does not contain Ann or Mary, the Leastness Condition says that if we subtract nothing, there is no girl who was there. This is shown in (35). Obviously, (35) contradicts the first conjunct in (33): it cannot be the case that there is a girl who is not Ann or Mary who was there and there is no girl who was there at all.

(35) $\neg\exists x$[x is a girl & $x \notin \emptyset$ & x was there]

A contradiction of this kind is predicted to always arise if an exceptive is used with an existential quantifier. This contradiction cannot be repaired by substituting all open class non-functional lexical items (such as *girl, Anna, Mary, was there*) by other lexical items: the contradiction arises because of the combination of functional elements in the sentence. Gajewski (2002) proposed that sentences with this property are perceived as ungrammatical in natural languages. With this assumption, this approach correctly captures the fact that (22) is ungrammatical in English.

Von Fintel's approach correctly captures the inferences exceptives contribute to the sentences they occur in and as well as the distributional facts. In this dissertation I build on this approach to the semantics of exceptives. I propose that it needs to be modified in two crucial ways. First of all, this story as it is does not capture the fact that there are items that depending on the context can mean *except* or *in addition to* and some work has to be done in order to extend this theory to additive cases. Second of all, this approach is based on the idea that what follows an exceptive marker is a set denoting expression. It can be used to directly restrict a quantifier over individuals. However, as I will show in the subsequent sections of this chapter, there are languages (and English is one of them) where what follows an exceptive or an exceptive-additive marker is a clause, i.e. a constituent of type <st> that cannot be used to restrict the domain of a quantifier quantifying over individuals.

In Section 1.3 I provide a detailed discussion of the empirical facts regarding exceptive-additive constructions in English, Russian, Hindi, and Turkish.

1.3 A General Description of the Exceptive-Additive Ambiguity

In this dissertation work I focus on constructions that share some crucial properties with English *except*, but unlike English *except* in some contexts get the meaning "in addition to". In this section I provide a general empirical description of such constructions in English, Russian, Turkish, Hindi. Those are languages where the maximal constituent that an exceptive-additive phrase can host is a DP. In Section 1.5 I discuss two more languages that have exceptive-additive markers – Persian and Bulgarian. I discuss them separately because in those languages exceptive-additive markers can introduce reduced clauses.

In this section I discuss and reject a simple hypothesis that those constructions simply remove a set from the domain of quantification, impose a containment entailment, and remain agnostic about everything else. I will formulate a generalization about the kinds of context where they get the additive reading and where they get the exceptive reading.

1.3.1 English

As I said earlier, in English the construction that can give rise to the additive inference and the exceptive inference is introduced by *besides*[4]. One context where *besides* gets the

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[4] I am grateful to Kyle Johnson, Seth Cable, Barbara Partee, Rajesh Bhatt, Andrew Lamond, Chris Hammerly, Michael Wilson, Carolyn Andrews, Kimberly Johnson, David Goldberg for providing me with their English judgements.

additive reading is a sentence with an existential quantifier. The relevant example was given in (16) and is repeated below in (36).

(36) Some girls besides Mary and Ann were there.

This sentence is true only if there is a plurality of girls that does not include Mary or Ann that was there. The existential claim is made on the domain that does not include those two individuals. Therefore, a part of what *besides* does in (36) is domain subtraction: there has to be a third person that is neither Mary nor Ann who was there in order for this sentence to be true.

The fact that it comes with the containment inference is shown by the infelicity of (37): under the assumption that Mark is an unambiguously male name, (37) violates the requirement posed by *besides* that each element of the set it introduces must be an element of the restrictor set. The fact that *besides* comes with the positive inference in this context is illustrated by the infelicity of (38): if it was stated in the previous discourse that Ann and Mary were there, it is odd to add (36)[5]. However, (39) is a perfectly coherent discourse.

The containment inference test:

(37) #Some girls besides Mark and Ann were there.

The positive inference test:

(38) #Mary and Ann were not there. Some girls besides Mary and Ann were there.

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[5] There is a group of English speakers who find both (38) and (39) equally acceptable. In this work I don't try to account for their version of *besides* because this task is trivial. It is a function that subtracts a set from the restrictor of a quantifier and states that this set is a subset of the restrictor set. What is difficult to capture is the alternation between the exceptive and the additive meaning. This element in the grammar of those English speakers is not an exceptive-additive item.

(39) Mary and Ann were there. Some girls besides Mary and Ann were there too.

It is important to notice that there is nothing wrong with the intended meaning of (38), it can be perfectly well expressed by the construction with *other than* in (40). *Other than* is compatible with the positive inference as well, as shown in (41). Thus, *other than* simply removes its sister DP from the domain of the existential, introduces the containment presupposition (tested in (42)) and remains agnostic about everything else. This is not how *besides* behaves in this context; it introduces a positive inference.

(40) Mary and Ann were not there. Some girls other than Mary and Ann were there.

(41) Mary and Ann were there. Some girls other than Mary and Ann were there too.

(42) #Some girls other than Mark and Ann were there.

Another context where *besides* gets the additive meaning is given in (43): this is a *wh*-question. This question comes with an inference that Mary and Ann are girls who were there and it is seeking the information about girls who are not Mary or Ann. Again, a part of what *besides* does in (43) is domain subtraction: Mary and Ann are removed from the domain of the *wh*-phrase. It is not felicitous to answer this question with (44), (45) or even (46), which provides the information about a third girl who is not Mary or Ann on top of stating that they were there.

The domain subtraction test:

(43) A: Which girls besides Mary and Ann were there?

(44) B: #Mary was there.

(45) B: #Mary and Ann were there.

(46) B: #Mary, Ann and Susan were there.

A felicitous answer to this question is given in (47).

(47) B: Susan and Ivy were there.

The test for the containment inference is given in (48). Again, given that Mark is a male name, (48) is infelicitous. The positive inference is tested in (49) and (50). The discourse in (49) is infelicitous because the question with *besides* is preceded by the statement contradicting the positive inference that comes with this question. The discourse in (50) is coherent. Those two tests show that *besides* in *wh*-questions obligatorily comes with the inferences characteristic of the additive meaning that we have already observed in existential constructions.

The containment inference test:

(48) #Which girls besides Mark and Ann were there?

The positive inference (additivity) test:

(49) A: Mary and Ann did not come.
B: #Which girls besides Mary and Ann were there?

(50) A: Mary and Ann came.
B: Which girls besides Mary and Ann were there?

Another context where *besides* contributes additivity is shown in (51). Examples of this sort present a real challenge. This is because in all of the previously considered examples, *besides* was in some sense operating on a quantificational phrase and one of the contributions that it made was domain subtraction. The only quantificational element in (51) is *also*. In the sentence without the *besides*-phrase given in (52) *also* contributes the inference that I have visited some place other than Germany. However, in (51) it is not the case that Italy is subtracted from the domain of *also*: the claim that I visited something other than Germany is not made on the domain that does not include Italy. This sentence does not require that I visited any third country on top of Germany and Italy.

(51) Besides Italy, I also visited Germany.

(52) I also visited Germany.

Moreover, *also* is not obligatory in (51), as is shown in (53), which contains no quantificational phrase whatsoever. The additive inference is tested in (54) and (55): the discourse in (55), where it is explicitly stated that I have not visited Italy, is contradictory, whereas the discourse in (55) is consistent. In this context there is no containment inference and it is unclear that there is a domain subtraction because there is no pronounced operator on the domain of which *besides* operates.

(53) Besides Italy, I visited Germany.

The positive inference (additivity) tests:

(54) I have visited Italy, and besides Italy, I visited Germany.

(55) #I have not visited Italy, but besides Italy, I visited Germany.

The observation that I would like to make about cases like these is that *besides* interacts with focus in an interesting way. The two sentences in (56) and (57) do not have the same reading: (56), where the focus falls on *John,* means that the list of people who talked about this with Mary includes John and Ann; (57), where the focus falls on Mary, means that the list of people John talked about this with includes Ann and Mary.

(56) Besides Ann, John_F talked about this with Mary.

(57) Besides Ann, John talked about this with Mary$_F$.

Intuitively, those two sentences address different questions under discussion. The sentence in (56) addresses the question in (58), and the one in (57) – the question in (59).

(58) Besides Ann, who talked about this with Mary?

(59) Besides Ann, who did John talked about this with?

The idea I would like to develop is that if we knew how to put together a question and *besides* in such a way that it correctly captures the additive inference, we could extend this idea to cases like (56) and (57). There is an independent proposal relating focus meaning of a sentence and a question (Rooth 1992a, 1996). Specifically, Rooth proposed that the presence of focus in a sentence introduces a variable of a question type, and the possible meanings of this variable are restricted by the focus value of the sentence. By letting exceptive-additive phrases modify those question variables and by relating those question variables to questions under discussion we can create an account for the cases like (56) and (57), where *besides* does the same thing as it does in a case of a question: it removes things or individuals from a domain of a question (in our case Ann) and introduces the additive inference.

To sum up, *besides* gets the additive reading in the following contexts: with existentials, in questions and with focus associates.

In Section 1.1 I already discussed one context where *besides* gets the exceptive reading. This was an example with a universal quantifier, repeated below in (60). As I said, for some English speakers, this sentence is not acceptable at all. But for those who find this sentence acceptable, it only gets the exceptive reading. This is illustrated by the contrast between

(61) and (62). The discourse in (61), where the first sentence is compatible with the negative inference of the second sentence, is felicitous; the discourse in (62), where the first sentence requires that Mary and Ann were there, is infelicitous.

(60) Every girl besides Mary and Ann was there.

The negative inference tests:

(61) Mary and Ann were not there. Every girl besides Mary and Ann was there.

(62) #Mary and Ann were there. Also, every girl besides Mary and Ann was there.

There are two contexts where *besides* comes with a positive inference, a containment inference and a domain subtraction inference, but it is unclear if this reading is exceptive or additive: negative quantifiers (63) and NPIs under negation (64). The containment and the positive inference tests are provided below.

(63) No girl besides Mary and Ann was there.

(64) Mark did not talk to any girl besides Mary and Ann.

The positive inference tests:

(65) #Mary and Ann did not come and no girl besides Mary and Ann was there either.

(66) #Mark did not talk to Mary and Ann and he also did not talk to any girl besides Mary and Ann.

(67) Mary and Ann came, but no girl besides Mary and Ann was there.

(68) Mark talked to Mary and Ann, but he did not talk to any girl besides Mary and Ann.

The containment tests:

(69) No girl besides Mark was there.

(70) Mark did not talk to any girl besides Mark.

Here is the reason why it is hard to distinguish the additive and the exceptive meaning in this context. A positive inference is characteristic of the additive reading. However, with negative quantifiers, exceptives contribute the positive inference as well: this is because they introduce exceptions to negative generalizations. Thus, the reading *besides* contributes is the same as the reading that exceptives contribute in the same contexts (this is shown in (71) and (72)).

(71) No girl but Mary and Ann was there.

(72) Mark did not talk to any girl except Mary and Ann.

Because the exceptive reading with negative quantifiers gives rise to a positive inference and a positive inference is also what we in general expect of the additive reading, in some cases it is difficult to distinguish one reading from another in some contexts.

1.3.2 Russian

In Russian[6] the construction that I am interested in is introduced by *krome*. It gets the additive reading in the same family of environments as English *besides*: with existentials, in *wh*-questions, and with focus associates. It gets the exceptive reading with universal quantifiers. It gets the reading that is hard to classify with negative quantifiers. All those facts will be illustrated below.

One context where *krome* gets the additive reading was already shown in (11) (repeated below as (73)), this was a sentence with an existential quantifier. This sentence can only

[6] The Russian judgments are my own, confirmed with other speakers of Russian. I am grateful to Petr Kusliy and David Erschler for their judgments.

be true if there is a third person (not Anya or Masha) who is a girl and who was there. This is the domain subtraction inference.

(73) Tam byli kakie-to devočki krome Ani i Mašy.
There were some girls krome Anya and Masha
'Some girls besides Anya and Masha were there'.

In (74) and (75) I embed this sentence in a bigger discourse in order to test the additive inference. In (74) I conjoin it with the sentence stating that Anya and Masha were there. This discourse is felicitous. In (75) I conjoined it with the sentence stating that Anya and Masha were not there and this discourse sounds contradictory.

The positive inference tests:

(74) Tam byli Anya i Maša , i tam byli kakie-to devočki
There were Anya and Masha, and there were some girls
krome Ani i Mašy.
krome Anya and Masha
'Anya and Masha were there, and some girls besides Anya and Masha were there'.

(75) #Ani i Mašy tam ne bylo, no tam byli kakie-to devočki
Anya and Masha there not were, but there were some girls
krome Ani i Mašy.
krome Anya and Masha
Intended: 'Anya and Masha were not there, but some girls besides Anya and Masha were there'.

The containment inference is tested in (76). When the exceptive-additive phrase is pronounced as one constituent with the DP *some girls,* (76), where what follows the exceptive-additive marker is a male name, is infelicitous.

The containment inference test:

(76) #Tam byli kakie-to devočki krome Marka.
There were some girls krome Mark
Intended: #'Some girls besides Mark were there'.

There is another way of pronouncing (76) with a long pause between *devočki* ('girls') and *krome*. With this pronunciation this discourse is felicitous. In this case the sentence is interpreted as (77), and I believe that this kind of example falls under the same category as the examples like (78) that we saw earlier in English: *krome* here is not operating on the existential DP or any other visible quantifier. My hypothesis about this kind of cases is that *krome* modifies a silent question under discussion.

(77) Krome Marka, tam byli kakie-to devočki.
Krome Mark, there were some girls
'Besides Mark, some girls were there'.

(78) Krome Germanii, ya posetila Italiju.
Krome Germany, I visited Italy
'Besides Germany, I visited Italy'.

Interestingly, when *krome* appears adjacent to an existential quantifier, it tends to be interpreted as operating on it: thus, it comes with the containment inference. This usage is illustrated in (79).

(79) Mne pomogali kakie-to devočki krome Maši.
I-DAT helped some girls krome Masha
'Some girls besides Masha helped me'

When *krome* is fronted, it tends to be interpreted as operating globally on the question under discussion, and if an existential quantifier occurs in a sentence, there is an anti-containment inference. This is shown in (80), which is infelicitous because it strongly suggests that Masha is not a girl. The reason why this discourse is bad, I think, is the same as the reason why (81) is bad (under the assumption that Masha is a girl).

The anti-containment inference:

(80) #Krome Maši mne pomogali kakie-to devočki.
Krome Masha I-DAT helped some girls
Intended: # 'Besides Masha, some girls helped me'.

(81) #Masha helped me. Some girls helped me too.

If Masha is substituted by a male name, this sentence becomes acceptable (shown in (82)) (as well as the example in (83)).

The anti-containment inference:

(82) Krome Marka mne pomogali kakie-to devočki.
Krome Mark I-DAT helped some girls
'Besides Mark, some girls helped me'.

(83) Mark helped me. Some girls helped me too.

Like *besides* in English, *krome* interacts with focus and it gets the additive reading with focus associates. The relevant examples are given in (84) and (85): (84) requires that I talked about this with two people: Anya and Masha; (85) requires that the list of people who talked about this with Masha includes Anya and me.

(84) Krome Ani, ja pogovorila ob etom s Mašej$_F$.
Krome Ani, I talked about this with Masha$_F$
'Besides Anya, I talked about this with Masha$_F$.'

(85) Krome Ani, ja$_F$ pogovorila ob etom s Mašej.
Krome Ani, I$_F$ talked about this with Masha
'Besides Anya, I$_F$ talked about this with Masha'.

The fact that in this context *krome* obligatorily comes with the additive inference is shown by the contrast between (86) and (87). The example in (87), where (84) is preceded by the statement that I have not talked about this with Anya, is contradictory, but (86) is consistent and acceptable.

The positive inference (additivity) tests:

(86) Ja pogovorila ob etom s Anej, i krome Ani, ja pogovorila
I talked about this with Anya and krome Ani, I talked
ob etom s Mašej$_F$.
about this with Masha$_F$
'I talked about this with Anya and besides Anya, I talked about this with Masha$_F$.'

(87) #Ja ne govorila ob etom s Anej, no krome Ani, ja
I not talked about this with Anya, but krome Ani, I
pogovorila ob etom s Mašej$_F$.
talked about this with Masha$_F$
'I did not talk about this with Anya, but besides Anya, I talked about this with Masha$_F$.'

Like English *besides*, Russian *krome* gets the additive reading in *wh*-questions. One example of such use is given in (88).

(88) Kakie devočki krome Ani i Mašy tam byli?
Which girls krome Anya and Masha there were
'Which girls besides Anya and Masha were there?'

This question takes it as given that Anya and Masha are girls and that they were there. Thus, (89) is a felicitous answer to this question, but (90) and (91) are not, because this question is not seeking information about Anya or Masha.

The domain subtraction tests:

(89) Ol'ga.

(90) #Anya and Maša.

(91) #Anya, Maša and Ol'ga.

The containment inference is tested in (92). This question is not well-formed because Mark is a clearly male name and he is not contained in the set of girls, which is the requirement that *krome* imposes here.

The containment inference test:

(92) #Kakie devočki krome Marka tam byli?
Which girls krome Mark there were
'Which girls besides Mark were there?'

Krome cannot get the exceptive reading with *wh*-words. This is shown by the contrast between the consistent dialog in (93)and an inconsistent one in (94).

The positive inference (the additivity) tests:

(93) A: Ani i Mašy tam ne bylo.
Anya and Masha there not were.
'Anya and Masha were not there'.

B: #Kakie devočki krome Ani i Mašy tam byli?
Which girls krome Anya and Masha were there?
'Which girls besides Anya and Masha were there?'

(94) A: Tam byli Anya i Maša.
There were Anya and Masha.
'Anya and Masha were there'.

B: Kakie devočki krome Ani i Mašy tam byli?
Which girls krome Anya and Masha were there?
'Which girls besides Anya and Masha were there?'

Russian *krome* gets the exceptive meaning with universal quantifiers. All Russian speakers will find the example in (95) grammatical. This sentence means that Vanya is not here and he is a boy and all other boys are here (Vanya in Russian is a male name). Thus, it comes with containment and negative entailment – the inferences standard for the exceptive reading.

(95) Vse mal'čiki krome Vani zdes'.
All boys krome Vanya here
'Except for Vanya, all boys are here'.

The negative inference is tested in (96) and (97). The contrast between those two examples suggests that in this context the additive meaning is not available. The second sentence in (97) feels like a contradiction.

The negative inference tests:

(96) Vani zdes' net, no vse mal'čiki krome Vani zdes'.
Vanya here not, but all boys krome Vani here
'Vanya is not here, but all boys except Vanya are here'.

(97) #Vanya zdes', a takže vse mal'čiki krome Vani zdes'.
Vanya here, and also all boys krome Vani here
Intended: 'Vanya is here, and also all boys in addition to Vanya are here.'

Again, there is nothing wrong with the intended meaning of (97) per se. It can be perfectly well expressed by (98).

(98) Vanya zdes', a takže vse ostal'nye mal'čiki zdes'.
Vanya here, and also all rest boys here
'Vanya is here, and also all other boys are here.'

It is important to notice that the presence of a universal quantifier by itself does not block the additive reading. The additive reading is the only one that is available in (99) (and the English version of this example is grammatical as well). In this context *krome,* as in (83), operates globally on the question under discussion and not directly on *all*. The sentence in (99) addresses the question: 'besides Anya who was there?'

(99) Krome Ani, tam byli (eščje) vse mal'čiki.
Krome Anya, there were (also) all boys
'Besides Anya, all boys also were there'.

(100) Anya was there. All the boys were there too.

(101) #Anya was there. All the girls were there too.

What we do not find with universal quantifiers is the additive reading with containment entailment like the ones we saw in cases of *wh*-words and existentials. The anti-containment inference in (99) most likely has the same source as the anti-containment in (101), which is infelicitous because the overall discourse strongly implies that Anya is not a girl and Anya is a female name. Also, note that there is no visible domain subtraction: *krome* (and *besides* in the corresponding English example) does not subtract a set from the domain of 'all boys' in (99) (domain subtraction would have no effect here because Anya is not a boy). This again shows that whatever happens in (99), this is not the same additive reading as the one we find with *wh*-words and existentials.

What makes the additive reading available in (99) is the fact that the exceptive-additive phrase is fronted. The example in (102), where the exceptive-additive phrase appears after the universal quantifier, is infelicitous. In this position the exceptive-additive phrase can only get the exceptive interpretation and this interpretation obligatorily comes with the containment inference.

(102)	#Vse	mal'čiki	krome	Ani	zdes'.
	All	boys	krome	Anya	here

Indented: 'Besides Anya, all boys are also here'.

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There are no negative quantifiers in Russian, but there are n-words that under negation and together with it are interpreted as negative quantifiers. With such quantifiers *krome* gets a reading equivalent to the reading English *except* gets with negative quantifiers. This reading is characterized with a positive inference.

(103)	Ni	odin	professor	krome	Vani	ne	prišel.
	n-word	one	professors	krome	Vanya	not	came

'No professor except Vanya came'.

The generalization emerging from this discussion is that the Russian exceptive-additive marker *krome* gets the exceptive reading with universal quantifiers and with n-words and it gets the opposite additive reading with existentials, with *wh*-words and with focus associates. The two possible interpretations are distributed in exactly the same way as in English.

1.3.3 Hindi

In Hindi[7] there are two exceptive-additive markers: *alaava* and *siwaai*. In general, the distribution of the two readings follows the same pattern that we have already observed in English and Russian.

With universal quantifiers *alaava* and *siwaai* get the exceptive reading. This is illustrated in (104). (104) means that Anu is a girl, she was not there, and every other girl was there.

(104)	Anu ke	alaava/siwaai	saari	ladkiyaaN	wahaan	thiiN.
	Anu-ke	alaava/siwaai	all	girls	there	were

'All girls except Anu were there'.

I will use the same test for the negative inference that I have already used when I discussed English and Russian data. The discourse in (105), where (104) is pronounced after the explicit statement that Anu was not there, is coherent. However the native speakers report

[7] I am grateful to Niralee Gupta and Rajesh Bhatt for the Hindi data.

that the discourse in (106), where (104) is pronounced after the statement that Anu was there, sounds like a contradiction.

The negative inference tests:

(105) Anu wahan nahi thi. Anu ke alaava/siwaai saari ladkiyaaN
Anu there not was. Anu ke alaava/siwaai all girls
wahan thin.
there were-FemPl
'Anu was not there. All girls except Anu were there.'

(106) #Anu wahan thi. Anu ke alaava/siwaai saari ladkiyaaN aa-ii
Anu there was. Anu ke alaava/siwaai all girls also
wahan thin.
there were-FemPl
Intended: 'Anu was there. All the other girls were there too'.

Like in Russian, it is not just the presence of a universal quantifier that blocks the additive reading. If we add 'remaining', which explicitly removes Anu from the domain of quantification of 'all', the sentence becomes acceptable (107). I interpret this data point as another instance of the global additive construction, where *alaava* and *siwaai* do not operate on *all*, but modify a silent question under discussion. The question in this case is 'who besides Anu was there?'.

(107) Anu wahan thi. Anu ke alaava/siwaai baaki saari ladkiyaaN
Anu there was. Anu ke alaava/siwaai remaining all girls
aa-ii wahan thin.
also there were-FemPl
'Anu was there. Besides Anu, all the other girls were there too'.

Thus, I categorize this case as belonging to the same type as (108) and (109), where *alaava* and *siwaai* get the additive reading with a focus associate.

(108) Alif ke alaava/siwaai main $Bill_F$ ke saath naachii.
Alif ke alaava/siwaai I $Bill_F$ ke with danced
'Besides Alif, I danced with $Bill_F$'.
Meaning: I danced with Alif; and in addition to that I danced with Bill.

(109) Alif ke alaava/siwaai $main_F$ Bill ke saath naachii.
Alif ke alaava/siwaai I_F Bill ke with danced
'Besides Alif, I_F danced with Bill'.
Meaning: Alif danced with Bill; and in addition to that I danced with Bill.

The facts about interaction of *alaava* and *siwaai* with *wh*-questions in Hindi don't contradict this idea. Just like Russian *krome* and English *besides*, these exceptive-additive markers get the additive reading in *wh*-questions. The question in (110) requires that Anu is a girl and that she was there and is looking for information about the rest of the girls. The positive inference is tested in (111) and (112), and we again observe the same pattern here as in Russian and English. Infelicity of (113), which is just like (110), but *Anu* was substituted by a clearly male name *Alif*, shows that the containment inference is there too.

(110) Anu ke alaava/siwaai wahaan kaun ladkiyaaN thin?
Anu ke alaava/siwaai there what girls were?
'Which girls besides Anu were there?'

The positive inference tests:

(111) #Anu wahan nahi thi. Anu ke alaava/siwaai wahan kaun
Anu there not was. Anu ke alaava/siwaai there what
ladkiyaaN thin?
girls were- FemPl?
'Anu was not there. Which girls besides Anu were there?'

(112) Anu wahan thi. Anu ke alaava/ siwaai wahan kaun
Anu there was. Anu ke alaava/ siwaai there what
ladkiyaaN thin?
girls were-FemPl?
'Anu was there. Which girls besides Anu were there?'

The containment inference test:

(113) #Alif ke alaava/siwaai, wahan kaun ladkiyaaN thi?
Alif ke alaava/siwaai there what girls were-FemPl?
'Which girls besides Alif were there?'

The domain subtraction inference with questions is tested below.

The domain subtraction tests:

(114) A: Anu ke alaava/siwaai wahaan kaun ladkiyaaN thin?
Anu ke alaava/siwaai there what girls were?
'Which girls besides Anu were there?'
B: Sakshi

(115) A: Anu ke alaava/siwaai wahaan kaun ladkiyaaN thin?
Anu ke alaava/siwaai there what girls were?
'Which girls besides Anu were there?'
B: #Anu

Hindi differs from Russian and English with respect to the behavior of exceptive-additive markers with existentials. (116) is infelicitous under the assumption that Anu is a girl. If we substitute *Anu* by *Alif* the example becomes grammatical (117). This is the pattern we saw with fronted *krome* in Russian: it gets the additive reading but it comes with an anti-containment inference. In this case, *alaava* and *siwaai* globally operate on the question under discussion and do not operate directly on the existential.

(116) #Anu ke alaava/ siwaai wahaan kuch ladkiyaaN thin.
Anu ke alaava/siwaai there some girls were-FemPl
Intended: 'In addition to Anu, some girls were there'.

(117) Alif ke alaava/ siwaai wahaan kuch ladkiyaaN thin.
Alif ke alaava/siwaai there some girls were-FemPl
'Besides Alif, some girls were there'.

One fact that might be relevant here is that in Hindi exceptive-additive phrases are always fronted, they cannot appear linearly after 'some girl' (shown in (118)).

(118) *Wahaan kuch ladkiyaaN Anu ke alaava/ siwaai thin.
There some girls Anu ke alaava/siwaai were-FemPl
Intended: 'Some girls besides Anu were there'.

1.3.4 Turkish

In Turkish[8], exceptive-additive phrases are introduced by *dışında*. Its exceptive usage is illustrated in (119), where *dışında* operates on a universal quantifier, and the additive usage is illustrated in (120), where *dışında* does not operate on any overt quantifier.

(119) Ali dışında her çocuk-la dans et-ti-m.
Ali dışında every kid-with dance do-past-1s
'Except for Ali, I danced with every boy'.

(120) Ali dışında Asil-le de dans et-ti-m.
Ali dışında Asil-with also dance do-past-1s
'Besides Ali, I also danced with Asil'.

Here we see the familiar pattern: if (119) is put together with a statement contradicting the negative inference that *dışında* contributes in (119), the resulting discourse is perceived by the native speakers as contradictory. However, conjoining it with an explicit negative statement 'I did not dance with Ali' is totally fine, as shown in (122).

[8] I am grateful to Deniz Ozyildiz for the Turkish data.

The negative inference tests:

(121) #Ali-la dans et-ti-m ve Ali dışında her çocuk-la da dans
Ali-with dance do-past-1s and Ali dışında every kid-with also dance
ettim.
do.past.1s
Intended: 'I danced with Ali and I also danced with every other boy' .

(122) Ali-la dans et-me-di-m ve Ali dışında her çocuk-la dans
Ali-with dance do-NEG-1s and Ali dışında every kid-with dance
ettim.
do.past.1s
'I did not dance with Ali, but I danced with every boy except Ali' .

Like Russian *krome*, *dışında* cannot get the exceptive reading with existential quantifiers. This is demonstrated by the fact that (123) cannot get any interpretation. *Dışında* gets the additive reading with existentials in the absence of "also" and "other" only in some limited contexts, like the one in (124).

(123) #Ali dışında, bazı çocuklar-la dans ettim.
Ali dışında some kids-with dance do-past-is
Indented: 'I danced with some boys besides Ali'.

(124) Benim dışında oda biri var.
I-sg-GEN dışında in-the-room some one
'There is someone in the room besides me'.

Like Hindi *alaava/ siwaai* and unlike Russian *krome* and English *besides, dışında* cannot come linearly after a quantifier as shown below. This is possibly a factor that is at least partially responsible for the restriction on the use of *dışında* with existentials in Turkish.

(125) *Bazı çocuklar-la Ali dışında dans ettim.
some kids-with Ali dışında dance do-past-is
Indented: 'I danced with some boys besides Ali'.

With the addition of *de* ('also') and *başka* ('other'), *dışında* with existential quantifiers gets the additive reading.

(126) Ali dışında, bazı başka çocuklar-la de dance ettim.
Ali dışında some other kid-with also dance do-past-is
'Besides Ali, I danced with some other boys'.

Dışında gets the additive reading with focus associates ((127) and (128)) and in questions (129) - the pattern that is already familiar from the previous discussion of other languages.

(127) Ali dışında, Beste_F Asil ile dans et-ti.
Ali dışında, Beste_F Asil with danced do-past
'Besides Ali, Beste_F danced with Asil'

(128) Ali dışında, Beste Asil_F ile dans et-ti.
Ali dışında, Beste Asil_F with danced do-past
'Besides Ali, Beste danced with Asil_F'

(129) Beste dışında hangi kızlar vardı orada?
Beste dışında which girls were there?
'Which girls besides Beste were there?'

The two sentences (127) and (128) that only differ with respect to their focus structure do not mean the same thing. (127) means that Ali and Beste danced with Asil and (128) means that Beste danced with Ali and Asil.

Dışında in *wh*-questions obligatorily comes with the containment inference. This is shown by (130) which is not a well-formed sentence due to the fact that Ali is a male name and because of that the person this name refers to cannot be in the domain of 'which girls'.

The containment inference test:

(130) #Ali dışında hangi kızlar vardı orada?
Ali dışında which girls were there?
'Which girls besides Ali were there?'

The question in (129) requires that Beste was there. This is shown by the contrast between (131) and (132). In (131), the question (129) is asked after learning that Beste was there and this question in felicitous in this context. In (132) this question asked after learning that Beste was not there and this discourse is not felicitous.

The positive inference tests:

(131) A: Beste orada-y-di
Beste there-BE-past
'Beste was there'.

B: Beste dışında hangi kızlar vardı orada?
Beste dışında which girls were there?
'Which girls besides Beste were there?'

(132) A: Beste orada degil-di
Beste there NEG-past
'Beste was not there'.

B:# Beste dışında hangi kızlar vardı orada?
Beste dışında which girls were there?
'Which girls besides Beste were there?'

1.3.5 Generalizations about the Empirical Facts in English, Russian, Hindi and Turkish

The goal of this dissertation work is to account for the exceptive and the additive readings, the entailments those readings come with and the distribution of those readings. The generalization emerging from the discussion above can be summarized as follows:

(133) **Key generalizations:**

(i) Exceptive-additive markers get the exceptive reading with universal quantifiers. In these contexts, additive readings are not available: an exceptive-additive marker obligatorily contributes a negative inference. The exceptive reading is also characterized with the containment entailment. The quantificational claim is made about a reduced domain – a set that does not include the individuals denoted by the DP introduced by an exceptive-additive marker.

(ii) Exceptive-additive phrases get the same reading as exceptives with negative quantifiers, NPIs and n-words. The meaning exceptive-additive markers get in these contexts is characterized with a positive entailment, containment and domain subtraction.

(iii) Exceptive-additive markers get additive readings in questions and with focus associates and in some languages with existentials. Additive readings with *wh*-questions and existentials are characterized with a positive entailment, containment and domain subtraction. Additive readings with focus associates come with a positive entailment.

Note that English *besides*, Russian *krome*, Hindi *alaava* and *siwaai*, Turkish *dışında* can only introduce one DP and not any constituent of a bigger size. Below I illustrate that those markers cannot host PPs. Thus, in those languages exceptive-additive constructions, at least on the surface, are phrasal.

(134) *Besides with Anna, I danced with every girl (English)

(135) *Krome s Anej, ja pogovorila ob etom s Mašej$_F$. (Russian)
Krome with Ani, I talked about this with Masha$_F$
Intended: 'Besides Anya, I talked about this with Masha$_F$.'

(136) *Alif ke saath alaava/siwaai main Bill_F ke saath naachii. (Hindi)
Alif ke with alaava/siwaai I Bill_F with danced
Intended: 'Besides Alif, I danced with Bill.

(137) *Ali-la dışında her çocuk-la dans et-ti-m. (Turkish)
Ali-with dışında every kid-with dance do-past-1s
Intended: 'I danced with every boy except with Ali'.

1.3.6 Rejecting Some Initial Hypotheses

In this subsection I would like to consider two ideas about one of the most challenging cases, specifically about the case where exceptive-additive markers get the additive reading in the absence of an overt quantifier. Those are the cases like (138) and (139) in English.

(138) Besides Italy, I visited Germany.

(139) Besides Ann, John_F talked about this with Mary.

1.3.6.1 Not all Additive Cases can be Reduced to Exceptive Cases

The initial idea one might have about cases like these is that exceptive-additive markers operate on a silent *only* or exhaustifier, and the reading we are in fact dealing with is the exceptive reading.

We know that free exceptives can occur in sentences with *only* and introduce exceptions to this kind of quantificational phrase. This is illustrated in (140) and (141)[9]. The first sentence means that the only exception to the generalization 'I visited nothing other than Germany' is Italy. The second one means that the only exception to the generalization 'No one other than John talked about this with Mary' is Ann.

(140) Except for Italy, I visited only Germany.

[9] Not all English speakers find those examples acceptable.

(141) Except for Ann, only John$_F$ talked about this with Mary.

Sentences in (142) and (143) have exactly the same meanings. Like sentences in (140) and (141) they both come with a positive entailment, which is expected under the exceptive reading here because the quantifier is negative.

(142) Besides Italy, I visited only Germany.

(143) Besides Ann, only John$_F$ talked about this with Mary.

If the hypothesis that there is a covert *only* or exhaustifier in (138) and (139) were right, the positive entailment that is present in those cases would have found a natural explanation (the idea that there is a covert *only* in examples like in (138) and (139) was proposed in Mayer 1991).

What I would like to argue for here is that this hypothesis is not on the right track.

First of all, the sentences (140) and (141) with 'except for' become ungrammatical if we remove the overt *only*. If *besides* in (138) and (139) can operate on a covert *only*, we should expect that *except for* also should not care if *only* is overt or covert.

(144) #Except for Italy, I visited Germany$_F$.

(145) #Except for Ann, John$_F$ talked about this with Mary.

There is another reason why we should to reject this initial hypothesis. There is simply no exhaustivity in (138) and (139). (138) is perfectly compatible with me visiting other countries on top of Germany and Italy, and (139) is perfectly compatible with people other than Ann and John talking about this with Mary.

Let's consider another example from Russian. The sentence in (146) is true in the context where it is known that Tolstoy wrote things other than "War and Peace" and "Anna Karenina". It definitely does not have the same meaning as the corresponding sentence with an overt *only* in (147), which is false because it is known that he wrote not just those two things.

(146) Krome "Vojny i mira" Tolstoj napisal "Annu Kareninu" .
krome "War and Peace" Tolstoy wrote "Anna Karenina"
'Besides "War and Peace", Tolstoy also wrote "Anna Karenina" '.

(147) Krome "Vojny i mira" Tolstoj napisal tol'ko "Annu Kareninu".
krome "War and Peace" Tolstoy wrote only "Anna Karenina"
'Besides "War and Peace", Tolstoy only wrote "Anna Karenina" '.

1.3.6.2 Exceptive-Additive Markers do Not Remove Entities from the Domain of Entities

Another idea that might seem plausible initially, but also has to be rejected after a more serious consideration, is that in cases like (138), (139) and (146), where no overt quantifier is present, an exceptive-additive marker removes elements denoted by the DP it introduces from the domain of entities. This was the idea Hoeksema (1987) proposed for free exceptives, which he took to be operators on a sentential level. The idea, if extended to our examples with *besides,* would be that *besides* removes elements from the domain of entities considered for interpretation of the sentence following the *besides*-phrase, as shown in (148). This would not explain the additive inference but would help us to bring cases with quantifiers and without quantifiers closer: in both types of cases, there is a subtraction: this subtraction is from the domain of entities with respect to which the sentence is evaluated.

(148) $[[(\text{besides DP})\ \alpha]]^{D} = [[\alpha]]^{D-[[DP]]}$

A serious objection to this idea was presented in von Fintel (1994). Cases like (149) show that we cannot remove Anya from the domain of entities. If we do this, we would not be able to interpret 'Anya's brother', where the proper name Anya has to be mapped to the individual Anya.

(149) Besides Anya, I talked about this with Anya's brother.

1.3.7 Besides Exceptive and Exceptive-Additive Constructions, There are Also Additive Constructions

I started this discussion by pointing out that the exceptive-additive constructions that I focus on in this dissertation have some properties in common with the exceptive constructions. I stated that exceptive-additive constructions have a double life and when they are used with universal quantifiers (or negative quantifiers, which can also be thought of as universal quantifiers) they get the same reading as exceptives. Another aspect of their similarity with exceptives is that they do not get the exceptive reading with existential quantifiers.

The generalization about the additive contexts I proposed is that the exceptive-additive constructions get the additive reading with existential quantifiers, with focus associates and with *wh*-questions.

The existence of such lexical items as *except* and *but* that only have one – the exceptive reading – naturally raises the question: are there constructions that encode the other part of the meaning of exceptive-additive constructions? do additive constructions exist? And the answer is: yes, there are lexical items that specifically track the additive meaning.

As was said earlier, some people do not find English *besides* acceptable with universal quantifiers. The example is repeated below in (150). For those speakers who do not find (150) acceptable but find all the rest of the examples in Section 1.3.1 grammatical, *besides* only tracks the additive meaning.

(150) Every girl besides Mary and Ann was there.

However, additive constructions exist outside English as well. In Spanish there is a construction that tracks the additive reading and the additive reading only. It is introduced by *además de*[10].

(151) Además de historia, enseña filosofía y teología[11].
Además de history teach-3s philosopy and theology
'Besides history, he teaches philosophy and theology'.

Además de interacts with focus in a familiar way: (152) and (153) have different meanings and they differ only in the position of the focus.

(152) Además de Anna, Juan_F bailaba con María.
Además de Anna, Juan_F danced with Maria
'Besides Anna, Juan_F danced with Maria'.
Meaning: Anna and Juan danced with Maria.

(153) Además de Anna, Juan bailaba con María_F.
Además de Anna, Juan danced with Maria_F
'Besides Anna, Juan danced with Maria_F'.
Meaning: Juan danced with Anna and Maria.

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[10] I thank Miguel Angel Sebastian for the Spanish data in this section.

[11] This example is from this electronic dictionary:

http://www.spanishdict.com/translate/adem%C3%A1s%20de

With focus associates *además de* can only get the additive reading, as the test below shows.

The positive inference test:

(154) #Juan no bailaba con Anna, pero además de Anna, Juan bailaba con $Maria_F$.
Juan NEG danced with Anna, but además de Anna, Juan danced with Maria
Intended: #'Juan did not dance with Anna, but among the people other than Anna, Juan danced with $Maria_F$'.

(155) Juan bailaba con Anna y además de Anna, Juan bailaba con $María_F$.
Juan danced with Anna y además de Anna, Juan danced with $Maria_F$
'Juan danced with Anna, and besides Anna, Juan danced with $Maria_F$'.

Another perfect environment for this construction is a *wh*-question, as shown in (156), and, again, in this context *además de* can only mean *in addition to* as shown by the positive inference test in (157) and (158).

(156) ¿Qué chicas además de Anna vinieron?
Which girls además de Anna came?
'Which girls besides Anna came?'

The positive inference tests:

(157) #Anna no vino. ¿Qué chicas además de Anna vinieron?
Anna NEG came. Which girls además de Anna came?
Intended: #'Anna did not come. Which girls besides Anna came?'

(158) Anna vino. ¿Qué chicas además de Anna vinieron?
Anna came. Which girls además de Anna came?
'Anna came. Which girls besides Anna came?'

It obligatorily introduces containment as shown in (159).

The containment inference test:

(159) # ¿Qué chicas además de Miguel vinieron?
Which girls además de Miguel came?
Intended: #'Which girls besides Miguel came?'

The question in (158) cannot be answered with 'Anna', the question is not about Anna, an acceptable answer would be 'Maria' (this is **the domain subtraction test**).

Existential quantifiers provide another additive context and, as expected, *además de* is acceptable in this context as (160) shows. This sentence can only be true if there is another girl who is not Anna who was there. The usual containment inference test and the positive inference test are given below.

(160) Una chica además de Anna estaba allí.
One girl además de Anna was there
'One girl besides Anna was there'.

The positive inference test:

(161) #Anna no estaba allí, pero una chica además de Anna estaba allí.
Anna NEG be there but one girl además de Anna was there
Intended: #'Anna was not there, but some girl other than Anna was there'.

(162) Anna estaba allí y una chica además de Anna estaba allí.
Anna be there y one girl además de Anna was there
'Anna was there and some girl besides Anna was there'.

The containment inference test:

(163) #Una chica además de Miguel estaba allí.
One girl además de Miguel was there
Intended: #'Some girl was there in addition to Miguel'.

However, *además de* is unacceptable in all contexts that are the friendliest to the exceptive meaning: with universal quantifiers (164) and with negative quantifiers (I provide two examples, one with the negative quantifier in the subject position (165) the other with it in the object position (166)).

(164) *Vinieron todas las chicas además de Anna.
Came all the girls además de Anna
Intended: 'All girls came except Anna'.

(165) *Ninguna chica vino además de Anna.
No girl came además de Anna
Intended: 'No girl came except Anna'.

(166) *No leí ningun libro además de 'Guerra y Paz'.
Not read any book además de 'War and Peace'
Intended: 'I did not read any books except 'War and Peace''.

Of course, globally additive contexts do not block the presence of a universal quantifier. So the example (167), which is just like (164), but with *Anna* replaced by the male name *Miguel*, is perfectly well-formed.

(167) Vinieron todas las chicas además de Miguel.
Came all the girls además de Miguel
'Besides Miguel, all girls came too'.

What we can conclude from this is that the reason why (164) is not well-formed is that (i) *además de* cannot get the exceptive reading at all, (ii) the additive reading with universal quantifiers is not available (in the sense, in which it is available in *wh*-questions, where it comes with the containment inference), and (iii) the global additive construal is not available. Point (iii) holds for the same reason why (168) is not acceptable under the assumption that Anna is a girl. Therefore, every possible way of constructing a meaning for (164) fails.

(168) #Anna came. All girls came too.

The fact that the *además de* cannot produce any well-formed meaning in (165) and (166) is interesting. As was said before, English *besides* can be used with negative quantifiers and in those contexts it comes with the positive inference. I pointed out that it is difficult to tell apart the additive and the exceptive readings in those contexts and perhaps the unambiguously additive *además de* tells us that it is not the additive reading that is at play in those cases.

There are other things we can learn from the true additive *además de*. Two additive contexts I did not discuss so far are degree quantifiers like *many* and numerals like *three*. In those contexts, *además de* is perfect and it comes with the positive inference. As is evident from the English translations of the examples in (169) and (170), English *besides* is also acceptable in those contexts and it also gets the additive interpretation.

(169) Cinco chicas además de Anna estaban allí.
Five girls además de Anna were there
'Five girls besides Anna were there'.

(170) Leí muchos libros además de 'Guerra y Paz'.
Read.1sg many books además de 'War and Peace'
'I read many books besides 'War and Peace'.

One might initially think that that the positive inference in the English version of (169) (given in (171)) might come here as a result of an exhaustive interpretation of the numeral and applying some sort of an exceptive interpretation of *besides* on this construal (this idea is proposed and explored in von Fintel 1993).

(171) Five girls besides Anna were there.

The idea is that the numeral in (172) can be interpreted as 'exactly five' or 'only five': a sentence with a numeral and without *besides* given in (172) can mean something like (173).

(172) Five girls were there.

(173) Only five girls were there.

Then the contribution of *besides Anna* could be two-fold: it subtracts Anna from girls as shown in (174). On top of this it could contribute the claim that without this subtraction the claim would not be true (175). (175) is logically equivalent to (176).

(174) Only five girls who are not Anna were there.

(175) It is not true that only five girls overall were there.

(176) Either less than five girls overall were there OR more than five.

Of course, it cannot be the case that without Anna there are five girls who came and with her it becomes less than five irrespective of whether she came or not. There is no way the domain subtraction in (174) and the first disjunct in (176) 'less than five girls overall were there' can be simultaneously true. Thus, the second disjunct has to be true: it has to be the case that if we count together with Anna there are more than five girls who came. That guarantees that Anna is a girl and that she came. Those are the two inferences (171) comes with.

What Spanish *además de* teaches us is that there has to be another way of getting the additive meaning with numerals. The approach that I sketched in this section treats *besides* as an exceptive operator. This exceptive approach to deriving the additive meaning of (169) incorrectly predicts that *además de* should be perfect with universal quantifiers.

It predicts that *además de* should contribute two things in (164): (177) and (178), which is equivalent to (179). Those two claims together give us that Anna did not come and every other girl came. This is a perfectly well-formed exceptive reading. However, contrary to this prediction, (164) is completely unacceptable.

(177) All girls who are not Anna came.

(178) Not all girls came.

(179) Some girl did not come.

Constructions that are unambiguously additive or exceptive are very useful instruments: they allow us to tell apart the exceptive and the additive meanings in cases when those meanings are difficult to distinguish.

One final note about Spanish *además de*: the largest syntactic element this phrase can host is a DP, it cannot host PPs as shown in (180), thus, at least superficially it appears to be phrasal.

(180)	*Además	de	con	Anna, Juan$_F$	bailaba	con	María.
	Además	de	with	Anna, Juan$_F$	danced	with	Maria

Intended: 'Besides Anna, Juan$_F$ danced with Maria'.

1.4 Clausal Exceptives

The second puzzle that that has not gotten a lot of attention in the semantic literature is that in many languages complements of exceptive markers do not seem to be expressions denoting sets that can be subtracted from domains of quantifiers quantifying over individuals. In this Section I review the known arguments in favor of the idea that some exceptives are clausal. I develop a new argument against the idea that English *except* introduces a set of individuals. The existence of clausal exceptives poses a problem for the classic approach to the semantics of exceptives that I have reviewed in Section 1.2.

Clauses denote propositions, functions of type <st> and they cannot be put together with NPs in a compositional manner, thus it is unclear how they can restrict the domains of natural language quantifiers. I will discuss and reject some initial hypotheses about possible semantic analyses of clausal exceptives.

1.4.1 PPs and Multiple Remnants in Exceptives

In this Section I review the known arguments in favor of the idea that English *except* introduces a clause. I will also develop new arguments against the idea that it introduces a set of individuals.

Moltmann (1995) observes that English *except* can contain several constituents of different syntactic types. Perez-Jimenez and Moreno-Quiben (2010) make a similar observation about Spanish *excepto*, their example is given in (181) and its English translation is grammatical as well. Based on this evidence Perez-Jimenez and Moreno-Quiben (2010) have argued that syntactically some exceptives embed reduced clauses.

(181) Todos los niños bailaron con todas las niñas en todas
all the boys danced with all the girls in all
partes, excepto Juan con Eva en la cocina.
places, except Juan with Eva in the kitchen
'All the boys danced with all the girls everywhere, except Juan with Eva in the kitchen'.

The sentence in (181) means that (i) Juan danced with every girl other than Eva in every place and Eva danced with every boy other than Juan in every place, they even danced with each other in every place other than the kitchen (the domain subtraction); (ii) Juan did not dance with Eva in the kitchen (the negative inference); (iii) Eva is a girl and Juan is a boy and kitchen is a place (the containment inference).

Perez-Jimenez and Moreno-Quiben (2010) report that the version of (181) where the full clause (a positive or a negative) with a verb is pronounced inside the exceptive phrase is not grammatical (shown in (182)).

(182) *Todos los niños bailaron con todas las niñas en todas
all the boys danced with all the girls in all
partes, excepto Juan (no) bailo con Eva en la cocina.
places, except Juan (NEG) danced with Eva in the kitchen
Intended: ‘All the boys danced with all the girls everywhere, except Juan did not dance/danced with Eva in the kitchen’.

In English the full negative clause can be pronounced after *except* (at least some of the English speakers find (183) grammatical). No English speaker accepts a full positive clause after *except* in this context (184).

(183) All the boys danced with all the girls everywhere, except Juan did not dance with Eva in the kitchen

(184) *All the boys danced with all the girls everywhere, except Juan danced with Eva in the kitchen

Moltmann (1995) argued that an exceptive can introduce a small clause that semantically is interpreted as a set of n-tuples ({<Juan, Eva, the kitchen>} in our example) that operates on a polyadic quantifier formed from *every boy*, *every girl* and *everywhere*[12]. Moltmann’s theory of exceptives will be discussed in more detail later in this Chapter (in Section 1.7.1). But it is worth pointing out here that, as Perez-Jimenez and Moreno-Quiben notice, such a proposal does not explain why *with* and *in* cannot be omitted in (181) neither in Spanish nor in English as shown in (185) and (186).

[12] Motlmann proposed to do subtraction from every set in the denotation of the generalized quantifier and not from the restrictor set (1995).

(185)	*Todos	los	niños	bailaron	con	todas	las	niñas	en	todas
	all	the	boys	danced	with	all	the	girls	in	all

partes,	excepto	Juan	Eva	la	cocina.
places,	except	Juan	Eva	the	kitchen

Intended: 'All the boys danced with all the girls everywhere, except Juan with Eva in the kitchen'.

(186) *All the boys danced with all the girls everywhere, except Juan Eva the kitchen.

It seems to be the case that what follows the exceptive marker in (181) must have a clausal structure. The fact that exceptives with multiple remnants exist does not prove that the surface form of this sentence is derived by ellipsis. Another possibility is that a part of the structure is shared between the main clause and the *except*-clause. This is difficult to implement because the remnants do not form a constituent in this case. In Chapter 3 of this work I argue that in English sentences where an exceptive contains multiple elements are derived by ellipsis.

Exceptives with multiple remnants introduce several new interesting semantic puzzles. As was said in the introduction, one well-established fact about exceptives is that they cannot operate on existential quantifiers (Horn 1989, von Fintel 1994). Exceptives with multiple constituents obey this constraint in their own interesting way: each element of an exceptive phrase has to have a universal quantifier as a correlate in the main clause (as shown by the ungrammatical (187) and (188)).

(187) *Every girl danced with *some* boy except Eva with Bill.

(188) **Some* girl danced with every boy except Eva with Bill.

In general, there is no prohibition against existential quantifiers in the main clause as long as an exceptive does not contain a corresponding constituent, as shown by (189).

(189) *Some* girl danced with *every* boy except (with) Bill.

The same point made by the contrast between (190) and (191). In both examples the *except*-phrase contains multiple elements. Again, the presence of an existential quantifier is fine in the main clause as long as there is no corresponding element in the *except*-clause. The observation that this contrast exists to my knowledge has not been made in the previous literature[13].

(190) Every girl danced with every boy *somewhere* except Eva with Bill.

(191) *Every girl danced with every boy *somewhere* except Eva with Bill *in the kitchen*.

The novel challenge to the idea that an exceptive introduces a set that can be used to restrict a domain of a quantifier quantifying over individuals that I would like to add is based on the observation that an exceptive introduced by *except* can host a PP with a meaningful preposition. One such example is given in (192). *From Barcelona* denotes a set of things that are from Barcelona. The denotation of this prepositional phrase is shown in (193).

(192) I met a student from every city in Spain except from Barcelona.

(193) {x: x is from Barcelona}

[13] I thank Kyle Johnson for this observation. The observation that there is a restriction on the types of quantifiers in the main clause is not novel, it goes back to (Moltmann 1995). However, as far as I know, the observation that it is only the type of the correlates of the remnants that matter is novel.

Subtraction of this set from the set of cities cannot have any effect on the overall meaning of the sentence, because things that are from Barcelona are not cities. Subtracting things that are from Barcelona from a set of cities in Spain is equivalent to the set of cities in Spain, as shown in (194). Thus, we cannot use this set to restrict the domain of the quantifier in (192) in any useful way.

(194) $\{x\text{: x is a city in Spain}\}-\{x\text{: x is from Barcelona}\}=\{x\text{: x is a city in Spain}\}$

Moreover, we cannot apply von Fintel's idea that an exceptive also contributes a claim that if the subtraction does not happen, the quantificational claim is not true to derive the inference that Barcelona is a city in Spain and the inference that I did not meet a student from Barcelona. This is because (195) directly contradicts (196).

(195) $\forall x[\text{x is a city in Spain \& x is not from Barcelona} \rightarrow \exists y[\text{y is a student from x \& I met y}]]$

(196) $\neg\forall x[\text{x is a city in Spain} \rightarrow \exists y[\text{y is a student from x \& I met y}]]$

Those inferences are however still there. The containment inference is tested in (197). This sentence is infelicitous because New York is not a city in Spain. The negative inference is tested in (198): the sentence is infelicitous. Due to the fact that *except* contributes the negative inference the claim with *except* cannot be conjoined with the claim that contradicts that inference.

(197) #I met a student from every city in Spain except from New York.

(198) #I met a student from Barcelona and I met a student from every city in Spain except from Barcelona.

Another case challenging the phrasal syntactic analysis of exceptives that I will consider is the one where an exceptive phrase contains a prepositional phrase that has no correlate (a corresponding antecedent) in the main clause. The example is given in (199) (this example is based on a structurally similar example from Spanish reported by Perez-Jimenez and Moreno-Quiben (2010)[14]). The contrast between (199) and (200), where the PP was substituted by a DP, tells us that the preposition *from* makes an important contribution to the overall meaning of the sentence.

(199) I got no presents except from my mom.

(200) #I got no presents except my mom.

Note that in English *from my mom* cannot be derived by ellipsis from *the one from my mom*. This is because *the one* is not the kind of constituent that be deleted in English, as shown by the contrast between (201) and (202).

(201) I got two presents; the one from my mom was nice.

(202) *I got two presents; from my mom was nice.

Here, unlike in the previous example, we could try to take the set of things that are from my mom and subtract it from the set of presents. This move will allow us to restrict the quantification to those presents that are not things from my mom (this is shown in (203) and the full quantification with domain subtraction is shown in (204)).

(203) {y: y is a present}-{x: x is from my mom} = {z: z is a present & z is not from my mom}

[14] The argument I built based on this example is new.

(204) $\neg\exists x[\text{x is a present } \& \text{ x is not from my mom } \& \text{ I got x}]$

However, extending the analysis von Fintel proposed for *but* to this case with *except* would also require adding the second claim – the Leastness Condition. Leastness in this case would be the claim in (205) (any set such that if it is subtracted from the domain of the quantifier and makes the quantificational claim true contains a set of things from my mom as its subset).

(205) $\forall Y[\neg\exists x[\text{x is a present } \& \ x \notin Y \& \text{ I got x}] \rightarrow \{x\text{: x is from my mom}\} \subseteq Y]$

This claim in (205) is equivalent to (206). The proof for that is given in (207)[15].

(206) $\{x\text{: x is from my mom}\} \subseteq \{y\text{: y is a present}\} \cap \{z\text{: I got z}\}$

(207) (205)=

$\forall Y[\forall x[\text{x is a present } \& \ x \notin Y \rightarrow \neg\text{I got x}] \rightarrow \{x\text{: x is from my mom}\} \subseteq Y]=$

$\forall Y\ [\{y\text{: y is a present}\} \cap \overline{Y} \subseteq \overline{\{x\text{: I got x}\}} \rightarrow \{x\text{: x is from my mom}\} \subseteq Y]=$

$\forall Y\ [\{y\text{: y is a present}\} \cap \{z\text{: I got z}\} \subseteq Y \rightarrow \{x\text{: x is from my mom}\} \subseteq Y]=$

$\{x\text{: x is from my mom}\} \subseteq \{y\text{: y is a present}\} \cap \{z\text{: I got z}\}$

This amounts to the following claim: every object that is from my mom is a present such that I got it. The sentence (199) does not come with this inference. It does not require that my mom only gives gifts to me or that all the objects that are from my mom are gifts. Thus, this example cannot be analyzed in terms of the classic analysis.

In this section I have argued that English *except* does not introduce a set of individuals that can be used to restrict a domain of a quantifier quantifying over individuals. Specifically, *except* can host multiple constituents or prepositional phrases with

[15] This proof is built on the general proof that von Fintel (1994) provides.

meaningful prepositions. So far, I have not shown that those structures are derived via ellipsis. An alternative idea one can consider is that a part of the structure is shared between the main clause and the exceptive phrase. It is important to highlight that in any case those examples show there are cases where the complement of *except* has a clausal syntactic structure, whether it is derived by ellipsis or not. This means that *except* has to relate two clauses in such a way that the known inferences exceptives come with would be explained and the restrictions on their use would be captured. There is no account for clausal exceptives in the existing semantic literature.

1.4.2 Rejecting Some Initial Hypotheses About Clausal Exceptives

1.4.2.1 Multiple Remnant Cases cannot be Reanalyzed as Multiple Exceptives Operating on Different Quantifiers

One idea that we can also immediately reject is that in cases like (181), an exceptive introduces several sets and they are somehow subtracted from the domains of the relevant quantifiers. Specifically, the idea would be that in (181), *except* introduces three sets - {Juan}, {Eva}, {the kitchen} and the first of them is subtracted from the set of boys, the second one from the set of girls and the third one from the set of places. Then the Leastness Condition is imposed for each of the subtractions. This approach would predict that (208) and (209) should have equivalent meanings.

(208) Every girl except Jane danced with every boy except John.

(209) Every girl danced with every boy except Jane with John.

However, that is not the case as was noticed by Moltmann (1995). (208) can be true if Jane danced with John: this sentence says that Jane is the only exception to the generalization ‘all girls danced with all boys other than John and did not dance with John’. One way of being an exception to this generalization for Jane is to dance with John. (209) cannot be true in this scenario: it requires that Jane and John did not dance together: it states that Jane dancing with John is the only thing that stands in the way of ‘every girl danced with every boy’ being true.

1.4.2.2 It is not Just a Conjunction of Two Clauses

The simplest hypothesis about the meaning of clausal exceptives is that an exceptive and the clause containing a quantifier are simply coordinated. If we make an assumption that a reduced exceptive clause has a polarity that is different than the polarity of its antecedent, then we can entertain the idea that (210) is structurally identical to (211). Under this hypothesis, the negative entailment is explained directly because it is simply the contribution of the exceptive clause. The idea would be that *everyone* in (211) comes with a covert domain restriction variable[16] and the sentence is not perceived as contradictory because there is a possible value for this variable that does not include John.

(210) I danced with everyone except (with) John.

(211) I danced with everyone, but I did not dance with John.

The more challenging problem is the distribution puzzle. Under the assumption that an exceptive clause and a main clause are simply coordinated in clausal exceptives, one can try to explain the badness of *except* with *some* by saying that *except* obligatorily introduces a silent *only*. Thus the badness of (213) would essentially follow from the unacceptability

[16] This idea is based on von Fintel’s (1994) way of modeling quantifier domain restriction.

of (212), which must be due to the pragmatic oddness of putting together the two claims: that Alex is the only person who did not help and that some people helped.

(212) #Some of my friends came to help, only not Alex.

(213) #Some of my friends came to help, except Alex.

Of course, the simple coordination analysis has nothing to say about why a sentence with *except* has to have a quantifier in the first place. Contrastive coordination is fine in (214), where no quantifier is present. And (215) where the DP in the second conjunct is associated with *only*, is acceptable. However, (216) is completely infelicitous.

(214) I talked to Mary, but I did not talk to Ann.

(215) I will talk to Mary and Olga, only not to Ann.

(216) *I will talk to Mary and Olga except to Ann.

The most challenging problem for the semantic analysis of clausal exceptives is the containment entailment. It is quite clear that a simple coordination analysis in (217) or a coordination analysis plus exhaustification by *only* in (218) cannot explain why (217) and (218) are well-formed, but (219) sounds contradictory.

(217) None of my girlfriends helped me, but Peter, who is a complete stranger, did.

(218) None of my girlfriends helped me, only Peter, who is a complete stranger.

(219) #None of my girlfriends helped me, except Peter, who is a complete stranger.

In a similar way, (220) does not impose containment, whereas (221) requires that your computer is one of your textbooks or notes and this is why this sentence is funny.

(220) You can use any textbooks or notes, only not your computer.

(221) #You can use any textbooks or notes except your computer.

We can conclude from this that the naive coordination analysis cannot work for exceptives because it cannot capture some of their most basic properties.

1.5 Exceptive-Additive Ambiguity in Clausal Cases

An additional level of complexity is brought to this problem by the existence of languages where exceptive-additive constructions syntactically appear to be clausal like Spanish exceptives.

The two languages that have this property that I was able to identify are Bulgarian and Persian.

1.5.1 Bulgarian

In Bulgarian[17] exceptive-additive constructions are introduced by the marker *osven*. First, I will give a general description of the exceptive-additive ambiguity in Bulgarian, and then I will show that at least in some cases *osven* introduces reduced clauses and not DPs.

1.5.1.1 Exceptive-Additive Ambiguity in Bulgarian: General Description

Osven gets the exceptive reading with universal quantifiers. The sentence (222) means that Ivan is a boy who did not talk with Iva and all other boys talked to her. With n-words under negation it gets the meaning equivalent to the meaning of English *except* with negative quantifiers.

(222) Vsjako momče osven Ivan govori s Iva.
Every boy osven Ivan talks with Iva
'Every boy except Ivan talks with Iva'.

[17] I thank Vesela Simeonova and Roumyana Pancheva for the Bulgarian data.

(223) Nikoe momče osven Ivan ne govori s Iva.
N-word boy osven Ivan NEG talks with Iva
'No boys except Ivan talks with Iva'.

Osven gets the additive reading in *wh*-questions (224). The additive reading in questions comes with the inferences already familiar from the discussion of the exceptive-additive ambiguity in other languages: positive entailment and containment. The containment is tested in (225): this question is infelicitous because Ivan is a clearly male name.

(224) Koi momičeta osven Katia dojdoha?
Which girls osven Katia came
'Which girls besides Katia came?'

The containment inference test:

(225) # Koi momičeta osven Ivan dojdoha?
Which girls besides Ivan came
Intended: 'Which girls in addition to Ivan came?'

The positive inference is tested in (226). My consultants tell me that this discourse is infelicitous, because *osven* requires that Katia came.

The positive inference test:

(226) A: Katia ne dojde.
Katia not came
'Katia did not come'

B: # Koi momičeta osven Katia dojdoha?
Which girls osven Katia came
'Which girls besides Katia came?'

An example of the additive usage with *also* is shown in (227)[18].

[18] My consultant told me that the presence of *also* is strongly preferred in this case, but it is possible without 'also'.

(227) Osven Ana, Maria sušto diode.
Osven Ann, Maria also came
'Besides Ann, Maria also came'.

Two examples illustrating the interaction of *osven* with focus are given in (228) and (229).

(228) Osven Ana, Iva_{F} vidya Ivan.
Osven Ana, Iva saw Ivan
'Besides Ana, Iva_{F} saw Ivan'

(229) Osven Ana, Iva vidya Ivan_{F}.
Osven Ana, Iva saw Ivan
'Besides Ana, Iva saw Ivan_{F}'

We saw that in some languages exceptive-additive phrases get the additive meaning with existential quantifiers. One way to introduce an existential in Bulgarian is to use a complex determiner *edno-dve* (lit: 'one-two'), which is translated as 'several'. *Osven* gets the additive reading with this construction. The relevant example is given in (230). The containment inference is tested in (231), and the test for the positive inference is given in (232).

(230) Govorih s edno-dve momicheta osven s Katia.
Talked-I with one-two girls osven with Katia
'I talked with several girls besides Katia.'

The containment inference test:

(231) #Govorih s edno-dve momicheta osven s Ivan.
Talked-I with one-two girls osven with Ivan
Intended: 'I talked with several girls in addition to Ivan.'

The positive inference test:

(232) #Ne govorih s Katia, no govorih s edno-dve
NOT talked-I with Katia, but talked-I with one-two
momicheta osven s Katia.
girls osven with Katia
Intended: 'I did not talk with Katia, but I talked with several girls other than Katia'.

There are other existential constructions in Bulgarian: *njakoi* ('some'), *njakakvi* (lit. 'some-what.kind.pl'), *njakolko* ('several' (lit: 'some-how.many)'). It is hard to get the additive reading by applying *osven* to those existentials directly. We have already seen a similar pattern in Turkish and Hindi. Some attempts to construct relevant sentences with various kinds of acceptability are given in (233)-(235).

(233) * Imaše njakoi momičeta osven Katia.
There-was some girls osven Katia
(nja-koi = lit: some-who.pl)
Intended: 'Some girls beside Katia were there'.

(234) ?? Imaše njakakvi momičeta osven Katia.
There-was some-kind girls osven Katia
Intended: 'Some girls beside Katia were there'.

(235) ?[19]Imaše njakolko momičeta osven Katia.
There-was several girls osven Katia
'Several girls beside Katia were there'.

Me and my consultants were able to construct one well-formed example with an existential introduce by *njakojv* ('someone'). It is given in (236). This sentence can only mean that Katia is in the room along with someone else.

[19] One of my consultants found this sentence acceptable and one found it slightly degraded.

(236) Znaeh če ima njakoj v stajata osven Katia.
knew-1sg that there-is someone in the-room osven Katia
'I know that there is someone besides Katia in the room'.

To sum up: Bulgarian *osven* can get the exceptive or the additive meaning. It gets the exceptive reading with universal quantifiers. It gets the additive reading in questions, and with focus associates (I include the constructions with *also* into this category). In limited contexts it gets the additive reading with existential quantifiers.

1.5.1.2 Clausal Exceptive-Additive Constructions in Bulgarian

Like Spanish exceptives[20], Bulgarian *osven* can host full prepositional phrases as well as multiple constituents. Examples with PPs are given in (237)-(239).

(237) Ne go lišavaše ot ništo osven ot svoeto vnimanie[21].
Not he deprive from nothing osven from his attention
'He did not deprive him of anything except his attention'.

(238) Imax po vsičko šestici osven po gimnastika[22].
I-had on everything six osven on gymnastics.
'I had 6 on every subject except on gymnastics.'

(239) Ivan govori s vseki, osven s Eva.
Ivan talks with everyone, osven with Eva
'Ivan talka with everyone except with Eva'.

My consultants tell me that there is a very strong preference for repeating the prepositional phrase after *osven*. This is illustrated by (240). Bulgarian might be a language where truly phrasal exceptives do not exist, and all seemingly phrasal cases we saw above in 1.5.1.1

[20] Spanish *excepto* is unambiguously exceptive, just like English *except*.

[21] This example is from the parallel Russian-Bulgarian corpora http://ruscorpora.ru/search-para-bg.html.

[22] This example is from the parallel Russian-Bulgarian corpora http://ruscorpora.ru/search-para-bg.html.

are underlyingly clausal.

(240) ???Ivan govori s vseki, osven Eva.
Ivan talks with everyone, osven Eva
'Ivan talks with everyone except Eva'.

An example, where *osven* hosts multiple constituents and gets the exceptive reading is given in (241).

(241) Vsjako momče govori s vsjako momiče, osven Ivan s Iva.
Every boy talks with every girl osven Ivan with Iva
'Every boy talks with every girl except Ivan with Iva'.

In this environment we observe the pattern that is already familiar from the discussion of the facts in English. Each remnant has to have a corresponding universal quantifier in the main clause: (242) is ungrammatical because it violates this requirement. However, there is no general prohibition against existential quantifiers in the main clause. In (243) the reduced *osven*-clause contains one PP and the sentence is grammatical, even though it has exactly the same main clause as (242).

(242) * Njakoe momče govori s vsjako momiče, osven Ivan s Iva.
Some boy talks with every girl osven Ivan with Iva
Lit:'Some boy talks with every girl except Ivan with Iva'.

(243) Njakoe momče govori s vsjako momiče, osven s Iva.
Some boy talks with every girl osven with Iva
'Some boy talks with every girl except with Iva'.

As one might expect, when used additively, *osven* can also host prepositional phrases and multiple constituents. An example with a PP is shown in (244).

(244) Osven s maika mi, govorih za tova (i) s bašta mi.
Osven with mom my, talked for this (also) with father my
'Besides my mom, I (also) talked about this with my father'.

An example where *osven* gets the additive reading and hosts multiple remnants is given in (245).

(245) Osven s maika mi včera, govorih za tova (i) s bašta mi dnes.
Osven with mom my yesterday talked for this (also) with father my today
'In addition to talking about this with my mom yesterday, I (also) talked about this with my father today'.

We already saw that *osven* can only get the additive reading in questions. And as expected, multiple remnants are allowed in this case. This is shown in (246).

(246) Koe momiče govoreše s koe momče , osven Iva s Ivan?
Which girl talked with which boy osven Iva with Ivan
'Which girl talked to which boy in addition to Iva talking to Ivan?'

Like in Spanish cases we saw earlier, the full clause following *osven* cannot be pronounced neither in the exceptive (as shown in (247), both the positive and the negative full sentence are ungrammatical after 'osven') nor in the additive case (shown in (248)).

(247) *Vsjako momče govoreše s vsjako momiče, osven Ivan
Every boy talked with every girl osven Ivan
(ne) govoreše s Iva.
(not) talk with Iva
Intended: 'Every boy talked with every girl osven Ivan did not talk with Iva'.

(248) *Osven govorih s maika mi včera, govorih za tova
Osven talked-I with mom my yesterday talked-I for this
(i) s bašta mi dnes.
(also) with father my today
Intended 'In addition to talking with my mom yesterday, I also talked about this with my father today'.

1.5.1.3 The Challenge Posed by the Bulgarian Data

The data considered above pose a further challenge for the simple idea that a clause that is introduced by an exceptive (in this case an exceptive-additive) marker is simply coordinated with the main clause.

Initially, it might seem like a simple conjunction analysis works well for additive cases. For example, the meaning of (245) can be paraphrased as (249).

(249) I talked about this with my mom yesterday, and also I talked about this with my father today.

However, if we try to capture the meaning of the question (246) in terms of conjunction of two clauses we are facing a difficulty. How can we conjoin a question and a proposition and what would it even mean? This question is not about Iva and Ivan, the information about them is already given.

Another difficulty a simple conjunctive idea faces is accounting for the distribution of the additive and the exceptive meanings. As we saw earlier, the conjunctive analysis of clausal exceptives requires that a reduced exceptive clause has a polarity opposite of the polarity of the main clause. For example, the conjunctive analysis of (239) would require the second clause to have the negative polarity, which is the opposite of the positive polarity of the antecedent clause.

(250) Ivan talked to everyone, but Ivan **did not** talk to Eva.

If we consider a sentence with negation and an n-word like the Bulgarian example given in (237), the conjunctive analysis would require the elided exceptive clause to have a positive polarity, which is the opposite of the negative polarity of the antecedent clause.

(251) He did not deprive him of anything, but he **deprived** him of his attention.

However, the conjunctive paraphrase of the additive usage in (249) required that the polarities of the elided and the antecedent clauses match, in that particular case both clauses had to be positive. Were the polarity of the antecedent clause negative as in (252), under the additive reading of *osven* the conjunctive analysis would require the polarity of both the elided and the antecedent clause to be negative (253).

(252)	Osven	Ana,	Maria	sušto	ne	doide.
	Osven	Ann,	Maria	also	not	came
	'Besides Ann, Mary also did not come.'					

(253) Ann did not come and Mary also did not come.

Such a theory would have to somehow make it possible for *osven* to introduce negation when the usage is exceptive and not introduce it when it is additive. The question a simple conjunctive idea does not answer is why in the absence of an overt quantifier (the cases I classified here as the focus cases) the polarity of the antecedent and the polarity of the *osven*-clause have to match.

Of course, there is nothing wrong with saying (254). This is not, however, one of the things that (245) can mean, even if we get rid of *also* ((255) is a version of (245) without *also*).

(254) I did not talked about this with my mom yesterday, but I talked about this with my father today.

(255) Osven s maika mi včera, govorih za tova s bašta
Osven with mom my yesterday talked for this with father
mi dnes.
my today
'In addition to talking with my mom yesterday, I talked about this with my father today'.

A more promising direction would be expressing the meaning of *osven* as a scopal interaction of *only* and negation. Thus, the meaning of (239) can be expressed as (256). The unavailability of the additive reading in (239) would follow from the badness of (257).

(256) Ivan talked to everyone, **only not** Eva.

(257) #Ivan not only talked to Eva but he also talked to everyone.

The meaning of (244) could be paraphrased as (258). However, the corresponding 'only not' paraphrase does not seem to be totally out in this case. Therefore, the unavailability of a negative inference in (244) would be difficult to explain in this case.

(258) I **not only** talk about this with my mom, I but also talked about this with my father.

(259) ?I talked about this with my father, **only not** with my mom.

I already provided the examples where *only not* paraphrases do not introduce a containment inference imposed by exceptives. That would be the biggest challenge for this kind of approach for the clausal exceptive-additive phrases. Here I would like to show that a similar problem exists for the additive readings with questions.

Let's consider the possibility that *osven* obligatorily introduces *only* and negation and it is the scope of those two elements that determines the resulting reading. Let's abstract away from the issue of putting together a clause and a question. The observation is that (260) is incoherent. This could be the first step toward ruling out the exceptive reading with questions. The 'not only' version of this conversation in (261) is coherent.

(260) A: **Only** Anya did **not** come.
B: #Which girls came?

(261) A: **Not only** Anya came.
B: Which girls came?

The challenge, however, is that (262) is also coherent. We know that in Bulgarian *osven* obligatorily introduces a containment inference in questions.

(262) A: **Not only** Peter came.
B: Which girls came?

Capturing containment inferences in additive and exceptive cases when what follows the exceptive-additive marker is a clause and thus not a constituent we can put together with a predicate like 'girls', I believe, is the biggest challenge for the semantic theory of clausal exceptive-additive constructions.

1.5.2 Persian: Both Phrasal and Clausal Exceptive-Additive Constructions Exist

Now that we have established that some exceptive-additive constructions host reduced clauses, the questions that we need to ask is whether there are any real phrasal exceptives at all. One possibility is that all cases that appear to be phrasal underlyingly have clausal syntax as well. I take this to be an empirical question about the syntax of those constructions. A similar question has been asked and explored to a significant extent in the literature on comparatives (Lechner 2001, 2004, 2009; Pancheva 2006, 2007; Merchant 2009; Bhatt & Takahashi 2011). Comparatives can be clausal (as in (263)) or phrasal (as in (264)).

(263) I talked to Jane more often than I talked to Bill.

(264) I talked to Jane more often than Bill.

There are two types of approaches to phrasal comparatives. One of them is *the reduced clause analysis* (Heim 1985, Hackl 2000, Lechner 2001 etc), according to which phrasal comparatives are derived from clauses by ellipsis. Another one is the direct analysis that holds that some comparatives in some languages do not involve ellipsis (e.g. Bhatt & Takakashi 2011) and what follows *than* is a DP.

Reduced clausal analysis has been proposed as a possibility for comparatives that cannot overtly host fully pronounced clauses or any elements larger than a DP. For example, Merchant (2009) suggests that Greek comparatives introduced by *apo* can be underlyingly clausal even though in the overt structure a phrase headed by *apo* cannot host anything larger a DP. For those constructions it has been proposed that ellipsis is mandatory. There are exceptive and exceptive-additive constructions that cannot host anything larger than a DP. By analogy with comparatives, it is possible that those constructions have clausal syntax, but the clause has to be mandatorily deleted. Persian[23] provides an interesting

[23] I would like to thank Zahra Mirrazi for the Persian data.

empirical ground for studying this issue. One preliminary piece of evidence that suggest that a language can have both phrasal and clausal exceptives comes from Persian. Before I provide this evidence, I will give a general introduction into exceptive-additive constructions in Persian.

In Persian, exceptive-additive constructions are introduced by *bejoz*.

Bejoz gets the additive reading with focus associates (265) and (266), in questions (267) and with existentials in some limited contexts (one such context is given in (268)). I say 'in some limited contexts', because with a different predicate say 'danced' *bejoz* cannot operate directly on *some* (269). In this case it can get a meaningful interpretation only if it is fronted, and 'other' and 'also' are added in the sentence (270). In all of these examples the positive inference is obligatory. (Note that in Persian unlike in Turkish and Hindi, a *bejoz*-phrase does not have to come before the quantifier, so here we cannot say that the restriction on the usage of exceptive-additive phrases with existentials has something to do with the position exceptive-additive phrases can occupy).

(265) Bejoz John man ba Bill_F raghsdam.
Bejoz John I with Bill_F danced
'Besides John, I also danced with Bill_F'.

(266) Bejoz John man_F ba Bill raghsdam.
Bejoz John I_F with Bill danced
'Besides John, I_F also danced with Bill'.

(267) Ki bejoz Zahra, ba Bill raghsid?
Who bejoz Zahra with Bill danced?
'Who bejoz Zahra did Bill dance with?'

(268) Chand-ta doxtar bejoz Zahra oonja bood.
Some- girl bejoz Zahra there were-3pl
'Some girls were there besides Zahra.'

(269) # Man ba chand doxtara bejoz Zahra raghsdam.
I with some girls bejoz Zahra danced
'I with some girls danced besides Zahra.'

(270) Bejoz Zahra, chand doxtare dige ham raghsidam.
Bejoz Zahra some girls other too danced
'Besides Zahra, I danced with some other girls'.

In cases where *bejoz* is well-formed with existentials, it contributes the containment inference, which is tested in (271) (the assumption here is that Ali is a male name).

(271) #Chand-ta doxtar bejoz Ali oonja bood.
Some- girl bejoz Ali there were-3pl
Intended: 'Some girls were there in addition to Ali.'

The exceptive usage of *bejoz* is demonstrated in (272). What is important for us is that in (272) the only interpretation that is available is the exceptive one.

(272) Man ba har pesari bejoz John raghsid.
I with every boy bejoz John danced
'I danced with every boy except John'.

Unlike Bulgarian *osven*, *bejoz* cannot host multiple constituents. This is shown by the ungrammatical (273).

(273) *Har pesari har doxtari ro boosid bejoz John Mary ro.
every boy every girl RA kissed bejoz John Mary RA
Intended: 'Every boy kissed every girl except John did not kiss Mary'.
Lit: 'Every boy kissed every girl except John Mary'

However, like Bulgarian *osven*, *bejoz* can host PPs. I take it to mean that *bejoz* can have a clausal structure.

What is interesting about Persian is the contrast between (272), (274) and (275). In (274) I attempted to modify (272) by inserting the presposition *with* between *bejoz* and *John*. This made this example ungrammatical. However, once the *bejoz*-phrase is moved to the edge of the clause (which is shown in (275)), it becomes grammatical.

(274) *Man ba har pesari bejoz ba John raghsidam.
I with every boy bejoz with John danced
Intended: 'I danced with every boy except with John'.

(275) Man ba har pesari raghsidam bejoz ba John.
I with every boy danced bejoz with John
'I danced with every boy except with John'.

If *bejoz* that can host a prepositional phrase in (275) and *bejoz* that hosts a DP in (272) are the same, this contrast between (272) and (274) is surprising. However, under the assumption that the *bejoz* that contains a prepositional phrase is clausal and *bejoz* that contains a DP can be phrasal, this contrast finds a natural explanation. In (274) *bejoz ba John* (*bejoz with John*) appears between *with* and *danced*. If it is a reduced clause, the ellipsis can be resolved only if the elided clause is not contained in its antecedent[24]. In the connected position where it appears in (274) this condition is not met. In (275), the conditions for ellipsis resolution are met and the sentence becomes grammatical.

The ungrammaticality of (274) is also not expected under the assumption that the *bejoz*-phrase and *ba har pesari* share the verbal material. The idea I am trying to discard here is

[24] I thank Kyle Johnson for suggesting this explanation of the Persian facts.

that the PP *with every boy* and the *bejoz*-phrase form a constituent as shown in (276). If that were the case, it would be most natural for the *bejoz*-phrase to appear in the position adjacent to the PP with the quantifier, the position it occurs in the ungrammatical (274). Thus, the most plausible idea is that (275) is derived by ellipsis inside the *bejoz*-phrase.

(276) [I [vP [$_{PP}$ [$_{PP}$ with every boy] [$_{ExcP}$ bejoz with John]] danced]]

The question we might ask then is why in (272) *bejoz John* does not need to move. One very plausible explanation is that this exceptive-additive phrase is phrasal in the sense that it contains the DP *John* and nothing else. Thus, it does not need to move to resolve ellipsis. If both *bejoz John* in (272) and *bejoz ba John* in (274) are clausal, the contrast between the two examples remains mysterious. It is in general possible that both the clausal and the phrasal construal are possible for the phrases that have the shape *bejoz DP*. In this particular case (272), only the phrasal construal is grammatical in the connected position. Thus, Persian provides preliminary evidence that not all exceptive-additive constructions host full clauses.

Like in Bulgarian a full clause cannot be pronounced in Persian after *bejoz*. This holds both for positive and negative clauses. Exceptive deletion in this language is mandatory.

(277) *Man ba har pesari raghsidam bejoz man ba John
I with every boy danced bejoz I with John
na-raghsidam.
NEG-danced
Intended: 'I danced with every boy except I did not dance with John'.

(278) *Man ba har pesari raghsidam bejoz man ba John.
I with every boy danced bejoz I with John
raghsidam.
danced
Intended: 'I danced with every boy except I danced with John'.

1.5.3 There is No Correlation Between Connected-Free and Phrasal-Clausal Distinction

Hoeksema (1987) introduced a widely accepted distinction between connected exceptives and free exceptives. Connected exceptives were described by Hoeksema as postmodifiers of NPs and free exceptives as sentence level modifiers. It is important to point out that Hoeksema did not argue that free exceptives are clausal or that any exceptives are clausal at all. For him, an exceptive always introduced a DP.

It has been proposed in the literature that there is a correlation between the connected-free distinction and phrasal-clausal distinction at least for Spanish. Specifically, (Perez-Jimenez and Moreno-Quiben 2012) argued that clausal exceptives in Spanish are free and phrasal exceptives are connected. In this Section I review the free-connected distinction and the arguments proposed in (Perez-Jimenez and Moreno-Quiben 2012) and I show that the correlation observed in Spanish does not extend to other languages.

One observation that goes back to this early work of Hoeksema (1987) is that free exceptives can modify plural definite descriptions along with universal quantifiers while connected exceptives can modify universal quantifier, but not plural definite descriptions.

(279) Every student except Bill left.

(280) Every student, except for Bill, left.

(281) *The students except Bill left.

(282) The students, except for Bill, left.

Another observation made by Hoeksema (Hoeksema 1995) is that in English free exceptives are relatively free with respect to the position they can occupy in a sentence whereas connected exceptives can appear only in some restricted positions. Free exceptives can appear at the beginning or at the end of a sentence as well as in the position adjacent to the NP as illustrated in (283)- (285).

(283) Except for Bill, every student left.

(284) Every student left, except for Bill.

(285) Every student, except for Bill, left.

Connected exceptives can only appear in the position adjacent to an NP inside a DP or at the end of a sentence (as shown in (287) and (288)), and unlike free exceptives they cannot appear at the beginning of a sentence (286).

(286) *Except Bill, every student left.

(287) Every student left, except Bill.

(288) Every student except Bill left.

In this respect their properties are similar to the properties of relative clauses in English: it is a well-established fact that relative clauses in English cannot move leftwards as illustrated in (289), but can be extraposed as shown by the grammatical example in (291) (Ross 1986; Akmajian 1975; Baltin 1978, 1981; Culicover and Rochemont 1990).

(289) *That read the book every student left.

(290) Every student left that read the book.

(291) Every student that read the book left.

In general, connected exceptives require the presence of a quantificational DP in a sentence. Non-DP quantifiers are not compatible with the connected exceptives even if they have the universal force. This is illustrated by the contrast between the grammatical example in (292), where the free exceptive introduced by *except for* is construed as an exception to the universal quantificational claim introduced by *only*, and the ungrammatical example (293) that differs from (292) only with respect to the exceptive marker (there is a confound here: (292) is only grammatical if *except for* appears in the beginning of the sentence and we know that *except* cannot appear in this position at all).

(292) Except for Peter, only John read the book.

(293) *Except Peter, only John read the book.

Perez-Jimenez and Moreno-Quiben (2012) argued that clausal exceptives in Spanish are free and phrasal exceptives are connected. They proposed that syntactically free exceptives are coordinated with clauses and connected exceptives are coordinated with DPs. The data they present do suggest that in Spanish phrasal exceptives are always connected.

As Perez-Jimenez and Moreno-Quiben (2012) report, in Spanish *excepto* can host a DP and have a PP correlate in the connected position. This is shown in (294), where *except* is followed by the DP *Eva* and its correlate is the PP *de todos los asistentes* ('from all the attendees'), and (295) where *excepto* is followed by the DP *el País Vasco* (*the Basque Country*) and its correlate is the PP *de todas las comunidades* ('of all the autonomous regions').

(294) Recibí regalos de todos los asistentes excepto Eva.
Get.PAST.1SG presents from all the attendees except Eva
'I got presents from all attendees except Eva'.

(295) El proyecto recibió el apoyo de todas las comunidades excepto
The project received the support of all the aut.regions except
el País Vasco.
the Country Basque
'The project received the support of all the autonomous regions except the Basque Country'.

However, fronting the exceptive phrase in this case is not possible as shown in (296) and (297).

(296) *Excepto Eva, recibí regalos de todos los asistentes.
Except Eva, get.PAST.1SG presents from all the attendees
Indented: 'I got presents from all attendees except Eva'.

(297) *Excepto el País Vasco, el proyecto recibió el apoyo de
Except the Basque Country, the project received the support of
todas las comunidades.
all the aut.regions
Indented: 'The project received the support of all the autonomous regions except the Basque Country'.

An exceptive phrase marked with *excepto* with a PP-correlate can be fronted, however, if it hosts a PP instead of a DP: this is shown in (298), which is just like (296) except that what follows the exceptive marker is not just a DP, but the PP *de Eva* ('from Eva'), and (299) which is just like (297) except that the exceptive phrase contains a PP *de el País Vasco* ('of the Basque Country') and not just a DP.

(298) Excepto de Eva, recibí regalos de todos los asistentes.
Except from Eva, get.PAST.1SG presents from all the attendees
'I got presents from all attendees except from Eva'.

(299) Excepto de el País Vasco, el proyecto recibió el
Except of the Basque Country, the project received the
apoyo de todas las comunidades.
support of all the aut.regions
'The project received the support of all the autonomous regions except of the Basque Country'

The contrast between (296) and (298),and (297) and (299) seems to suggest that Spanish *excepto* is ambiguous between a phrasal exceptive marker and a clausal exceptive marker. The clausal one is free and the phrasal one can only appear in a connected position.

One question to ask here is why the remnant of an elided clause has to be an entire PP and cannot just be a DP. One plausible explanation is that a DP cannot move out of a PP inside of an elided clause in Spanish. Spanish seems to be another language where not all phrasal exceptives can be derived via ellipsis: there are true phrasal exceptives.

However, the parallelism between phrasal-clausal and connected-free distinction that Perez-Jimenez and Moreno-Quiben (2012) observed in Spanish does not generalize to other languages.

Specifically, the known cases of clausal exceptives in English are connected and there are free exceptives in English, Hindi, Russian and Turkish that are phrasal, although this point is harder to make given the possibility that phrasal exceptives are underlyingly clausal.

In English, we have sufficient evidence that *except* can introduce clausal exceptives: it can host PPs and multiple remnants. Exceptives introduced by *except* are connected as was shown by the facts in (281), (286), (293). Moreover, exceptives with *except* show properties of connected exceptives even in cases when they can only be analyzed as clausal. For example, there is a contrast between the grammatical example (300), where the exceptive phrase contains a PP (thus it has to be clausal) and appears in the connected position, and the ungrammatical example (301), where the exceptive phrase is fronted.

(300) John danced with every girl except with Eva[25].

(301) *Except with Eva John danced with every girl.

The same point can be made by the contrast between (302) and (303), where, again, the exceptive is clearly clausal, since it contains multiple remnants, but it cannot appear in the fronted position – thus it is a connected exceptive.

(302) Every boy danced with every girl except Bill with Eva.

(303) *Except Bill with Eva every boy danced with every girl.

The facts in (304) and (305) point in the same direction: just because what follows *except* is a PP (thus is a reduced clause), the exceptive phrase does not gain an ability to introduce an exception to the quantificational claim made by 'only': *except* has to be linked to a quantificational DP.

(304) *I only danced with John except with Peter.

(305) * Except with Peter, I only danced with John.

[25] Not all English speakers accept this example, but those who accept it find that there is a contrast between (300) and (301). I don't know why some cases where except hosts a PP (like *I met a student from every city in Spain except from Barcelona*) are more acceptable than other cases such as (300).

On the other hand, exceptives introduced by *except for* in English can only host DPs (as shown in (306)-(308)), but they are free exceptives. The facts demonstrating that *except for* is a free exceptive were shown in (282), (283) and (292) above.

(306) Every boy danced with every girl except for Eva.

(307) *Every boy danced with every girl except for with Eva.

(308) *Every boy danced with every girl except for Bill with Eva.

English *besides* has similar properties: it can only introduce a DP (as shown in (310)-(311)), but it is a free exceptive (as illustrated in (312) and (313)).

(309) Every boy danced with every girl besides Eva.

(310) *Every boy danced with every girl besides with Eva.

(311) *Every boy danced with every girl besides Bill with Eva.

(312) Besides Peter, I only danced with John.

(313) Besides Peter, I danced with no one.

Similarly, in Russian, Hindi and Turkish, exceptive-additive markers can only host DPs, but they are free: to see that it is enough to remind the reader that one context where exceptive-additive markers gets the additive reading is with focus associates: this is a context without any quantificational DP whatsoever (as I said, connected exceptives require a quantificational DP, their base-position is connected to this DP).

(314) Krome Ani, ja pogovorila ob etom s Mašej$_F$.
Krome Ani, I talked about this with Masha$_F$
'Besides Anya, I talked about this with Masha$_F$.'

In Russian, a DP inside an exceptive-additive phrase gets genitive case from *krome*.

(315) Krome Vani, ja pogovorila so vsemy.
Krome Vanya-GEN I talked with everyone
'Except for Vanya, I talked with everyone'.

It cannot host any constituent bigger than a DP irrespective of the position it occurs in (which is shown by the ungrammaticality of (316) and (317)).

(316) *Krome s Vanej, ja pogovorila so vsemy.
Krome with Vanya I talked with everyone
Intended: ', I talked with everyone except with Vanya'.

(317) *Ja pogovorila so vsemy krome s Vanej.
I talked with everyone krome with Vanya
Intended: 'I talked with everyone except with Vanya'.

Those facts, of course are consistent with the hypothesis that all phrasal exceptive-additive constructions are connected. Under this hypothesis, in all examples with fronted exceptive-additive constructions, like the ones in (314) and (315), what follows the exceptive-additive marker is a reduced clause. In this case in (314) and (315), the DP that follows *krome* would have to undergo movement inside the exceptive-additive clause out of the position corresponding to the position of the quantificational DP in the main clause before the rest of the material is deleted.

If the hypothesis that all fronted exceptive-additive constructions are clausal is on the right track, then we should be able to find some properties that languages like Russian have that allow them to have free exceptives hosting DPs with PP correlates that distinguish them from Spanish, where this possibility is blocked.

One thing we can establish now is that it cannot be the ability to move out of PPs, as for example in Russian movement out of PPs is not allowed. This is illustrated by the ungrammatical example in (318), where *kem* (*who*) moves out of the PP.

(318) *Kem Olja tancevala s?
Who Olya danced with
Indented: 'Who did Olya dance with?'

The good way of asking this question is shown in (319).

(319) S kem Olja tancevala?
With who Olya danced
Indented: 'Who did Olya dance with?'

In general this problem cannot be ameliorated by ellipsis: (320) and (321) are not good answers to this question. The smallest phrase that can count as an answer to this question is a PP (this is shown in (322)).

(320) *Olegom.
Oleg-INST

(321) #Oleg.
Oleg-NOM

(322) S Olegom.
With Oleg-INST

However, if in (315) the exceptive-additive construction introduced by *krome* that appears in the fronted position (thus, in the free position) is a clausal exceptive-additive, *Vanya* has to move out of the PP in the elided clause and it is unclear why it would be allowed in this case, but not in (320). A similar point is made by (323), where a free phrasal exceptive operates on the quantificational claim with 'only' and the correlate of the DP inside the exceptive-additive phrase is a PP in the main clause.

(323) Krome Peti, Olja tancevala tol'ko s Igorem.
Krome Petya, Olya danced only with Igor'
'Except for Petya, Olya only danced with Igor''.

To sum this discussion up: it appears to be the case that in some languages clausal exceptives can be connected, in some languages they can be free. In some languages phrasal exceptives have to be connected, in some languages they can be free. There does not seem to be a general correlation between those two properties of exceptives.

1.6 A General Description of the Approach Proposed Here and the Structure of the Dissertation

Exceptive-additive ambiguity for phrasal exceptive-additive markers in discussed in **Chapter 2**. The approach to the semantics of exceptive-additive constructions that I propose is built on von Fintel's proposal for the semantics of exceptives. I propose that the Leastness Condition in cases where an exceptive-additive phrase operates on a universal or a negative quantifier is not contributed by one operator. This job is divided between two operators, one of which is negation. When the scope of the two operators is flipped and the quantifier an exceptive-additive phrase operates on is existential, the additive reading is predicted. The exceptive meaning is generated when an exceptive-additive item operates on an existential quantifier as well, however, this meaning is contradictory, just like the meaning resulting from putting together an exceptive and an existential in von Fintel's system (1994). Because this contradiction is predicted to always arise when those functional elements are put together in that way the exceptive reading is predicted to not be ever available in those contexts. In a similar way, nothing in the system blocks the generation of the additive reading with a universal quantifier. However, the meaning produced in this case by the system I propose is a tautology. Again, this tautological meaning is generated every time those functional elements are put together in that manner. For this reason, the additive reading is not predicted to be available with universal quantifiers.

The two other contexts where the additive reading is found crosslinguistically are *wh*-questions and focus constructions. I propose that this fact is not accidental and there is a principled similarity in the ways the additive reading is generated in those two contexts. The idea that I develop for the cases where an exceptive-additive phrase gets the additive reading with focus associates is that in those contexts the phrase modifies the silent question under discussion. I follow Rooth (1992a) in assuming that questions and a focus value of a sentence have the same semantic type and that whenever there is a focused marked element in a sentence, there is a silent variable of a question type that is related to the focus value of a sentence via ~. I propose that exceptive-additive phrases modify that silent variable. Thus, I suggest that it only appears to be the case that in focus cases there is no quantificational expression that an exceptive-additive marker operates on. In fact, there is one, namely the one that is a part of a silent question under discussion.

One challenge we face when we try to extend the analysis developed for quantificational expressions to questions is that questions and quantificational statements do not have the same semantic type. I propose to overcome this difficulty by using type-shifting principles (Partee 1986).

I derive the additive meaning with *wh*-questions essentially in the same way as the additive meaning with existentials. As always, the second (the exceptive) reading is generated along with the additive one. Like in cases involving existential quantifiers this meaning is predicted to be contradictory. In von Fintel's (1994) system, in (324) the Leastness Condition contributed by an exceptive is equivalent to 'no girl came'. This is not compatible with the domain subtraction part of the meaning the exceptive contributes, which requires that there is a girl who is not Anna who came.

(324) *Some girl but Anna came.

In a similar way, in the system proposed here a part of the meaning that the exceptive-additive marker introduces into a question in (325) under the exceptive reading is 'no girl came' (I treat this part of the meaning as a presupposition). This is not compatible with asking a question that is looking for the information about the girls who came.

(325) Which girls besides Anna came?

Chapter 3 consists of two major parts. Sections 3.1-3.6 are devoted to the analysis of English *except*. In this part I argue that exceptive ellipsis exists in English and (326) can be derived from (327) via ellipsis. Based on the NPI licensing facts, I argue that there is negation in the ellipsis site in (327). Clauses denote propositions and propositions are objects of type <st> and they cannot be used to restrict quantifiers in nominal domain. In order to solve this problem I propose that there is a quantification over situations in (326) that is introduced by *except* and the reduced clause following *except* provides the restriction for this quantification. In this sense the analysis I propose is conditional.

(326) Every girl came except Eva.

(327) Every girl came except Eva ~~did not come~~.

I propose that the exceptive in (327) introduces the following meaning components: (i) Eva did not come; (ii) in every situation where that happened the quantificational claim is not true (this part plays a role similar to the role of Leastness in von Fintel's system) (iii) had she come the quantificational claim would have been true (this expresses the domain subtraction in terms of quantification over possible situations). I show how this meaning is obtained compositionally and how the known inferences exceptives come with are derived in this system and how the distribution puzzle is captured (specifically, the fact that exceptives are not compatible with existential quantifiers). After that I show how the cases that cannot be explained in von Fintel's (1994) theory, such as cases with multiple remnants and meaningful prepositions, are explained in this conditional system.

In Section 3.7 of **Chapter 3** I show how the analysis developed in the previous sections can be extended to other languages that have clausal exceptives. There are languages where exceptive or exceptive-additive phrases can host reduced clauses but cannot host fully pronounced clauses (Spanish, Persian, Bulgarian). This means that in those languages we cannot use fully pronounced structures as a way of studying the underlying structures of reduced exceptive clauses. The NPI licensing facts in Spanish, Persian and Bulgarian do not support the view that there is negation in exceptive or exceptive-additive clauses operating on positive universal statements. In this section I show how the inferences exceptives come with can be captured under the assumption that clauses that follow exceptive or exceptive-additive markers are always positive independently of the quantifier they operate on.

In **Chapter 4** I extend the system developed in Chapter 3 to the additive cases and I show how the exceptive-additive ambiguity can be modeled in the conditional system proposed for clausal exceptives. Here the exceptive-additive ambiguity is again presented as a result of scopal interaction between two operators one of which is negation. I show how the cases where an exceptive-additive phrase contains multiple constituents and gets the additive reading with *wh*-questions and focus associates are treated in this system.

In **Chapter 5** I discuss remaining issues and directions for future research. Specifically, I discuss the idea of creating a unified semantics for clausal and phrasal exceptives (where both types of exceptives introduce quantification over possible situations and provide the restriction for such quantification) and some issues this project faces. I also talk about the other usage of English *except*, where it introduces a retraction or a second thought and its relationship to exceptives that introduce exceptions to generalizations. Another issue discussed here is why exceptive-additive phrases cannot operate on existentials in some languages.

1.7 Appendix: Alternatives to Leastness.

There are some alternative proposals about the semantics of exceptives that are not based on the idea that an exceptive introduces the Leastness Condition. In this section I will review two alternative approaches to the semantics of exceptives. The first one was developed by Moltmann (1995) and the second one – by Garcia-Alvarez (2008). What is in common between those two approaches is that they do not provide a unified treatment for exceptives. Both of those approaches have two different lexical entries for exceptives that operate on universal quantifiers (such as *everyone*) and for the exceptives that operate on negative quantifiers (such as *no one*). The distribution of the two meanings is governed by presuppositions that each of the meanings carries: one basically states that the quantifier has to be a positive universal and the other one states the quantifier has to be a negative one. This is also a way of capturing the distribution puzzle: neither of the two existing lexical entries is defined with an existential quantifier. Because of this, there is no clear way of extending those approaches in such a way that an additive reading would be captured with existential quantifiers or questions. Of course, nothing prevents us from assigning three lexical entries for an exceptive-additive marker such as Russian *krome*: one for cases when it applies to a universal quantifier, one for cases when it applies to a negative quantifier and one for cases when it applies to existentials or *wh*-words. However, this is not a desired way to go, because this kind approach would fail to offer any explanation for the fact that exceptive-additive ambiguity is so widespread across different languages.

1.7.1 Moltmann (1995)

1.7.1.1 Two Lexical Entries for English *Except*

Moltmann (1995) offers an account where an exceptive introduces a set that is subtracted from every set in the denotation of the generalized universal quantifier it operates on or is added to every set in the denotation of the generalized negative quantifier.

Her account is based on a widely adopted idea that quantificational DPs are generalized quantifiers – expressions denoting sets of sets (in this subsection I will freely go from sets to functions assuming that there is always a way of translating a function talk into a set talk). Let's imagine that the universe we are in contains only the following five individuals – Anna, Mary, Eva, John, Bill – the first three of which are girls. Following the standard assumptions (starting from the work of Barwise & Cooper 1981), *every girl* denotes a set that contains sets that include all of those three individuals. Given what we have assumed about the world this will be the set of sets shown in (329). If we assert that every girl came, we are stating that *came* is one of the sets in the denotation of the generalized quantifier, so it is one of the sets in (329).

(328) $[[\text{every girl}]]^g = \lambda X_{<et>}.\forall x[x \text{ is a girl} \rightarrow x \in X]$

(329) $[[\text{every girl}]]^g =$
{{**Anna, Mary, Eva**},
{**Anna, Mary, Eva,** John},
{**Anna, Mary, Eva,** Bill},
{**Anna, Mary, Eva,** John, Bill}}

(330) $[[\text{every girl came}]]^g = [[\text{came}]]^g \in (329)$

The denotation for an exceptive marker that combines with a universal quantifier is shown in (331). Let me call it *except₁* (because there will be another lexical entry *except₂* that applies to a negative quantifier). The denotation I show in (331) is simplified because it does not include the presupposition, the condition of definedness. I will discuss this later.

(331) $[[\text{except}_1]]^g = \lambda C_{<et>}.\lambda Q_{<<et>t>}.\lambda P_{<et>}.\ \exists Y[Q(Y)=1\ \&\ P=Y-C]$

This is a function that takes a set, a generalized quantifier (the Q argument) and returns a generalized quantifier (a function from a set of individuals to a truth value). Let's consider a specific example in (332). In this case the first argument of *except₁* is {Eva}. The result of putting the exceptive phrase and its first argument together is shown in (333).

(332) Every girl except Eva came.

(333) $[[\text{except}_1 \text{ Eva}]]^g = \lambda Q_{<<et>t>}.\lambda P_{<et>}.\ \exists Y[Q(Y)=1\ \&\ P=Y-\{\text{Eva}\}]$

The function in (333) takes a generalized quantifier Q, goes through every set in its denotation and removes Eva from it. To see this, let's put together the function in (333) and the argument in (328). The result of this is in (334). This is a function from a set of individuals to a truth-value that returns truth if this set can be formed by taking one of the sets in the denotation of *every girl* and removing Eva from it.

(334) $[[\text{every girl except}_1 \text{ Eva}]]^g = \lambda P_{<et>}. \exists Y[\forall x[\text{x is a girl} \rightarrow x \in Y] \ \& \ P=Y-\{\text{Eva}\}]$

In our small world with five individuals, the set picked by the function in (334) is as shown in (335).

(335) {{Anna, Mary},
{Anna, Mary, John},
{Anna, Mary, Bill},
{Anna, Mary, John, Bill}}

Given this, if someone claims that every girl except Eva came, they are claiming that the set of people who came is one of the sets in (335). From this we learn (i) every girl who is not Eva came because every set in (335) has all girls other than Eva; (ii) that Eva did not come because *came* denotes one of those sets and Eva is not in any of them, it must be in its complement – among the individuals who did not come.

As I have said above, the function in (331) is shown in its simplified version. The denotation for *except* is shown without its presupposition. Nothing in (334) says that Eva is a girl and that this function in (331) needs to apply to a universal quantifier (as opposed to a negative quantifier or an existential). Let me illustrate this point by using an existential quantifier. *Some girl* denotes a set of sets that have at least one girl in them (shown in (336) and (337)).

(336) $[[\text{some girl}]]^g = \lambda X. \exists z[\text{z is a girl} \ \& \ z \in X]$

(337) [[some girl]]^g ={{Anna},{Mary},{Eva},{Anna, Mary}, {Anna, Eva}, {Eva, Mary}, {Anna, Bill},{Mary, Bill},{Eva, Bill}, {Anna, John},{Mary, John},{Eva, John}, {Anna, John, Bill},{Mary, John, Bill},{Eva, John, Bill}, ……….{Anna, Mary, Eva, John, Bill} }

The function in (331) can apply to (337) with no problems: it will return a set of sets that is just like the one in (337), but Eva is removed from each of them. This resulting set is shown in (338).

(338) {{Anna},{Mary},∅,{Anna, Mary},{Anna, Bill},{Mary, Bill},{Bill}, {Anna, John},{Mary, John},{John}, {Anna, John, Bill},{Mary, John, Bill},{John, Bill}, ………..
{Anna, Mary, John, Bill} }

Now, if someone claims that some girl except Eva came, they are claiming that *came* is one of the sets in this new set of sets. None of them has Eva in it. This means that Eva did not come. Notice that if this denotation of *except* was allowed to apply to an existential, then the meaning we would get would be a funny one, because some of the resulting sets in (338) don't even have one single girl in them. *Some girl came except Eva* would be true as long as Eva did not come, it does not matter if the only person who came was John (that is because {John} is in (338)) or if no one came at all (that is because ∅ is in (338)). In any case, we want to derive the fact that *except* cannot apply to an existential at all.

Moltmann's (1995) proposal is that there is a condition on the use of *except$_1$* that limits its application to cases where the quantifier is universal. This idea is implemented by introducing a condition on definedness (in other words – a presupposition) to the function in (331). The restricted version of the function is shown in (339). The bolded part is the presupposition. The function is defined only if its first argument (the generalized quantifier) is universal and if Eva is in the restrictor set (in the example considered here this is the set of girls). Here is why this is the case: the restriction says that every set in the denotation of the generalized quantifier has Eva in it.

(339) $[[\text{except}_1 \text{ Eva}]]^g = \lambda Q_{<<et>t>} . \lambda P_{<et>}: \mathbf{\forall Z[Q(Z)=1 \rightarrow \{Eva\} \subseteq Z]}.$
$\exists Y[Q(Y)=1 \ \& \ P=Y-\{Eva\}]$

If the quantifier *except Eva* applies to is not a universal one, say it is *some girl*, then the function in (339) is not going to be defined. This is because if there are at least two girls, then Eva is not going to be in every set in the denotation of the generalized quantifier, there will be sets that include the other girl and not include Eva. The scenario where there is only one girl is ruled out because in that case the use of *some girl* will be blocked by a pragmatic principle that prohibits the use of an existential when it is know that its restrictor is a singleton set (Hawkins 1978, 1991, Heim 1991).

Let us also consider the possibility that the quantifier is *every boy* (so Eva is not in the restrictor set). The function in (339) cannot combine with this generalized quantifier, because *every boy* is a set of sets that has all boys in them. The minimal such set is the set that contains all boys and nothing else. Thus it is not true that Eva is in each of the sets in the denotation of *every boy* and the function is (339) not defined for such an argument.

For the same reason, this function is not going to be able to combine with a negative quantifier such as *no girl*. Again in the same model where the only girls are Eva, Mary and Anna and the only non-girls are John and Bill, the denotation for *no girl* is the set of sets shown in (341): this is a set of sets that does not have any girls in them. It is not true that Eva is in every one of those sets (in fact it is in none of them). Note that even if it was defined it is totally useless to subtract Eva from every set in (341). For this reason, we need another denotation for *except*, because *except* can combine with a negative quantifier.

(340) $[[\text{no girl}]]^g = \lambda X.\neg\exists z[z \text{ is a girl} \;\&\; z \in X]$

(341) $[[\text{no girl}]]^g = \{\varnothing, \{\text{John}\}, \{\text{Bill}\}, \{\text{John, Bill}\}\}$

The denotation for *except₂* is shown in (342): it has a condition of definedness (the bolded part) and the asserted part. This function is only defined if its second argument is a negative generalized quantifier. It goes through every set in the denotation of the generalized quantifier and adds the set introduced by its first argument to it.

(342) $[[\text{except}_2]]^g = \lambda C_{<et>}.\lambda Q_{<<et>t>}.\lambda P_{<et>}:\mathbf{\forall Z[Q(Z)=1 \rightarrow C \cap Z = \varnothing]}.$
$\exists Y[Q(Y)=1 \;\&\; P = Y \cup C]$

(343) $[[\text{except}_2 \text{ Eva}]]^g = \lambda Q_{<<et>t>}.\lambda P_{<et>}:\mathbf{\forall Z[Q(Z)=1 \rightarrow \{Eva\} \cap Z = \varnothing]}.$
$\exists Y[Q(Y)=1 \;\&\; P = Y \cup \{\text{Eva}\}]$

Putting together *no girl* and *except₂ Eva* will result in (344).

(344) $[[\text{no girl except}_2 \text{ Eva}]]^g = \lambda P.\ \exists Y[\neg\exists x[x \text{ is a girl} \;\&\; x \in Y] \;\&\; P = Y \cup \{\text{Eva}\}]$
$[[\text{no girl except}_2 \text{ Eva}]]^g$ is defined only if
$\forall Z[\neg\exists x[x \text{ is a girl} \;\&\; x \in Z] \rightarrow \{\text{Eva}\} \cap Z = \varnothing]$

Its at-issue content is the set shown in (345). The sets in (345) are such that they satisfy the condition described in the at-issue content of (344): there is a set in the denotation of *no girl* in (341) such that P can be formed by adding Eva to it. *No girl except₂ Eva* is defined if Eva is not contained in any of the sets in the denotation of *no girl*. In the scenario we are considering here, it is defined because as the reader can verify Eva is not in any of the sets in (341).

(345) $[[\text{no girl except}_2 \text{ Eva}]]^g = \{\{\text{Eva}\}, \{\text{Eva, John}\}, \{\text{Eva, Bill}\}, \{\text{Eva, John, Bill}\}\}$

If one states that no girl except Eva came, they are asserting that *came* denotes one of the sets in (345). This means that Eva came (because she is in every set) and that no other girl came (because no other girl is in any of the sets in (345)).

1.7.1.2 This Account Does Not Explain the Cases with Meaningful Prepositions inside *Except*-Phrases

It is important to point out that Moltmann's account cannot handle the challenging cases discussed in this chapter, like the one in (346) and (347).

(346) I met a student from every city in Spain except from Barcelona.

(347) I got no presents except from my mom.

In (346) the problem is that things that are from Barcelona are not cities. Let's imagine that the set of things from Barcelona is as shown in (348). The generalized quantifier *except* should apply to is shown in (349). The exceptive phrase can only combine with (349) if (348) is a subset of every set in the denotation of (349) and this condition is not met as the minimal set that belongs to (349) includes cities in Spain and nothing else. Thus, in Moltmann's account the sentence predicted not to have a well-defined meaning.

(348) {z: z is from Barcelona}={this letter, Sagrada Familia, John}

(349) $\lambda P.\ \forall x[x \text{ is a city in Spain} \rightarrow P(x)]$

The same goes for the example in (347). Let's consider a scenario where things that are from my mom are as shown in (350). It is not the case that intersection of (350) and every set in *no present* is empty, simply because not everything in (350) is a present. So, the condition for applying the exceptive phrase are not met, according to Moltmann, thus, the sentence should not have a well-defined meaning.

(350) {this letter she wrote to dad, this gift to me}

1.7.1.3 Multiple Remnants

There are several key novel observations that are made in this work by Moltmann (1995). One of them is the observation that *except* can host multiple constituents as shown in (351).

(351) Every boy danced with every girl except Eva with Bill.

Moltmann suggests that those cases involve polyadic quantification (quantification over ordered tuples of individuals) and an exceptive phrase provides an ordered pair that is subtracted from each of the pairs in the denotation of the quantifier. Moltmann does not discuss in detail how this result is achieved at the syntax-semantic interface, however, she proposes that both quantifiers move and attach to the same syntactic node at LF. Even if we grant this move, it is not clear to me how the exceptive phrase ends up attaching to the node consisting of the two quantifiers, but this is what would be required, because *except* would have to take a joint polyadic quantifier as its argument.

(352) [[[Every boy every girl] except Eva with Bill] [12 t_1 danced with t_2]]][26]

Due to the fact that the two quantifiers are so close to each other, they can be reanalyzed as a single polyadic quantifier quantifying over tuples of individuals. The node consisting

[26] We would need a special interpretation rule here that would allow us to interpret [12 t_1 danced with t_2] as a set of ordered pairs.

of the two quantifiers *every boy every girl* gets to be interpreted as shown in (354). It is a set of relations between the two individuals – or a set of sets pairs each of those sets has all pairs where the first element is a girl and the second is a boy. Eva with Bill is interpreted as a set of pairs {<Eva, Bill>}. Now we can play with the same idea: this set can be subtracted from every set in (354) as long as it is in every set in (354) (this would require Eva to be a girl and Bill to be a boy and the polyadic quantifier to be universal).

(353) $[[\text{Eva with Bill}]]^g = \{\langle \text{Eva, Bill} \rangle\}$

(354) $[[\text{Every boy every girl}]]^g = \lambda P_{\langle (e \times e)t \rangle}. \forall \langle x,y \rangle [x \text{ is a boy} \ \& \ y \text{ is a girl} \rightarrow \langle x,y \rangle \in P]$

As was pointed by (Perez-Jimenez & Moreno-Quiben 2010) this proposal does not explain, why *with* has to be pronounced in (351), as it plays no role in deriving the meaning of this sentence. This is a problem for this approach.

1.7.1.4 Generalized Quantifiers inside *Except*-Phrases

Another crucial observation that Moltmann makes in this work is that what comes after *except* can be a generalized quantifier, rather than a set denoting expression, like in the example given in (355). Moltmann extends her analysis in order to capture those cases as well.

(355) Every girl came except at most one[27].

Moltmann's idea about cases like (355) (where the complement of *except* is a generalized quantifier itself) is that we do the procedure we did for a set containing just Eva for every

[27] Not all English speakers find this example grammatical.

set containing at most one girl and union the resulting sets. The set of sets containing at most one girl is shown in (356).

(356) {∅, {Eva}, {Mary}, {Anna}}

We take each of those sets and remove them from every set in denotation of every girl one by one: ∅ is subtracted from every set in the denotation of every girl in (357), {Eva} in (358), {Mary} in (359), and {Anna} in (360). The resulting denotation for *every girl except at most one girl* is the union of these sets (shown in (361)).

(357) {{**Anna, Mary, Eva**},
{**Anna, Mary, Eva,** John},
{**Anna, Mary, Eva,** Bill},
{**Anna, Mary, Eva,** John, Bill}}

(358) {{**Anna, Mary**},
{**Anna, Mary,** John},
{**Anna, Mary,** Bill},
{**Anna, Mary,** John, Bill}}

(359) {{**Anna, Eva**},
{**Anna, Eva,** John},
{**Anna, Eva,** Bill},
{**Anna, Eva,** John, Bill}}

(360) {{**Mary, Eva**},
{**Mary, Eva,** John},
{**Mary, Eva,** Bill},
{ **Mary, Eva,** John, Bill}}

(361) [[Every girl except at most one girl]] = (357)∪(358)∪(359)∪(360)

Stating that every girl except at most one came means that the denotation of *came* is in one of the sets in (357), (358), (359) or (360). This means that the sentence is true if either every girl came, or if only one of the girls (any of them) did not come and the rest of the girls came. This correctly captures the meaning this sentence has. In order to implement this idea formally, Moltmann makes use of the notion of a witness set (Barwise &Cooper 1981). It is defined via the notion of a live on set given in (362). A witness set is defined as in (363).

(362) **Definition of a live-on set:**
A quantifier Q *lives on* a set A iff (for every set X, $X \in Q$ iff $X \cap A \in Q$).

(363) **Definition of a witness set:**
A set w is a *witness set* for a quantifier Q iff for the smallest live-on set A of Q, $w \subseteq A$ and $w \in Q$.

A live-on set for the quantifiers denoted by *every girl, no girl, one girl* is any set containing the set of girls as a subset. The smallest live-on set for a natural language quantifier is its restrictor. A witness set, accordingly, is a set that is a subset of its restrictor and it is in the denotation of the quantifier. *At most one girl* denotes a set of sets that have maximum one girl in them (and some of them contain other individuals). If we limit those sets to the ones that are subsets of the set of girls (the smallest live-on set for *at most one girl*) this will get us the set in (356) we were considering earlier. Those are the singleton sets containing girls and $\varnothing$ because $\varnothing$ is a subset of every set.

The modified version of the denotation for *except*$_1$ is given in (364) and the modified version of the denotation of *except*$_2$ is (366). **Wi** is a function that is defined in (365). *Except*$_1$ first combines with the quantifier that follows the marker, then with the quantifier the exceptive operates on and it outputs a generalized quantifier (a function of type <<et>t>). The sets P in the denotation of the generalized quantifier that it outputs are selected by the following criteria: there is a witness set in the denotation of the first quantifier and there is a set in the denotation of the second quantifier such that P is a result of subtracting the first one from the second one. It is defined only if its second argument is a universal quantifier: every witness set of the first argument has to be a subset of the second argument.

(364) $[[\text{except}_1]]^g = \lambda Q'_{<<et>t>}.\lambda Q_{<<et>t>}.\lambda P_{<et>}$:
$$\mathbf{\forall Z[Q(Z){=}1 \rightarrow \forall Z'[Z' \in} \mathrm{Wi}\mathbf{(Q') \rightarrow Z' \subseteq Z]]}.$$
$$\exists X[X \in \mathrm{Wi}(Q') \ \& \ \exists Y[Q(Y){=}1 \ \& \ P{=}Y{-}X]]$$

(365) $\mathrm{Wi}(Q) = \{w: w \text{ is a witness set for } Q\}$

Similar changes are made in the denotation of the *except*$_2$ – the one that combines with a negative quantifier.

(366) $[[\text{except}_2]]^g = \lambda Q'_{<<et>t>}.\lambda Q_{<<et>t>}.\lambda P_{<et>}$:
$$\mathbf{\forall Z[Q(Z){=}1 \rightarrow \forall Z'[Z' \in} \mathrm{Wi}\mathbf{Q') \rightarrow Z' \cap Z{=}\varnothing]]}.$$
$$\exists X[X \in \mathrm{Wi}(Q') \ \& \ \exists Y[Q(Y){=}1 \ \& \ P{=}Y \cup X]]$$

The general idea here is that these denotations will cover the cases where an exceptive introduces a generalized quantifier as well as cases where it is introduces just a singular or a plural individual because those can be interpreted as generalized quantifiers as well.

1.7.2 Garcia-Alvarez (2008)

1.7.2.1 A Non-Unified Treatment of *Except* with Positive and Negative Generalizations

The second approach I will discuss here was proposed by Garcia-Alvarez (2008). Garcia-Alvarez argued that all exceptive constructions are semantically clausal. Crucially, this claim is different than the claim that I am making in this dissertation. He did not argue that there are exceptive constructions that are syntactically clausal. His idea was that semantically a sentence with a universal quantifier, like the one in (367), is analyzed as a conjunction of a universal claim and a negative claim, as shown in (368). A sentence with a negative quantifier and an exceptive phrase in (369) is interpreted as a conjunction of a quantificational claim and a positive claim. Importantly, Garcia-Alvarez (2008) does not argue that there is a constituent that has a meaning equal to *Eva did not come* in (367) and a constituent with the meaning equal to *Eva came* in (369).

(367) Every girl except Eva came.

(368) Every girl came and Eva did not come.

(369) No girl except Eva came.

(370) No girl came and Eva came.

The inferences that exceptives come with and the restrictions on their use are captured in this system via specifying the conditions that have to be met in order for a sentence with an exceptive to be defined.

His arguments in favor of the clausal semantic nature of exceptives are based on the observation that pretty much all exceptives can host various types of adverbs: evaluative (*fortunately, mysteriously, predictably,* and *oddly enough*), modal (*possibly, maybe, perhaps, probably),* characterizing the manner in which a proposition are asserted by the speaker (*quite frankly)*. His example illustrating some of these points are given in (371)-(373). This work does not offer a compositional treatment of the interaction of those adverbs with exceptives.

(371) Adult motorists who do not use seat belts are endangering no one except possibly themselves.

(372) HP's new product list covers the gamut except, oddly enough, printers.

(373) Every single market is doing super good except, frankly, Alaska.

The key part of this work is the observation that exceptives are sometimes acceptable for some speakers in cases where the quantifier they operate on does not have a universal force. Specifically, some speakers find exceptive constructions acceptable with *most, few,* and *many*. His examples illustrating this point are shown in (374)-(377).

(374) Salvias are native to most continents except/but Australia.

(375) Johnston noted that most dishwashers except/but very low-end models have a water-saving feature.

(376) Most vegetables except/but the tap-rooted ones can be started off in small pots and transplanted into the garden when the ground is ready.

(377) Few people except/but director Frank Capra expected the 1946 film 'It's a Wonderful Life' to become a classic piece of Americana.

Examples of this kind are problematic for von Fintel's analysis (1994). In his analysis a sentence with an exceptive is interpreted as a conjunction of two claims: a quantificational claim with domain subtraction and the Leastness Condition. The problem is in the Leastness Condition.

Let's consider the meaning von Fintel's theory predicts for (374). Subtracting Australia from the domain of *most continents* is equivalent to saying (378) or more formally in (379).

(378) Salvias are native to most continents that are not Australia.

(379) $$\frac{|\{x\text{: x is a continent \& x is not Australia}\} \cap \{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent \& x is not Australia}\}|} > ½$$

The Leastness Condition requires looking at every set that has Australia, restricting the domain of the quantifier to that set and negating the resulting claim. I did not include the full list here, but the Leastness Condition would say that (380), (381), (382), (383) all have to hold (I assume here that not being more than ½ is the same as being less or equal to ½): take any set that has Australia in it, restrict the number of continents to that set, and it is not true that the proportion of the continents (restricted by that set) that have salvias is more than ½. The sentence in (378) is true, but among the statements below that are predicted to be contributed by the Leastness Condition only (380) and (381) are true.

(380) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\cap\{\text{Australia}\}|} \leq \tfrac{1}{2}$$

(381) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia, Africa}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\cap\{\text{Australia, Africa}\}|} \leq \tfrac{1}{2}$$

(382) $$\frac{|\{x\text{: x is a cont}\}\cap\{\text{Australia,Africa,Asia}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\ \}\cap\{\text{Australia, Africa, Asia}\}|} \leq \tfrac{1}{2}$$

(383) $$\frac{|\{x\text{: x is a continent}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}|} \leq \tfrac{1}{2}$$

Moreover, von Fintel's analysis predicts that sentences where *except* operates on *most* (like the one in (378)) would be contradictions[28], thus they will not be grammatical. In this specific example, Leastness would require that the proportion of the continents that have salvias in every set in (384) is less than ½.

[28] This does not hold for cases where the restrictor of *most* has only two elements (as noted by von Fintel and Moltmann). However, in those cases the use of *most* is ruled out by pragmatic considerations (ex.: #Most of my parents are here.)

(384)
{Australia, Africa, Oceania}
{Australia, Europe, North America}
{Australia, Asia, South America}

That means that there are 3 continents other than Australia that have no salvias. Assuming there are 7 continents overall, the domain subtraction claim in (379) cannot be true: it cannot be the case that is we subtract Australia, the proportion of continents that have salvias is more than ½ (thus more than 3 continents have salvias), given that Leastness requires that 3 continents other than Australia do not have salvias.

The main goal of Garcia-Alvarez (2008) proposal is to capture the generalization that exceptives are acceptable and grammatical with such expressions as *every, no, most, few,* and *many*. What he thinks those expressions have in common is that they all express generalizations.

He develops an approach that is based on Shoham's general semantic approach to nonmonotonic logics (1987,1988a,b), where a standard logic is augmented with a preference order on its models. He introduces two notions: the notion of a negative generalization and the notion of the positive generalization. He develops semantics where an exceptive can mean two different things depending on whether the generalization is a positive one or a negative one. His definitions for a positive and a negative generalization are given below.

(385) Positive generalization:
Let Σ be a sentence of the form [TP [DP… [N' α]][T'…[VP Φ]]], and let α and Φ be expression of type <et>. Σ expresses a positive generalization about α if the cardinality of $[[\alpha]]$ is large and for any $x \in [[\alpha]]$, $\Sigma \models_{<} \Phi(x)$

(386) Negative generalization:

Let Σ be a sentence of the form [TP [DP… [N' α]][T'…[VP Φ]]], and let α and Φ be expression of type <et>. Σ expresses a negative generalization about α if the cardinality of $[[\alpha]]$ is large and for any $x \in [[\alpha]]$, $\Sigma \mid\!=\!< \neg\Phi(x)$

|=< in the definitions above means 'preferentially entails'. A sentence Σ preferentially entails another sentence φ if φ is satisfied by all the preferred models of Σ (although may be not by all models of Σ). The idea is that even though (387) does not entail (388), it preferentially entails it.

(387) Most people are smart.

(388) John is smart.

In the same way, (389) does not entail (390), but there is a way of defining a preferential inference, where (389) does preferentially entail (390).

(389) Few people are smart.

(390) John is not smart.

The semantics of *except* Garcia-Alvarez (2008) proposes is given in (391). He clarifies that C, A, and P are, respectively, the denotations of the complement of the exceptive phrase, the exceptive phrase's associate (the quantificational determiner), and the VP.

The proposal is that there is an operator that *except* obligatorily introduces, namely -, that is interpreted as negation if the generalization is positive and is interpreted as an identity function if the generalization is negative.

(391) $[[\text{except -}]]^g (C)(A)(P) \Leftrightarrow A(P)=1 \ \& \ ([[-]]P)(C)=1$

where $[[-]]^g = \lambda X.\neg X$, if for all appropriate P', A(P') $|\!=\!<$ P'(C) &

$[[-]]^g = \lambda X.X$, if for all appropriate P', A (P') $|\!=\!<$ $\neg$P'(C) &

$[[-]]^g$ is undefined otherwise

The idea is that (392) will get the interpretation shown in (393). This is because the following holds: take any verb X, the sentence 'most people are X' preferentially entails 'John is X', thus we have to use the first interpretation for '-'.

(392) Most people except John are smart.

(393) $[[(392)]]^g$=1 iff Most people are smart & John is **not** smart

The sentence in (394), however, gets the interpretation shown in (395). This is because the following holds: take any verb X, the sentence 'few people are X' preferentially entails 'John is **not** X' (due to the fact that 'few people are smart' is a negative generalization). (One clarification: I do not claim that (392) and (394) are well-formed sentences of English, for many speakers I have consulted with they are not, however this is what the analysis predicts).

(394) Few people except John are smart.

(395) [[(394)]]=1 iff Few people are smart & John is smart.

There are two major reasons why I did not build my proposal on this theory. The first problem is that this proposal does not provide a unified treatment of negative and positive generalizations. As the reader can see from the denotations above, there is an operator that is a part of an exceptive that means negation sometimes and the identity function in other times. The other problem is that this semantics has a built-in condition that an exceptive is looking for a generalization. Exceptive-additive phrases do not look for generalizations: existentials and questions are not generalizations. I do not see any way of extending this approach to explain the exceptive-additive ambiguity and the fact that it is so widespread across different languages.

1.7.2.2 An Alternative Idea about Modeling the Interaction of Proportional Quantifiers with *Except* in von Fintel's system

Now I would like to go back to the problem of capturing the interaction of *many, most* and *few* and exceptive constructions. While I agree with Garcia-Alvarez (2008) that doing things in the way shown above does indeed lead to a problem in von Fintel's system, I believe that that specific example (374) (repeated below as (396)) can be handled within von Fintel's analysis if we reconsider the way we interpret *most*.

(396) Salvias are native to most continents except/but Australia.

Let's assume that *most* does not simply say that the proportion of things has to be more than ½, but instead it introduces a contextually salient degree d that the proportion should be bigger or equal to and introduces a presupposition that d has to be bigger than ½. In this case the quantificational claim with domain subtraction has the meaning shown in (397) (where d is a contextually given specific number) (see for example Rett 2018 for such a treatment of proportional quantifiers).

(397) $$\frac{|\{x\text{: x is a continent \& x is not Australia}\} \cap \{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent \& x is not Australia}\}|} \geq d$$

Let's consider a scenario where we have set our bar so high that d has to be 1.

(398) d=1

This means that all continents if you don't count Australia have salvias. Now the Leastness Condition can deliver useful information: take any set of continents that has Australia in it, and what you are going to find is that the proportion is not going to be 1. That is because Australia is a continent that does not have salvias. Thus, if we set the contextual bar very high, then it is entirely possible that von Fintel's analysis delivers the right meaning for the interaction of *most* and an exceptive. The bar should be so high that *most* is used in the context to mean *every*.

(399) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\cap\{\text{Australia}\}|} < 1$$

(400) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia, Africa}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\cap\{\text{Australia, Africa}\}|} < 1$$

(401) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia,Africa,Asia}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\ \}\cap\{\text{Australia, Africa, Asia}\}|} < 1$$

(402) $$\frac{|\{x\text{: x is a continent}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}|} < 1$$

The same goes for *few*. Let's imagine that *few* introduces a contextually given number d and states that the proportion of the things that satisfy the restrictor and the scope among the things that satisfy the restrictor is d. Let's imagine that it also introduced a presupposition d it has to be small. In this case, when we interpret (403), the quantificational claim with domain subtraction has the meaning shown in (404).

(403) Salvias are native to few continents except/but Australia.

(404) $$\frac{|\{x\text{: x is a continent \& x is not Australia}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent \& x is not Australia }\}|} \leq d$$

Let’s consider the scenario where the bar is set very low and d equals to 0. This means that there are 0 continents other than Australia such that salvias is native to them. Now the Leastness Condition will contribute a useful information: take any set that has Australia in it and restrict the domain with this set, what you are going to find is that the proportion is no longer equals to 0. This is shown in (406)-(409), but the list is not full again; Leastness will systematically go over each of the sets that has Australia in it, restrict the domain with that set and negate the resulting claim. This is entirely possible and that means that Australia has salvias – thus, the positive inference is predicted. Again, the bar has to be set very low: *few* is used in the context to mean *no*.

(405) d=0

(406) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\cap\{\text{Australia}\}|} > 0$$

(407) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia, Africa}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\cap\{\text{Australia, Africa}\}|} > 0$$

(408) $$\frac{|\{x\text{: x is a continent}\}\cap\{\text{Australia,Africa,Asia}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}\ \}\cap\{\text{Australia, Africa, Asia}\}|} > 0$$

(409) $$\frac{|\{x\text{: x is a continent}\}\cap\{z\text{: salvias are native to z}\}|}{|\{x\text{: x is a continent}\}|} > 0$$

I don't know if all of the grammatical cases where an exceptive operates on *most* and *many* they are used to mean *all* and in all cases where an exceptive operates on *few* it is used to mean *no*. Some speakers I have consulted with report that this is what those sentences mean to them. If it is not true for all speakers, there is a problem here for von Fintel’s approach and for the approach developed in this dissertation that is built on von Fintel’s work. The interaction of *exceptives* with *few*, *many* and *most* are not well-understood. Judgments also differ. I will leave this issue for future research.

1.8 Conclusion

In this Chapter I presented an empirical description of the exceptive-additive ambiguity and reviewed the existing approaches to the semantics of exceptive constructions.

I argued that there is a class of items that have not gotten much discussion in the existing literature that I named exceptive-additive constructions. I have shown that constructions of that kind exist in English, Russian, Hindi, Turkish, Bulgarian and Persian. I have shown that the meaning those constructions get does not depend on the global context where the sentence is pronounced but depends on other functional elements in the sentence. They get the additive reading with existentials (to a limited extend), in *wh*-questions and with focus associates. They get the exceptive meaning in contexts where exceptives are normally used: with universal and negative quantifiers.

I have argued that there are exceptive constructions that have clausal nature. Specifically, I have developed novel arguments in favor of the idea that English *except* does not introduce a set of individuals, contrary to the existing semantic accounts of this exceptive construction. I have argued that cases where the complement of *except* contains a PP with a meaningful preposition cannot be accounted for within any existing sematic approach to exceptives. I have rejected some initial hypotheses, specifically, I have shown that the main clause and the clause *except* introduces cannot be analyzed in terms of a simple conjunction.

I have also argued that there are languages where items that are ambiguous between the exceptive and the additive meaning introduce a clause and not a set of individuals.

I made a novel observation that in addition to exceptive and exceptive-additive constructions there are additive constructions, like Spanish *además de*.

In general, the constructions discussed here can be classified as follows:

1. **Exceptive phrasal**: English: *but, except for*, Spanish *excepto, salvo*[29]
2. **Exceptive clausal:** English *except*, Spanish *except, salvo*
3. **Additive phrasal:** Spanish *además de*
4. **Additive clausal:** I do not know if such constructions exist.
5. **Exceptive-additive phrasal[30]:** English *besides*, Russian *krome*, Turkish *dışında*, Hindi *alaava/siwaai*, Persian *bejoz*[31]
6. **Exceptive-additive clausal:** Bulgarian *osven*, Persian *bejoz*

[29] Depending on the position where it is interpreted it can be phrasal or clausal. In fronted position it can only be clausal.

[30] By saying 'phrasal' I mean that the maximal constituent they can host is a DP.

[31] Depending on the position where it is interpreted it can be phrasal or clausal. In connected positions it can only be phrasal. In fronted or sentence final positions it can be phrasal or clausal.

CHAPTER 2

EXCEPTIVE-ADDITIVE AMBIGUITY FOR PHRASAL CASES: AN EXTENSION OF THE CLASSIC APPROACH

2.1 Introduction

In this chapter I propose a system that accounts for the exceptive-additive ambiguity for phrasal exceptive-additive constructions. The system I develop correctly captures the observed distribution of exceptive and additive readings as well as the entailments that those readings come with. Specifically, my goal is to account for the fact that exceptive-additive phrases get the exceptive reading with quantifiers with universal force and the additive readings with existential quantifiers, focus associates and *wh*-words.

I argue that the exceptive-additive ambiguity can be derived from a scopal interaction between two operators. The analysis suggested here builds on the idea that an exceptive marker introduces a set that is subtracted from a domain of a quantificational expression (von Fintel 1994). I will also adopt von Fintel's idea that the Leastness Condition is responsible for the containment entailment and the negative entailment when we are dealing with the exceptive reading with quantifiers with universal force. Instead of writing the Leastness Condition into the semantics of one operator, I suggest that Leastness is the result of interaction between two operators: negation and another operator that I will call OP. An exceptive-additive marker is the spell out of those two operators. When negation is interpreted below the scope of OP the result is equivalent to the Leastness Condition. The Leastness Condition applied to an existential claim is guaranteed to yield a contradiction with the existential claim with domain subtraction (von Fintel 1994).

Consequently, the exceptive reading is predicted to not be available for existential quantifiers.

However, this is not the only possible scopal configuration: negation can scope over OP. This scopal configuration is at play when an exceptive marker gets the additive reading with existential quantifiers, in *wh*-questions and focus constructions. With universal quantifiers this configuration produces an ill-formed tautological meaning. I suggest that this is the reason why the additive meaning is not attested with quantifiers with universal force.

During this discussion I will use Russian examples with the exceptive-additive marker *krome*, but my assumption here is that the proposal is extendable in a straightforward way to other languages where phrasal constructions showing the exceptive-additive ambiguity exist (among them are the languages discussed in the previous chapter English, Turkish and Hindi).

The discussion in this chapter will go as follows. In the beginning I will focus on the exceptive reading with universal quantifiers and the additive reading with existentials.

I will first express the desired meanings of the exceptive operator and the additive operator in terms of domain subtraction and quantification over sets. I will compare those meanings and demonstrate that the difference between them is in exactly one negation. Then I will introduce my proposal, where instead of one operator that contributes the exceptive or the additive reading, the relevant meaning is contributed by a combination of two operators.

After this I will show what modifications of the system are required in order to derive the additive reading with *wh*-questions. Following Beck and Rullmann (1999) I will suggest that questions can undergo type shifting from their regular semantic type <<st>t> (a set of propositions) to the type of generalized quantifier over propositions <<<st> t>t> (a set of sets of propositions). With this move and some adjustments in the denotation of OP we can get the additive meaning in questions and rule out the unattested exceptive meaning. I will then show that under the assumption that a proposition can type-shift to a generalized quantifier type, we can apply one and the same denotation of OP for questions and regular propositions with a universal or an existential quantifier.

Once the interaction between the exceptive-additive marker and questions is worked out, it can be extended to focus constructions in a straightforward way, given that there is an independent proposal linking a focus interpretation of a sentence and a silent variable of question type (Rooth 1992a). I suggest that an exceptive-additive marker can modify the value of this silent variable. In the story I will develop, exceptive-additive phrases get the additive meaning with focus associates because this is the only reading available for questions.

2.2 Basic Assumption About Interpretation

In this dissertation use the system of direct interpretation developed in (Heim & Kratzer 1998), where the interpretation is assigned to syntactic constituents via interpretation function designated by [[]]. In this Chapter I will assume an extensional system for the simplicity of exposition. The rules of interpretation that I assume are as shown below.

(1) **Terminal nodes**

if α is a terminal node occupied by a lexical item, then $[[\alpha]]$ is specified in the lexicon

(2) **Non-branching nodes**

If α is a non-branching node and β is its daughter, $[[\alpha]]=[[\beta]]$

(3) **Functional application**

If α is a branching node and $\{\beta\ \gamma\}$ is the set of its daughters then if $[[\beta]]$ is a function whose domain contains $[[\gamma]]$, then $[[\alpha]] =[[\beta]]([[\gamma]])$

(4) **Predicate modification**

If α is a branching node and $\{\beta\ \gamma\}$ is the set of its daughters and $[[\beta]]$ and $[[\gamma]]$ are both function of type <et> then $[[\alpha]] = \lambda x_e.\ [[\beta]](x)=[[\gamma]](x)=1$.

A verb is interpreted as a function of type <et> shown in (5), for shortness I will write (6).

The interpretation for a simple sentence 'Anna came' is derived as shown in (8).

(5) $[[\text{came}]] = \lambda x.\ 1$ iff x came

(6) $[[\text{came}]] = \lambda x.$ x came

(7) $[[\text{Anna}]]$ = Anna

(8) $[[\text{Anna came}]]$ = by FA

$[[\text{came}]]\ ([[\text{Anna}]])$= 1 iff Anna came

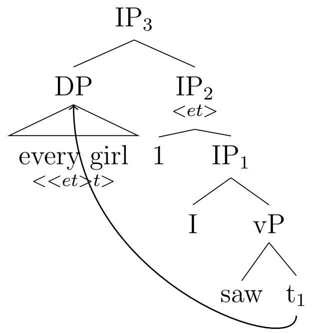
I will assume the following lexical entries for quantifiers:

(9) $[[\text{some}]] = \lambda P.\lambda Q.\ \exists x[P(x)=1\ \&\ Q(x)=1]$

(10) $[[\text{every}]] =\lambda P.\lambda Q.\ \forall x[P(x)=1\rightarrow Q(x)=1]$

Following (Heim & Kratzer 1998), I will also assume that quantifiers can undergo QR, leaving a trace with a numerical index n. Numerical index is also merged as a sister to the node that is a sister of the quantifier.

(11)



In order to interpret the resulting structure, two additional rules are needed. Those rules are given in (12) and (13). We also need to parameterize the interpretation function [[]] to an assignment function g, which is written as $[[]]^{g}$. g is a function that takes a numerical index and assigns a value to that index.

(12) **Traces and Pronouns Rule**
If α_n is a trace or a pronoun, n is a numerical index, g is a variable assignment and $n \in Dom(g)$, then $[[\alpha_n]]^{g}=g(n)$

(13) **Predicate abstraction**
If α is a branching node and $\{\beta\ \gamma\}$ is the set of its daughters, where β is a numerical index n, then for any variable assignment g, $[[\alpha]]^{g} = \lambda x.[[\gamma]]^{g(n\text{->}x)}$, where g(n->x) is a function that is just like g, but it assigns the value x to the numerical index n.

I will make modifications to this system of interpretation where they are needed.

2.3 Existentials vs Universals

In this section I will introduce the core idea of my proposal by using an example with a universal quantifier and an example with an existential quantifier.

2.3.1 Step One: Lexical Ambiguity Approach

As was established in the previous chapter, *krome* gets the exceptive reading with universal quantifiers (shown in (14)) and the additive reading with existential quantifiers (shown in (15)). The inferences the analysis aims to capture are given below the examples.

(14) Na sobranii prisutstvovali vse devočki krome Ani i Maši.
On meeting present all girls krome Anya and Masha
'All girls except Anya and Masha were at the meeting'.

Containment entailment: Masha and Anya are girls
Negative entailment: Masha and Anya **were not** there
Domain subtraction: All other girls were there

(15) Na sobranii prisutstvovali kakie-to devočki krome Ani i Maši.
On meeting present some girls krome Anya and Masha
'There were some girls besides Anya and Masha at the meeting'.

Containment entailment: Masha and Anya are girls
Positive entailment: Masha and Anya **were** there
Domain subtraction: Some other girls were there too

Following von Fintel's proposal about English *but* (1994), I will assume that *krome* in (14) (i.e. in its exceptive usage) introduces a set[32] that is subtracted from the domain of *all* and adds the Leastness Condition (the name is from Gajewski (2008, p.75)). In my formulation of the Leastness Condition, I will slightly diverge from its exact form in (von Fintel 1994) and express it in terms of an intersection with a set and not in terms of subtraction of the set. The two formulations are logically equivalent.

(16) $[[(14)]]^g = 1$ iff $\forall x[x \text{ is a girl} \ \&\ x \notin \{\text{Anya, Masha}\} \rightarrow x \text{ was there}]$ &
(domain subtraction)
$\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \neg\forall x[x \text{ is a girl} \ \&\ x \in Y \rightarrow x \text{ was there}]]$
(Leastness)

[32] Following von Fintel, I assume that the DP 'Anya and Masha' here denotes a set. Following Schwarzschild (1996), a plurality formed from individuals Anya and Masha can be views as a set of individuals. In his system an individual is also a plurality that can be viewed as a singleton set. This is the assumption that we need to adopt here in order to interpret cases where the complement of an exceptive or an exceptive-additive marker is an individual denoting expression.

The contribution of the first conjunct is that every girl who is not Masha or Anya was there. The Leastness Condition is the second conjunct in (16). It is responsible for the containment entailment and for the negative entailment. It is logically equivalent to the formula in (17).

(17) $\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \exists x[x \text{ is a girl } \& \ x \in Y \ \& \neg \ x \text{ was there}]\ ]$

There are a lot of sets that satisfy the description of the domain restriction of the universal quantifier over sets in (17), but the two most interesting for us are the singleton sets {Anya} and {Masha}. Their intersection with {Anya, Masha} is not empty. Since every set that satisfies the restrictor of the universal quantifier over sets has to also satisfy its scope, both (18) and (19) have to be true. (18) says that there is a girl in the set that has Anya and nothing else who was not there, which is equivalent to saying that Anya is a girl who was not there. (19) says the same thing about Masha.

(18) $\exists x[x \text{ is a girl } \& \ x \in \{\text{Anya}\} \ \& \neg \ x \text{ was there}]$

(19) $\exists x[x \text{ is a girl } \& \ x \in \{\text{Masha}\} \ \& \neg \ x \text{ was there}]$

The Leastness Condition and the domain subtraction together capture all the entailments exceptives (and *krome* under its exceptive interpretation) come with.

As a first step toward the goal of finding the connection between the exceptive and the additive reading of *krome* I will express the additive meaning of (15) in terms of domain subtraction and quantification over sets (additivity).

(20) $[[(15)]]^g = 1$ iff $\exists x\ [x \notin \{\text{Anya, Masha}\}\ \&\ x \text{ is a girl } \&\ x \text{ was there}]\ \&$
(domain subtraction)
$\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \emptyset \rightarrow \exists x[x \text{ is a girl } \&\ x \in Y\ \&\ x \text{ was there}]\ ]$
(additivity)

The first conjunct in (20) is the domain subtraction: it says that there is a girl who is not Masha or Anya who was there. The second conjunct universally quantifies over sets that have an element in common with {Anya, Masha}. Just like in (17) the most interesting sets for us are singleton sets {Anya} and {Masha}. Additivity requires that (21) and (22) are true. Thus, both Anya and Masha have to be among the girls who were there.

(21) $\exists x[x \text{ is a girl } \&\ x \in \{\text{Anya}\}\ \&\ x \text{ was there}]$

(22) $\exists x[x \text{ is a girl } \&\ x \in \{\text{Masha}\}\ \&\ x \text{ was there}]$

Additivity does not make any commitments about any other girls. It says that every set containing Anya or Masha has a girl who was there. The none-singleton sets will make this true in virtue of the fact that they have Anya or Masha. Additivity does not say anything about any singleton set except {Anya} and {Masha}.

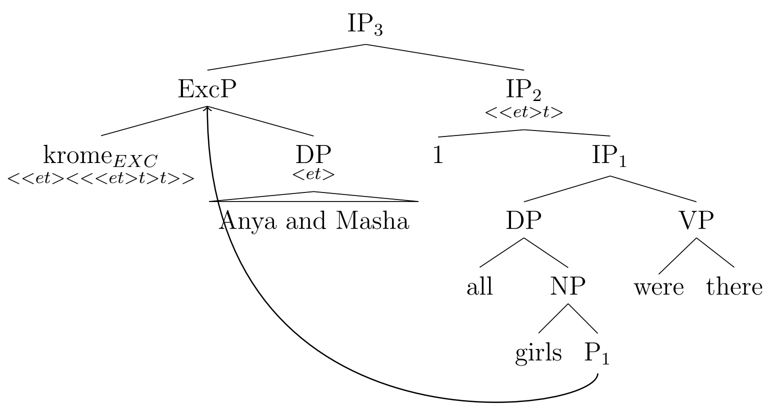
The two conjuncts in (20) together give us that there are at least three girls who were there: Anya, Masha and another person. This correctly captures the meaning that (15) has.

In order to demonstrate how the additive and the exceptive meanings of *krome* are related to one another, I will first show what the lexical ambiguity analysis of *krome* would look like.

One plausible LF for (14) is given in (23). The exceptive phrase undergoes quantifier raising out of its connected position. It leaves a trace of type <et> (the same type the

Leastness Condition quantifies over). The trace combines with the head noun via predicate modification. It is bound by the lambda abstractor 1 at LF.

(23)



The semantics for the exceptive operator (*krome*$_{EXC}$) that will ensure that (23) gets the denotation in (16) is given in (24). The exceptive operator first combines with the set denoted by its sister DP (in our case the set {Anya, Masha}). Then it takes the quantificational claim with the abstraction over the sister of *girls* as its second argument. In virtue of having access to the variable restricting the domain of the quantifier this operator can subtract sets from it or intersect it with other sets. This operator *krome*$_{EXC}$ outputs the conjunction of two claims: one is that the quantificational claim is true if the set denoted by its first argument is subtracted from its domain and the other one is that for any set intersection of which with its first argument is not empty it holds that if the domain of quantification is restricted to this set then the quantificational claim is not true.

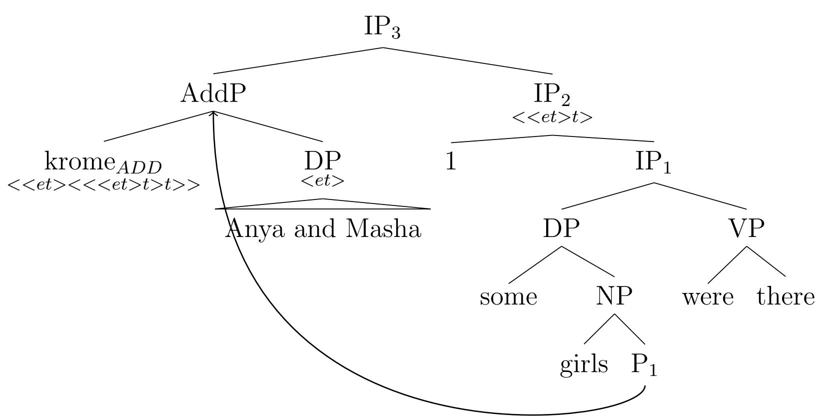
(24) $[[\text{krome}_{\text{EXC}}]]^g = \lambda X_{<et>}.\ \lambda M_{<<et>t>}.$

$$\underbrace{M(\overline{X})=1}_{\text{Domain subtraction}} \quad \& \quad \underbrace{\forall Y[Y\cap X\neq\varnothing \rightarrow \neg M(Y)=1]}_{\text{Leastness}}$$

where $\overline{X}$ is the complement set of X

We can consider a similar LF for the sentence in (15), but we would have another operator - additive $\textit{krome}_{ADD}$ instead. The meaning of the additive operator is given in (26). As the reader can verify, with this lexical entry for $\text{krome}_{\text{ADD}}$ we can derive the additive meaning with existentials shown in (20).

(25)



(26) $[[\text{krome}_{\text{ADD}}]]^g = \lambda X_{<et>}.\ \lambda M_{<<et>t>}.\ \underbrace{M(\overline{X})=1}_{\text{Domain subtraction}} \quad \& \quad \underbrace{\forall Y[Y\cap X\neq\varnothing \rightarrow M(Y)=1]}_{\text{Additivity}}$

The additive *krome* has exactly the same type and the first conjunct it outputs is exactly the same as well. The second conjunct asserts that for any set the intersection of which with its first argument is not empty it holds that if the domain of quantification is restricted to this set then the quantificational claim is true.

So far, we gave two different lexical entries for the exceptive and the additive operator. This ambiguity analysis, however, does not have anything interesting to say about the fact that those readings can be introduced by one and the same lexical item.

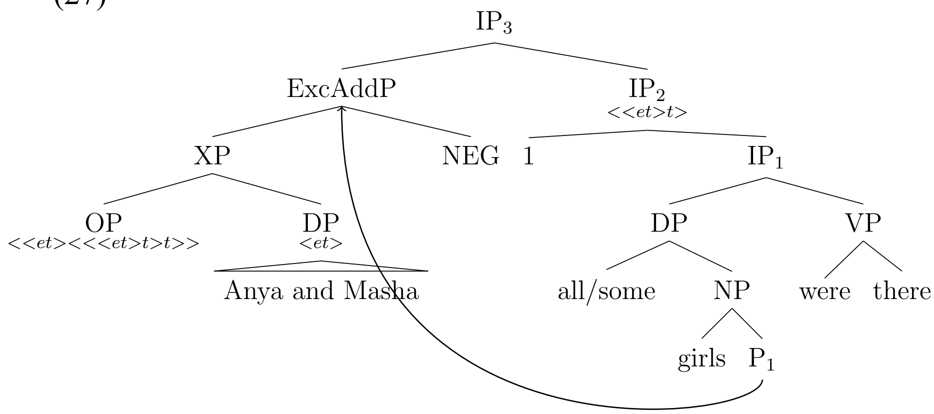
If we compare the two lexical entries in (24) and (26), we observe that they are almost identical except for one extra negation that appears in (24). If this negation could come and go depending on the quantificational expression that *krome* operates on, we would be in a position to create a unified approach to the semantics of *krome*. In the next section I will develop a system that achieves this result.

2.3.2 The Unified Analysis

The proposal in a nutshell is to extract negation from both occurrences of M applied to an argument of type <et> in the second conjunct in (24) (Leastness) and place this negation in syntax as a separate operator NEG. The rest of the meaning in (24) is written into the semantics of another operator OP (its denotation is shown in (28)). NEG and OP can scopally interact with each other. I will model this interaction by allowing NEG to have two different semantic types and by allowing it to compose with OP via two different modes of composition – function argument application and function composition. One more modification of the approach presented above is required. The Leastness Condition in (24) (as well as the Additivity Condition in (26)) has to be a presuppositional component of the meaning and not an assertive one. This assumption will be motivated later in the discussion.

I propose that the exceptive and the additive meaning both come from the LF shown below in (27). Parts of this structure are already familiar from (23) and (25): the <et> type trace forming a constituent with the head noun is bound by the lambda abstractor in syntax.

(27)



The job of *krome* is distributed between OP and Neg. Together they are pronounced as *krome*.

The details of the derivation of the additive reading with existentials and exceptive with universals will be given in the next subsections. But the general idea can be described as follows.

The denotation of OP is given in (28). The first argument it combines with is its sister DP, which is interpreted as a set of individuals. The domain of OP is restricted to arguments satisfying the following condition: for all sets the intersection of which with its first argument is not empty, it holds that the quantificational claim restricted by that set is true (this is additivity condition shown above in (26)). Thus, this condition is modeled as a presupposition. The assertive contribution of OP is the negation of the quantificational claim restricted to the complement set of the first argument of OP. We do not want this negation in the final output: we want to assert a quantificational claim with domain subtraction, not negate it. The effect of this negation will be canceled out by the negation that we see in syntax in (27) (NEG).

(28) $[[\mathrm{OP}]]^{g} = \lambda X_{<et>}\lambda M_{<<et>t>}: \forall Y\ [Y \cap X \neq \varnothing \rightarrow M(Y)=1].\ \neg\ M(\overline{X})=1$

After OP takes its first argument (shown in (29)), the next step is putting together the meaning of this constituent and its sister NEG.

(29) [[OP Anya and Masha]]^g=
$\lambda M_{<<et>t>}: \forall Y[Y \cap \{Anya, Masha\} \neq \varnothing \rightarrow M(Y)=1]. \neg M(\overline{\{Anya, Masha\}})=1$

I propose that there are two possible scopal configurations for OP and NEG. I will model them via two different kinds of composition. The assumption I will make is that negation (NEG) is a type-flexible operator and, consequently, it can apply to a constituent of any type that ends with t. Depending on its type and the mode of composition with *OP+DP* the resulting denotation for the exceptive phrase is equivalent to the exceptive or the additive *krome*.

If NEG takes scope over OP (NEG takes OP+DP as its argument) the presupposition remains unaffected by negation. The only effect that negation has is that $\neg M(\overline{\{Anya, Masha\}})$ in the asserted part turns into $\neg\neg M(\overline{\{Anya, Masha\}})$, or equivalently $M(\overline{\{Anya, Masha\}})$. The resulting denotation is equivalent to the denotation of the additive *krome* in (26) (modulo the assertion/presupposition distinction).

Another possibility is that negation takes scope below *OP+Anya and Masha* and above the quantificational phrase. I will model this scope by giving NEG a lower semantic type and by composing *OP+Anya and Masha* with negation via function composition. The result of this operation is that every occurrence of M applied to its <et> argument in (29) is substituted by its negation. In the presuppositional part M(Y) will change to $\neg$ M(Y) and in the assertive part $\neg M(\overline{\{Anya, Masha\}})$ will become $\neg\neg M(\overline{\{Anya, Masha\}})$ (or equivalently $M(\overline{\{Anya, Masha\}})$). As the reader can verify, those changes will make the overall denotation of the exceptive-additive phrase be equivalent to the exceptive *krome* in (24) (of course, after it takes its first DP argument).

Both derivations are discussed in detail below.

2.3.2.1 Exceptive Meaning with Universals

In order to turn (29) into the exceptive operator we want to substitute all occurrences of M applied to its <et> argument by its negation (compare it to the denotation of the exceptive operator in (24)).

(30) $\lambda M_{<<et>t>}:\forall Y[Y\cap\{\text{Anya, Masha}\}\neq\varnothing\rightarrow\neg M(Y)=1].\ \neg\neg M(\overline{\{\text{Anya, Masha}\}})=1=$
$\lambda M_{<<et>t>}:\forall Y[Y\cap\{\text{Anya, Masha}\}\neq\varnothing\rightarrow\neg M(Y)=1].\ M(\overline{\{\text{Anya, Masha}\}})=1 \quad =$
$[[\text{ krome}_{EXC}]]^g([[\text{Anya, Masha}]]^g)$

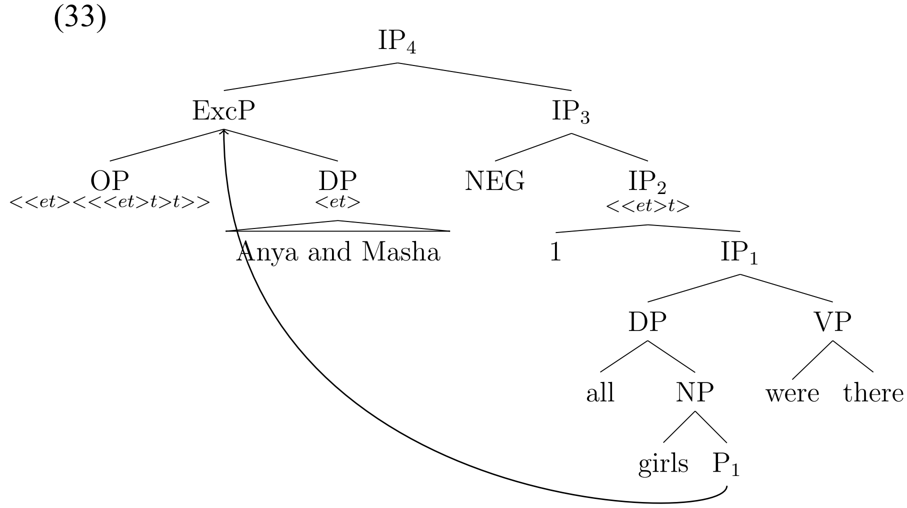
If negation was taking scope over the quantificational phrase and below OP, the M argument of OP would be coming with its own negation and the result of putting together OP and this quantificational constituent with negation would be equivalent to applying the exceptive operator to the quantificational claim. The most straightforward way of modeling this scope is shown in (33). In (33) negation is placed between the quantificational phrase and OP. If this was the LF for a sentence with a universal quantifier, NEG would apply to the quantificational phrase and consequently the M argument of formula in (29) will come with its own negation. If (33) was the interpreted structure, the exceptive-additive phrase would combine with an argument given in (31). Given the denotation of the exceptive-additive phrase consisting from OP and Anya and Masha in (29), we would predict the overall interpretation of the sentence as shown in (32), which is, as the reader can verify, the exceptive interpretation.

(31) $\lambda Y_{<et>}.\neg\forall x[x \text{ is a girl } \& \ x \in Y \rightarrow x \text{ was there}]$

(32) $[[(33)]]^g$ is defined only if
$\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \neg\forall x[x \text{ is a girl } \& \ x \in Y \rightarrow x \text{ was there}]]$

$[[(33)]]^g = 1$ iff
$\neg[\lambda Y_{<et>}.\neg\forall x[x \text{ is a girl } \& \ x \in Y \rightarrow x \text{ was there}](\overline{\{\text{Anya, Masha}\}})]$
$\forall x[x \text{ is a girl } \& \ x \notin \{\text{Anya, Masha}\} \rightarrow x \text{ was there}]$

(33)



This, however, is not the way of modeling this scope that I have chosen here. The problem for this structure is that placing negation above the quantificational claim in the structure creates a constituent headed by negation, where under the environment based approach (Chierchia 2004, Gajewski 2005, Homer 2011) NPI licensing is predicted to be possible. Exceptive-additive markers do not license NPIs in their scope.

I will illustrate the problem by using an example with a Russian n-word. N-words in Russian are licensed by clause-mate sentential negation (Brown 1999, Pereltsvaig 2000 among other). An example of a grammatical sentence with an n-word is given in (34).

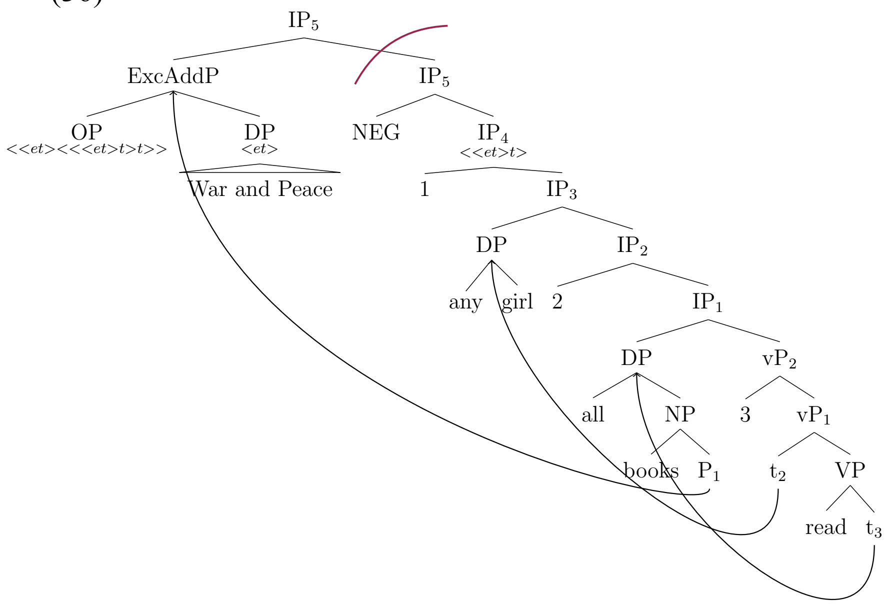
(34) Ni odna devočka ne pročitala vse knigi.
Any girl NEG read all books
'No girl read all books'.

Exceptive-additive constructions alone do not license n-words in Russian, as illustrated in (36). In this example the exceptive-additive construction *krome Vojny i Mira* ('besides War and Peace') operates on the quantificational phrase *vse knigi* ('all books'). The worry here is that if this sentence could have a structure shown in (36), the prediction is that the n-word in this sentence should be licensed. The reason for this is that *any girl* in (36) is c-commanded by negation. There is a syntactic constituent, namely, the node IP_5 that is a proper environment for licensing of the NPI. In this configuration the universal quantifier *all books* does not intervene between the NPI and its potential licenser (NEG). (This specific configuration was chosen because it is a well-established fact that universal quantifiers can be interveners for NPI licensing (since Linebarger 1980, 1987) if they appear in the syntactic position between the NPI and the licenser).

(35)	*Krome	Vojny	i	Mira,	ni	odna	devočka	pročitala	vse	knigi.
	Krome	War	and	Peace	N	any	girl	read	all	books

Intended: * 'Except War and Peace, any girl read all books'.

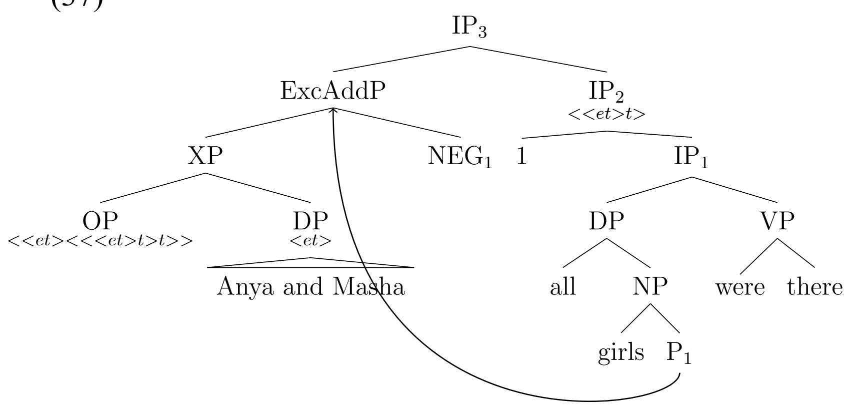
(36)



In order to avoid this complication, I have proposed the LF shown in (27), where *OP+Anya and Masha* and NEG form a constituent[33]. The LF for the sentence with a universal quantifier is repeated below for convenience.

[33] Gajewski (2008) argues that there is an independent restriction on the structures where a quantificational DP appears between the syntactic position where the Leastness Condition is computed and the position of the quantificational DP an exceptive operates on. It is possible that this specific structure given in (36) is ruled out by that principle. But the worry here is more general. Both NEG and OP are downward entailing operators. A construction where they form a constituent is preferable because, in that case, they cancel each other's downward entailing properties.

(37)



I assume that the rule of function composition exists as one of the interpretation rules. In making this assumption I follow much of the literature (Ades & Steedman 1982, Steedman 1985, Di Sciullo & Williams 1987, Jacobson 1990, 1992, Stechow 1992, Gärtner 2011, Keine & Bhatt 2016). I propose that the lower scope of negation is modeled by using this interpretation rule[34]. The definition of the rule is given in (38).

(38) The rule of function composition:
If X is a node whose daughters are Y and Z and if $[[Y]]^g$ is of type $<\alpha,\beta>$, and $[[Z]]^g$ is of type $<\gamma,\alpha>$, then $[[X]]^g$ is the following function of type $<\gamma,\beta>$: $\lambda f\gamma.[[Y]]^g([[Z]]^g(f))$

The assumption here is that negation is a type flexible operator. One possible denotation for negation is given in (39)[35]. This is a function of type <<<et>t><<et>t>>. It cannot

[34] I am grateful to Rajesh Bhatt who suggested this option to me instead of (33) that I have initially proposed.

[35] The index 1 on NEG_1 is not meant to be interpreted. This is just a devise to distinguish two different negations of different semantic types. The same goes for indices on the names of the nodes: IP_1, IP_2.

combine with *OP+Anya and Masha* (that has a type <<<et>t>t>) via functional application as neither of them has the right semantic type to be the argument of the other one.

(39) $[[\text{NEG}_1]]^g = \lambda F_{<<et>t>}.\lambda S_{<et>}.\ \neg F(S)=1$

However, those two constituents meet the criteria for function composition. Their composition is shown in (40).

Deriving the exceptive operator:

(40) $[[\text{OP Anya and Masha NEG}_1]]^g =$ by function composition

$\lambda Q\ [[\text{OP Anya and Masha}]]^g\ ([[\mathbf{NEG}]]^g(Q)\ ) =$

$\lambda Q\ [[\text{OP Anya and Masha}]]^g\ (\mathbf{[\lambda F_{<<et>t>}\lambda S_{<et>}.\ \neg F(S)}=1(Q)\mathbf{]}\ ) =$

by lambda conversion and by the meaning of OP+Anya and Masha in (29)

$\lambda Q_{<<et>t>}\mathbf{[}\lambda M_{<<et>t>}{:}\forall Y[Y\cap\{\text{Anya,Masha}\}\neq\varnothing\rightarrow M(Y)=1].\neg M(\overline{\{\text{Anya, Masha}\}})=1$
$\mathbf{(\lambda S_{<et>}.\neg}Q\mathbf{(S)=1})\ \mathbf{]}=$

by lambda conversion

$\lambda Q_{<<et>t>}{:}\forall Y[Y\cap\{\text{Anya,Masha}\}\neq\varnothing\rightarrow\mathbf{[\lambda S_{<et>}.\neg}Q\mathbf{(S)=1}(Y)\mathbf{]}].$
$\neg\mathbf{[\lambda S_{<et>}}.\neg Q(\mathbf{S})=1\ \overline{\{\text{Anya, Masha}\}}\ \mathbf{]})=$

by lambda conversion

$\lambda Q_{<<et>t>}{:}\forall Y[Y\cap\{\text{Anya, Masha}\}\neq\varnothing\rightarrow\neg Q(Y)=1].\ Q(\overline{\{\text{Anya, Masha}\}})=1$

The presupposition in (40) is equivalent to the Leastness Condition and the assertive part is the domain subtraction. This is exactly the desired exceptive operator shown in (24), modulo the assertion/presupposition distinction.

The final output of interpreting the structure that I proposed and the structure in (37) that I rejected is semantically equivalent. However, if my (37) is the right structure, no NPI licensing in the scope of *krome* is predicted. This is because the operator in the last line in (40) is not a downward entailing operator. Let's focus at the at-issue part of it. It does not have negation in it. This is a function that takes a generalized quantifier - a set of sets in set terms - and returns TRUTH if the complement set of {Anya, Masha} belongs to this set. It is entirely possible that there is a set of sets A such that it has the complement set of {Anya, Masha} as its member, there is a subset of A - a smaller set B – that does not have this set as its member.

Another advantage of the structure in (37) is that OP and NEG are in a much more local configuration and the idea that they are together pronounced as the same word is more plausible.

Further computation of the meaning proceeds in the standard fashion: the exceptive-additive phrase (ExcAddP) combines with its sister via functional application. Under the assumption that the quantifier that is used in the sentence is a universal, the denotation for the sister of the exceptive-additive phrase is given in (41).

(41) $\lambda Y_{<et>}.\forall x[\text{x is a girl} \ \& \ x \in Y \rightarrow \text{x was there}]$

The predicted interpretation of the entire sentence is given in (42). This is the same denotation as the one given by von Fintel's (1994) for English *but* (again if we ignore the presupposition/assertion distinction, which was not made in that work). Leastness is the presuppositional component of the sentence meaning. It guarantees that Anya and Masha are girls who were not there.

(42)
Presupposition: $[[(37)]]^g$ is defined only if
$\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \exists x[\text{x is a girl} \ \& \ x \in Y \ \& \ \neg \text{ x was there}]\ ]$
(Leastness)
Assertion: $[[(37)]]^g = 1$ iff
$\forall x[\text{x is a girl} \ \& \ x \notin \{\text{Anya, Masha}\} \rightarrow \text{x was there}]$
(domain subtraction)

In order to derive the exceptive reading of exceptive-additive markers with universal quantifiers via combination of OP and NEG I have made two assumptions. One is that function composition rule exists as a rule of interpretation. The other one is that negation is a type-flexible operator. Both assumptions are independently motivated. The rule of function composition has been argued to be required for the interpretation of kin names in Scandinavian languages (Keine & Bhatt 2016). In Swedish the basic terms *mor* ('mother') and *far* ('father') can be combined to refer to grandparents: *morfar* ('maternal grandfather'), *farmor* ('paternal grandfather'). The derivation for *morfar* via function composition from the meaning of its identifiable parts is shown below.

(43) $[[\text{far}]]^g = \lambda a.\iota y.$ y is the father of a

(44) $[[\text{mor}]]^g = \lambda x.\iota z.$ z is the mother of x

(45) $[[\text{morfar}]]^g =$ by function composition=
$\lambda x.[[\text{far}]]^g ([[\text{mor}]]^g(x)) = \lambda x.\iota y.$ y is the father of ($\iota z.$ z is the mother of x)

The second assumption (the assumption that negation is a type-flexible operator in natural languages) is motivated by the constituent negation. For example, in (46) negation and *every student* form a constituent. In order to interpret this constituent *not* has to be able to take *every student* as its argument. This means that *not* has to have a denotation of the appropriate semantic type, in addition to the denotation that allows *not* to combine with predicates. The range of the meanings that (46) has is different than the range of the meanings that (47), where negation is in its standard position above the verb, has. In (47) *every student* can be interpreted above negation and the sentence can be true if there is one student (say, Masha) who came and the rest of the student did not come. (46) cannot be true in this scenario: it can only be true if every student came: negation has to be interpreted above *every student*. If *not* and *every* can form a constituent, *not* has to be able to combine with an element of type <<et>t>. In (47) *not* has to combine with the VP that has type <et>. I follow Partee & Rooth (1983) in assuming that functional elements that can apply to elements of different semantic type are type-flexible operators.

(46) It's false that not every student came.

(47) It's false that every student did not come.

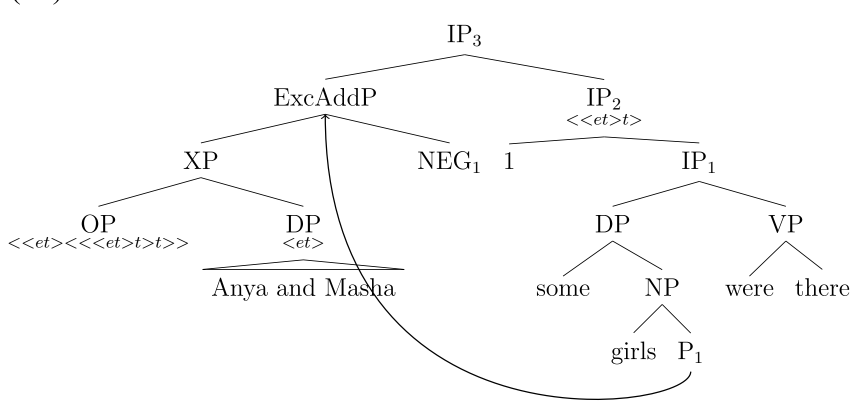
2.3.2.2 No Exceptive Meaning with Existentials.

The fact that the exceptive meaning is not possible with an existential quantifier in this system follows from von Fintel's (1994) observation that Leastness is guaranteed to yield a contradiction with the domain subtraction in this case.

Let's consider the situation where the sister of the exceptive-additive phrase has a quantifier with an existential force in it (for example, *kakie-to* 'some'), like in (15) repeated below for convenience.

(48) Na sobranii prisutstvovali kakie-to devočki krome Ani i Maši.
On meeting present some girls krome Anya and Masha
'There were some girls besides Anya and Masha at the meeting'.

(49)



The denotation of the sister of the exceptive-additive phrase is as shown in (50).

(50) $\lambda Y_{<et>}.\exists x[x \text{ is a girl } \& \ x \in Y \ \& \ x \text{ was there}]$

When the denotation for the exceptive-additive phrase given in (40) is put together with this function in (50), the predicted output is shown in (51). There is no model on which the presupposition and the assertion can be true simultaneously.

(51) Presupposition: $[[(49)]]^g$ if defined only if
$\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \neg\exists x[x \text{ is a girl } \& \ x \in Y \ \& \ x \text{ was there}]]$
(Leastness)
Assertion: $[[(49)]]^g = 1$ iff
$\exists x[x \text{ is a girl } \& \ x \notin \{\text{Anya, Masha}\} \ \& \ x \text{ was there}]$
(domain subtraction)

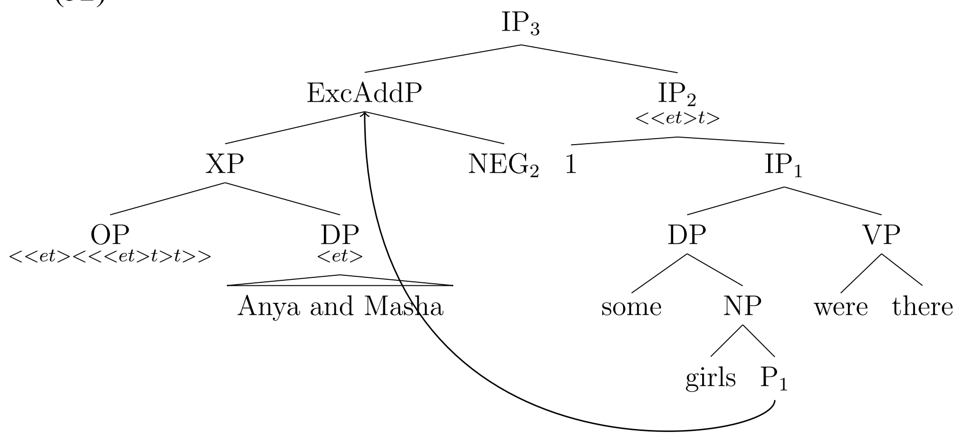
The most interesting set for us in this case is U: the universal set containing every object in the world. Since $U \cap \{\text{Anya, Masha}\} \neq \varnothing$ (in fact, U contains both of those elements), the presupposition requires that there is no girl in the universe that was there. This contradicts the assertion that requires that some girl who is not Anya or Masha was there.

Thus, the fact that the exceptive reading is not available with existential quantifiers follows from the conflict between the domain subtraction and Leastness, exactly as in von Fintel's system (1994).

2.3.2.3 Additive Meaning with Existentials

My proposal is that the additive meaning with existential quantifiers comes as a result of applying a higher type negation to *OP+DP*. A reminder of the denotation of *OP+Anya and Masha* is in (54): this is a function of type <<<et>t>t>. In order to make negation be able to take this constituent with this denotation as its argument I will give it a rather high type <<<<et>t>t><<<et>t>t>>. This is shown in (53).

(52)



(53) $[[NEG_2]]^g = \lambda P_{<<<et>t>t>}.\lambda S_{<<et>t>}. \neg P(S)=1$

(54) $[[OP\ Anya\ and\ Masha]]^g=$
$\lambda M_{<<et>t>}:\forall Y[Y\cap\{Anya, Masha\}\neq\emptyset\rightarrow M(Y)=1]. \neg M(\overline{\{Anya, Masha\}})=1$

When (53) takes (54) as its argument, the presuppositional component of OP remains unaffected by negation. This phenomenon is known in the literature as presupposition projection (starting at least from (Langendoen and Savin 1971; Kartunnen 1973)). The function in (54) is only defined for arguments M that satisfy the condition of definedness. When NEG takes (54) as its argument, it feeds it its second argument S. Thus, S has to satisfy the condition of definedness, otherwise the result is not going to be defined.

Deriving the additive operator:

(55) $[[OP\ Anya\ and\ Masha\ NEG_2]]^g=$ by functional application
$[[\mathbf{NEG_2}]]^g([[OP\ Anya\ and\ Masha]]^g)=$
$\boldsymbol{[\lambda P_{<<<et>t>t>}.\lambda S_{<<et>t>}. \neg P(S) =1}$
$(\lambda M_{<<et>t>}:\forall Y[Y\cap\{Anya, Masha\}\neq\emptyset\rightarrow M(Y)=1]. \neg M(\overline{\{Anya, Masha\}})=1)\ \mathbf{]}=$
by lambda conversion
$\boldsymbol{\lambda S_{<<et>t>}.}$
$\boldsymbol{\neg[}\lambda M_{<<et>t>}:\forall Y[Y\cap\{Anya, Masha\}\neq\emptyset\rightarrow M(Y)=1]. \neg M(\overline{\{Anya, Masha\}})=1)\ (S)\mathbf{]}=$

by lambda conversion
$\boldsymbol{\lambda S_{<<et>t>}}:\forall Y[Y\cap\{Anya, Masha\}\neq\emptyset\rightarrow \mathbf{S}(Y)=1]. \mathbf{S}(\overline{\{Anya, Masha\}})=1$

One classic example illustrating the phenomenon of presupposition projection in a natural language is the sentence in (56), which presupposes that I was smoking in the past, just like its positive counterpart in (57).

(56) I did not stop smoking.

(57) I stopped smoking.

In our case the only effect this negation has is neutralizing the negation that we see in the assertive part of the formula in (54). The resulting denotation of the exceptive-additive phrase shown in (55) is exactly equivalent to the additive operator shown earlier in (26), again modulo the assertion/presupposition distinction.

The denotation of the sister the exceptive-additive phrase is given in (58): this is an existential quantifier with an abstraction over the variable restricting its domain. The exceptive-additive phrase (ExcAddP) combines with its sister via functional application.

(58) $\lambda Y_{<et>}. \exists x[\text{x is a girl} \ \& \ x \in Y \ \& \ \text{x was there}]$

The entire structure with an existential quantifier gets the interpretation shown in (59). The presupposition is the additivity condition. It guarantees that Anya and Masha are both girls who were there. This is because two of the sets that satisfy the domain restriction of the universal quantifier over sets are singleton sets {Anya} and {Masha}. Thus, both (60) and (61) must be true: (58) says that Anya is a girl who was there and (61) says the same thing about Masha. The assertion is domain subtraction: there is a girl who is not Anya or Masha who were there.

(59) Presupposition: $[[(52)]]^g$ is defined only if
$\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \emptyset \rightarrow \exists x[x \in Y \text{ \& x is a girl \& x was there}]]$

Assertion: $[[(52)]]^g=1$ iff
$\exists x\ [x \notin \{\text{Anya, Masha}\} \text{ \& x is a girl \& x was there}]$

(60) $\exists x[x \in \{\text{Anya}\} \text{ \& x is a girl \& x was there}]$

(61) $\exists x[x \in \{\text{Masha}\} \text{ \& x is a girl \& x was there}]$

To conclude, in the system where the exceptive and the additive meanings of *krome* come as a result of scopal interaction between two operators, we are able to derive the additive meaning with existentials and the exceptive meaning with universals and rule out the unattested exceptive meaning with existentials. In the next subsection I will show that it also correctly predicts the absence of the additive meaning with universals.

2.3.2.4 No Additive Meaning with Universals

As was established in the previous chapter, the additive reading is not attested with universal quantifiers. Thus (14), repeated here as (62), cannot mean: Anya and Masha are girls who were at the meeting and all other girls were there too.

(62) Na sobranii prisutstvovali vse devočki krome Ani i Maši.
On meeting present all girls krome Anya and Masha
'All girls except Anya and Masha were at the meeting.'

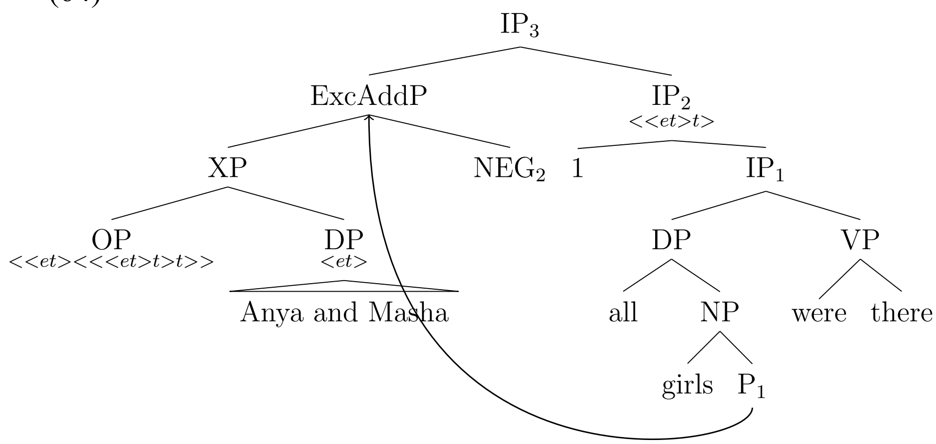
It is not the case that there is something wrong with the intended meaning. For example it can be expressed by using another expression *vklučaja* ('including')[36], as shown in (63).

(63) Na sobranii prisutstvovali vse devočki vklučaja Anju i Mašu.
On meeting present all girls including Anya and Masha
'All girls including Anya and Masha were at the meeting.'

[36] Thanks to Peter Alrenga (p.c) for bringing up the connection with this data-point.

The system developed here straightforwardly predicts the unavailability of this reading. If (55) (the additive operator resulting from applying the higher scope negation NEG_2 to *OP+Anya and Masha* as in the LF below) applies to (65), the predicted result is shown in (66).

(64)



(65) $\lambda Y_{<et>}.\forall x[x \text{ is a girl } \& \ x \in Y \rightarrow x \text{ was there}]$

(66) Presupposition: $[[(64)]]^g$ if defined only if
$\forall Y[Y \cap \{Anya, Masha\} \neq \varnothing \rightarrow \forall x[x \in Y \ \& x \text{ is a girl} \rightarrow x \text{ was there}]]$

Assertion: $[[(64)]]^g = 1$ iff
$\forall x[x \text{ is a girl } \& \ x \notin \{Anya, Masha\} \rightarrow x \text{ was there}]$

The presupposition requires that every existing girl was there. This is because the universal set U – the set containing all entities – satisfies the domain condition of the universal quantifier over sets in (66): its intersection with {Anya, Masha} is not empty. Thus (67) has to be true.

(67) $\forall x[x \text{ is a girl } \& \ x \in U \rightarrow x \text{ was there}]$

The assertion is that every girl who is not Anya or Masha was there. The presupposition is logically stronger than the assertion. Therefore, whenever this sentence is defined it is true. Its negation has the opposite property: whenever it is defined, it is false. The sentence (63) under the additive reading is predicted to be pathological in the sense that it cannot be false. I suggest that this is the reason why the additive reading is not available in this case.

2.3.2.5 Presupposition/ Assertion Distinction

The crucial assumption I had to make in order for this system to work is that the additivity/Leastness Condition is not contributed at at-issue level, but is a presupposition of a sentence with an exceptive-additive phrase.

I suggested that the additive meaning comes as a result of negation taking scope over OP+DP. The presupposition that OP carries remains unaffected by negation. The negation affects the presupposition when it targets the argument of OP+DP – the quantificational expression with an abstraction over the domain variable. This scopal configuration results in the Leastness Condition, which yields the exceptive reading when applied to universals and a contradiction when applied to existentials.

The question I will address here is whether this division between the presuppositional and at-issue content is independently empirically motivated. I will apply the standard tests for presuppositions. I will argue that the division between the presuppositional component and the assertive component of OP that I suggested here is supported by the facts.

The first fact that I would like to point out is that, as was established in Chapter 1, a claim containing *krome* can be conjoined with a statement expressing its negative inference (in case the usage we are dealing with is the exceptive one) as shown in (68) or its positive inference as shown in (69) (in case the usage we are dealing with is the additive one). That suggests that this part of the meaning of *krome* is not contributed at the at-issue level. If the negative and the positive inference were contributed at the at-issue level and were conjoined with the quantificational claim with domain subtraction those sentences are expected to be as bad as (70) and (71).

(68) Vani zdes' net, no vse mal'čiki krome Vani zdes'.
Vanya here not, but all boys krome Vani here
'Vanya is not here, but all boys except Vanya are here'.

(69) Tam byli Anya i Maša , i tam byli kakie-to devočki
There were Anya and Masha, and there were some girls
krome Ani i Mašy.
krome Anya and Masha
'Anya and Masha were there, and some girls besides Anya and Masha were there'.

(70) #Vani zdes' net, no vse drugie mal'čiki zdes', a Vani zdes' net.
Vanya here not, but all other boys here but Vani here not
Intended: #'Vanya is not here, but all other boys are here and Vanya is not here'

(71) #Tam byli Anya i Maša , i tam byli kakie-to drugie devočki
There were Anya and Masha, and there were some other girls
i tam byli Anya i Maša.
and there were Anya and Masha
Intended: #'Anya and Masha were there, and some girls other girls were there and Anya and Masha were there'.

In what follows I will apply the standard tests in order to establish that the presupposition-assertion distinction that I assumed here is on the right track. The judgments are the clearest for the question test and this is why I will apply it first. It is a well-established fact that questions that contain elements that carry presuppositions inherit those presuppositions.

Thus, the question in (72) presupposes that John was smoking in the past.

(72) Did John stop smoking?

It is not felicitous to answer to (72) with (73).

(73) #No, he did not smoke.

In a similar way it is not felicitous to answer the question given in (74) with (75). The well-formed answer is given in (77). This shows us again that the containment entailment and the negative entailment are not parts of the asserted content.

(74) Prisutstvovali li na sobranii vse studenty krome Ani?
Present ? on meeting all students krome Anya
'Were all students besides Anya at the meeting?'

(75) Net, Ania ne studentka.
No, Anya NEG student
'No, Anya is not a student'.

(76) Net, Ania tože tam byla.
NO, Anya too there was
#'Anya was there too'.

(77) Net, Maša tože ne prišla.
No, Masha also NEG come
'No, Masha also did not come.'

The facts about additive meaning with existentials point in the same direction. It is felicitous to respond to (78) with (81), but not with (79) or (80).

(78) Prisutstvovali li na sobranii kakie-to studenty krome Ani
Present ? on meeting some students krome Anya?
'Were there some students apart from Anya at the meeting?'

(79) Net, Ania ne studentka.
No, Anya NEG student
'No, Anya is not a student'.

(80) Net, Ani tam ne bylo.
No, Anya there NEG be
'No, Anya was not there'.

(81) Net, ni kakix drugix studentov tam ne bylo.
No, n- which other student there NEG be
'No, no other student was there'.

The next test I will use is the 'wait a minute' test suggested in von Fintel (2004). In general, it is felicitous to question the presuppostional component X by saying 'wait a minute, I did not know that X' (as shown in (82)). It is infelicitous to question the assertive component of meaning in this manner (as demonstrated in (83)).

(82) A: John quit smoking.
B: Hey, wait a minute, I did not know John smoked!

(83) A: John quit smoking.
#B: Hey, wait a minute, I did not know John stopped smoking!

I adopted von Fintel's proposal according to which the containment entailment and the negative entailment come from the Leastness Condition in exceptives. So given that I proposed that the Leastness Condition is a presupposition of the sentence, the expectation is that those two entailments can be targeted by the wait-a-minute test. This prediction is borne out.

For example, (85) and (86) are reasonable reactions to (84), while (87) is infelicitous in this discourse.

(84) Na sobranii prisutstvovali vse studenty krome Ani i Maši.
On meeting present all students krome Anya and Masha
'All students except Anya and Masha were at the meeting.'

(85) Podoždi-ka, ja ne znala, što Anja studentka!
Wait-DIS I NEG know that Anya student
'Wait a minute, I did not know Anya was a student!'

(86) Podoždi-ka, ja ne znala, što Ani tam ne bylo!
Wait-DIS I NEG know that Anya there not was
'Wait a minute, I did not know Anya was not there!'

(87) #Podoždi-ka, ja ne znala, što vse drugie studenty tam byli!
Wait-DIS I NEG know that all other students there were
#'Wait a minute, I did not know all other students were there!'

In a similar way, the containment and the positive entailment can be questioned by 'wait a minute' but not the domain subtraction in the additive construction.

(88) Na sobranii prisutstvovali kakie-to studenty krome Ani i Maši.
On meeting present some students krome Anya and Masha
'There were some students besides Anya and Masha at the meeting.'

(89) Podoždi-ka, ja ne znala, što Anja studentka!
Wait-DIS I NEG know that Anya student
'Wait a minute, I did not know Anya was a student!'

(90) Podoždi-ka, ja ne znala, što Anja byla tam!
Wait-DIS I NEG know that Anya was there
'Wait a minute, I did not know Anya was there!'

(91) #Podoždi-ka, ja ne znala, što kakie-to drugie studenty tam byli!
Wait-DIS I NEG know that some other students there were
#'Wait a minute, I did not know some other students were there!'

The next test I will use is the negation test. In (92) the universal claim with an exceptive is negated by *nepradva* ('not true') sitting in the higher clause.

(92) Nepradva, čto na sobranii prisutstvovali vse studenty krome Ani.
Not true that on meeting present all students krome Anya
'Its not true that all students apart from Anya were at the meeting.'

If the Leastness and the domain subtraction are both parts of the assertive content, the meaning of the claim that *nepradva* negates is given in (93).

(93) $\forall x[x \text{ is a student } \& \ x \notin \{\text{Anya}\} \rightarrow x \text{ was there}] \ \&$
(domain subtraction)
$\forall Y[Y \cap \{\text{Anya}\} \neq \varnothing \rightarrow \neg \forall x[x \in Y \ \& \ x \text{ is a student} \rightarrow x \text{ was there}]\ ]$
(Leastness)

The negation of (93) is given in (94). This disjunction is predicted to be true if one of the disjuncts is true. Thus, the sentence in (92) is predicted to be true in a situation where Anya is not a student and every student was there. This is because there is a set, intersection of which with {Anya} is not empty, for example the set containing Anya and all students, such that every student in that set was there.

It is also predicted to be true in the scenario where Anya is a student and she was there. This is again because the second disjunct will be true in this scenario. There is a set, intersection of which with {Anya} is not empty, namely the set containing Anya and all other students, such that every student in that set came.

(94) $\exists x[x \text{ is a student } \& \ x \notin \{\text{Anya}\} \ \& \ \neg x \text{ was there}] \vee$
(domain subtraction)
$\exists Y[Y \cap \{\text{Anya}\} \neq \varnothing \ \& \ \forall x[x \text{ is a student } \& \ x \in Y \rightarrow x \text{ was there}]\ ]$
(Leastness)

It is odd to add (95) after saying (92). It is less odd to continue it with (96), especially if (92) is pronounced with a heavy stress on *krome*. I do not know the reason for this contrast[37]; however, the oddness of this continuation in a neutral context tells us that the sentence presupposes that Anya is a student and Anya was there.

(95) Ania ne studentka.
Anya NEG student
'Anya is not a student'.

(96) Ania tože tam byla.
Anya too there was
?'Anya was there too'.

It is also known that the presuppositional content can in some cases be targeted by negation. For example, in (97), negation is targeting the presuppositional content. It is possible that something similar is going on in (96).

(97) It is not true that the present king of France is bald, because there is no king of France now!

In a similar way, if the positive entailment and the domain subtraction are two conjuncts in the case of *krome* with an existential quantifier, the expectation is that (98) would get the interpretation given in (99).

(98) Nepradva, čto na sobranii prisutstvovali kakie-to studenty krome Ani.
Not true that on meeting present some students krome Anya
'Its not true that some students apart from Anya were at the meeting.'

(99) $[[(98)]]^g=1$ iff $\neg\exists x$[x is a student & $x \notin \{Anya\} \rightarrow$ x was there] $\vee$
(domain subtraction)
$\exists Y[Y \cap \{Anya\} \neq \varnothing \& \neg\exists x[x \in Y$ & x is a student & x was there]]
(additivity)

[37] My tentative explanation for this fact is that focus on *krome* makes salient the contrast with its lexical alternative *vključaja* ('including').

The formula in (99) is true if Anya was not there. This is because the disjunction is true if one of its disjuncts is true. If Anya was not there, the second disjunct is true, because there is a set intersection of which with {Anya} is not empty, namely {Anya}, such that it has no student who came. For the same reason this formula is true if Anya is not a student. If that was the meaning of the sentence the continuations given in (100) and (101) would be expected to be good. However, both of them are infelicitous[38]. Thus, the negation test seems to suggest that the containment and the positive entailments in the additive reading are not parts of the asserted content and cannot be targeted by negation.

(100) #Ania ne studentka.
Anya NEG student
'Anya is not a student'.

(101) #Ania tam ne bylo.
Anya there NEG was
'Anya was not there'.

I conclude that the division between the presuppositional and the assertive component of the meaning of exceptive-additive markers suggested here is supported by the facts.

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[38] As we can see, the negation of the positive entailment with existentials in (101) gets # and not ?, unlike the negation of the negative entailment with universals in (96). It does not improve with focus on *krome* in contrast to what we saw in (96). If the idea that the focus on *krome* invokes its lexical alternative *vključaja* ('including') as the explanation for the relative acceptability of (96) is on the right track, the fact that focus cannot improve (101) follows in a straightforward way as *vključaja* ('including') is not compatible with 'kakie-to' (some):

#na sobranii prisutstvovali kakie-to studenty vklučaya Anu
on meeting present some students including Anya
#'Some students including Anya were at the meeting'

2.4 Questions

2.4.1 Empirical Description of Facts

In this section I will extend the idea that the additive and the exceptive meaning come as a result of scopal integration between OP and NEG to a more difficult case involving *wh*-questions.

As was established in Chapter 1, exceptive-additive markers like Russian *krome* can occur in a position connected to a *wh*-phrase as shown in (102). This construction comes with the containment entailment, positive entailment and domain subtraction – the inferences characterizing the additive meaning.

(102) Kakie devočki krome Ani i Maši prišli?
Which girls krome Anya and Masha came?
'Which girl besides Anya and Masha came?'
Containment: Anya and Masha are girls
Positive entailment: Anya and Masha came
Domain subtraction: the question is about girls other than Anya and Masha

It is worth reminding the reader that the additive reading is the only reading available for the exceptive-additive markers in *wh*-questions as the infelicity of (103) shows.

(103) #Horošo, Anya ne prišla. Kakie devočki krome Ani prišli?
Ok, Anya NOT came. Which girls krome Anya came?
#'Ok, Anya did not come. Which girl besides Anya came?'

Moreover English *except* and *but* that are unambiguously exceptives do not combine with *wh*-words (as evidenced by the ungrammaticality of (104) and (105)) (Horn & Bayer 1984)[39]. Ideally, we want the Leastness Condition to play a role in ruling out (104) in

[39] *Except* and *but* are acceptable with questions if the question is interpreted rhetorically and the expected answer is *no one* (Horn & Bayer 1984): 'Who but/except God can help him now?' To my knowledge there

English and explaining the infelicity of (103) in Russian and structurally similar sentences in other languages that have the exceptive-additive alternation.

(104) *Which girls except Anya came?
(105) *Which girls but Anya came?

The fact that exceptive-additive phrases come with containment in questions is shown in (106), where the name *Petya* following the exceptive-additive marker is clearly male in Russian and the question starting with 'which girls' is infelicitous.

(106) # Kakie devočki krome Peti prišli?
Which girls krome Petya came?
Lit:# 'Which girl besides Petya came?'

Overall, we can conclude that the interaction of *krome* with *wh*-phrases shows the same pattern as the interaction of *krome* with existentials. There is a proposal in the literature that treats interrogative *wh*-items as existential noun phrases, namely, Karttunen's proposal (1977). However, trying to straightforwardly apply the semantics of *krome* developed here to account for its interaction with existential and universals to this case runs into serious difficulties. In the next subsection I briefly review those issues. In Section 2.4.3 I suggest a modification of the system that accounts for the additive meaning with questions.

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is no analysis of this fact in the literature. Han (1997) argues that in rhetorical questions *wh*-phrase is interpreted as a negative quantifier. If this is so, the fact that this rhetorical question gets the same interpretation as 'No one but/except God can help us now' is not surprising.

2.4.2 Some Modifications of the System are Required

According to one widely adopted approach to the semantics of questions developed by Hamblin (1973) and Karttunen (1977), they denote sets of propositions. Propositions are functions from worlds or situations to truth-values. We need to slightly extend out extensional system in order to make room for a notion of a proposition. I will assume that the meaning of verbs like *came* is relativized to a situation (a world) which is represented as a parameter on the interpretation function as shown in (107) (where s_0 is a common notation for the actual topic situation[40]). If α is a sentence, its intension can be computed as shown in (108).

(107) $[[\text{came}]]^{g,s0}=\lambda x.\ x \text{ came in } s_0$

(108) $\lambda s.[[\alpha]]^{g,s}$

Which these assumptions, we can go from a sentence *John came* to a proposition as shown in (109). I will assume that [[]] is always parameterized to a situation or a world, but I will not always write the index s for the simplicity.

(109) $\lambda s.[[\text{John came}]]^{gs}=\lambda s.\ \text{John came in } s$

In this chapter for simplicity of expositions, I use ^ operator (Keshet 2011) as a way of getting an intensional meaning. I assume ^ is merged in syntax when it is required for interpretation purposes.

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[40] I assume situations to be parts of possible worlds (Kratzer 1989). Everything here can be done in terms of possible worlds instead of situations.

(110) $[[\wedge \alpha]]^{gs} = \lambda s'[[\alpha]]^{gs'}$

(111) $[[\wedge \text{ John came}]]^{gs} = \lambda s'[[\text{John came}]]^{gs'} = \lambda s'$. John came in s'

I follow much of the literature and adopt Hamblin-Karttunen (Hamblin 1973, Karttunen 1977) approach to the semantics of questions, where a question denotes a set of its possible answers. In this Chapter I do not adopt the assumption from Karttunen's work that the question denotation contains only true propositions. Thus, I take the denotation for the question without an exceptive-additive phrase, like the one in (112) to be a function given in (113). For shortness, I will write p instead of <st> (p=<st>). Under the assumption that the set of girls is as shown in (114), this function picks the set of propositions in (115): this is a set of proposition of the form 'x came' were x is a girl.

(112) Which girl came?

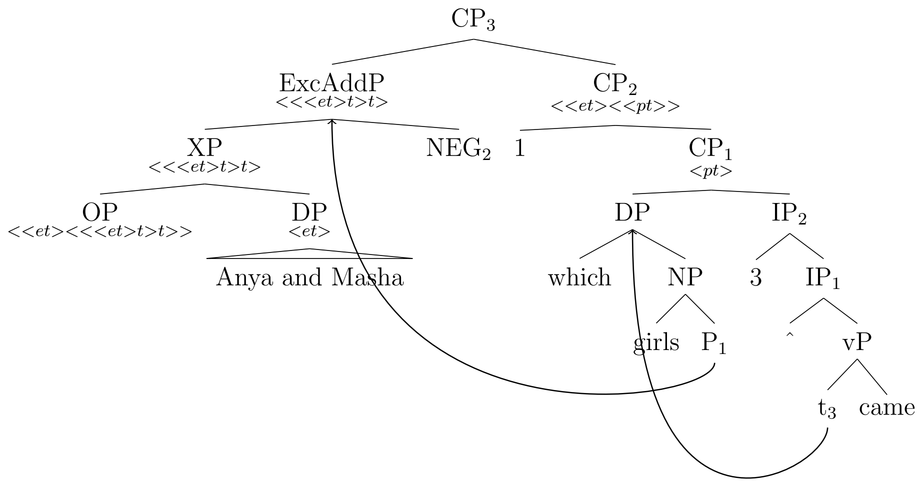
(113) $\lambda q_p.\ \exists x[x \text{ is a girl } \& \ q = [\lambda s'\text{: } x \text{ came in } s']]$

(114) girls = {Anya, Masha, Katia, Sveta, Olga}

(115) {λs. Anya came in s,
λs. Masha came in s,
λs. Katia came in s,
λs. Sveta came in s,
λs. Olga came in s}

The first problem we run into when we try to use the denotation of OP proposed in the previous sections is the semantic type mismatch. Let's consider the possibility that in (102) the exceptive-additive phrase undergoes quantifier raising at LF from its surface position (the sister of the noun *girls*) as shown in the tree in (116). It leaves a trace of type <et> and this trace is bound by the lambda abstractor.

(116) **Type-mismatch**



Independently of our assumptions about how the question denotation is obtained, the sister of the ExpAddP is of type <<et><pt>>. This is not the type the exceptive-additive phrase can compose with, as it is looking for a constituent of type <<et>t> (a reminder for the 'additive' denotation for the exceptive-additive phrase is given in (117)).

(117) $[[\text{ExcAddP}]]^{gs0}=$
$\lambda M_{<<et>t>}:\forall Y[Y\cap\{\text{Anya, Masha}\}\neq\varnothing\rightarrow M(Y)=1].\ M(\overline{\{\text{Anya, Masha}\}})=1$

But the type mismatch is not the only issue here. The denotation for the node below lambda abstraction is given in (118). This is the set of propositions of the shape 'x came' where x varies over girls picked from the set denoted by $g(P_1)$.

(118) $\lambda q_p.\ \exists x[x \text{ is a girl } \& \ x\in g(P_1) \ \& \ q = [\lambda s'\text{: x came in s' }]]$

Even though we have a system that predicts the additive reading of *krome* with existential quantifiers and there is an existential quantifier in the formula in (118), it is not entirely transparent how to extend the ideas developed for existentials to this case, because there is no constituent with the meaning '$\exists x[x \text{ is a girl } \& \ x \in g(P_1) \ \& \ x \text{ came}$', where P_1 is a variable available for binding. The additive reading was obtained by abstracting over this variable and feeding sets to the resulting function, the most relevant of which were singleton sets.

Even if it were possible to temporarily saturate the propositional argument in (118) and abstract over it after the exceptive-additive phrase applies, the result would not be on the right track at all. The result of this is shown in (119) , where we have a function from a proposition to truth-value that is defined if a proposition is of the form 'x came' where x has to be equal to Anya and x has to be equal to Masha and is true if x belongs to a set that does not include Anya and Masha. It is not possible for a proposition to meet these conditions; thus this set of propositions will be empty.

(119) $\lambda \mathbf{q}$: $\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \emptyset \rightarrow \exists x[x \text{ is a girl } \& \ x \in Y \ \& \ \mathbf{q} = [\lambda s'. \ x \text{ came in } s']]]$. $\exists x[x \text{ is a girl } \& \ x \notin \{\text{Anya, Masha}\} \ \& \ \mathbf{q} = [\lambda s'. \ x \text{ came in } s']]$

In order to capture the interaction between exceptive-additive markers and *wh*-words some modifications of the system are required.

2.4.3 The Proposal: Type Shifting of Questions

2.4.3.1 General Idea

My goal here is to extend the general idea developed for existentials that an exceptive-additive phrase subtracts a set from the domain of an operator and adds the additivity condition to *wh*-questions. I also want to keep the general idea that the additive meaning comes as a result of applying the additive denotation of an ExcAdd phrase to an existential quantifier. Additivity reduces the domain of existential quantifier domain to singleton sets containing the individuals in the set introduced by the ExcAdd phrase and states that each of the resulting existential claims is true. However, the existential quantifier that is a part of a question denotation is not the one that we are looking for here.

Under the assumption that an exceptive-additive phrase gets access to the domain restriction of *which girl* it is very easy to model the domain subtraction and remove a set, say {Anya, Masha} from the domain of this question. All we need to do is to feed the function in (120) a set – the complement set of {Anya, Masha}. This is shown in (121).

(120) $\lambda Y_{<et>}.\lambda q.\ \exists x[x \text{ is a girl } \&\ x \in Y\ \&\ q = [\lambda s'\text{: } x \text{ came in } s']]$

(121) $\lambda Y_{<et>}.\lambda q.\ \exists x[x \text{ is a girl } \&\ x \in Y\ \&q = [\lambda s'\text{: } x \text{ came in } s']]\ (\overline{\{\text{Anya, Masha}\}}) =$
$\lambda q.\ \exists x[x \text{ is a girl } \&\ x \notin \{\text{Anya, Masha}\}\ \&\ q = [\lambda s'\text{: } x \text{ came in } s']]$

The set in (121) includes all the propositions of the form 'x came' where x varies over girls who are not Anya or Masha. There is nothing in (121) that tells us that Anya and Masha are girls. As the reader can verify, (122) is totally well-formed even though the set including John and Bill and the set of girls have no elements in common. The set of propositions in (122) includes all propositions of the form 'x came' where x varies over girls.

(122) $\lambda q_p.\ \exists x[x \text{ is a girl } \&\ x \notin \{\text{John, Bill}\}\ \&\ q = [\lambda s'\text{: } x \text{ came in } s']]$

It is additivity that is difficult to model with question denotation. One issue here is that the additivity is a statement and a question is a set of propositions. We are looking for a way of getting from a set of propositions to a statement. The observation that the story I propose is built on is that the additivity is derived in a straightforward way if we introduce existential quantification over propositions in the set denoted by the question and say that those propositions are true in the situation/world of evaluation which I represent as s_0. Let's work with the same set {Anya, Masha}. Additivity could be expressed in terms of familiar quantification over possible sets as shown in (123).

(123) $\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \exists q \exists x$ [x is a girl & $x \in Y$ & $q = [\lambda s'.$ x came in s'] & $q(s_0)$]]

The statement in (123) is additivity: it entails that Anya and Masha are girls and that they came. This is, again, because the quantification over sets is universal. Two sets that we are most interested in are the singleton sets {Anya}, {Masha}. Since they satisfy the domain condition of quantification over sets in (123), they should also make the scope true. Therefore both (124) and (125) have to be true. The statement in (124) says that there is a true proposition in the set of propositions of the form 'x came' where x varies over girls who belong to the set that has Anya and nothing else. Thus, Anya has to be a girl and she has to come. The statement in (125) does the same for Masha – she also has to be a girl who came.

(124) $\exists q[\exists x$ [x is a girl & $x \in \{\text{Anya}\}$ & $q = [\lambda s'.$ x came in s'] & $q(s_0)$]]

(125) $\exists q[\exists x$ [x is a girl & $x \in \{\text{Masha}\}$ & $q = [\lambda s'.$ x came in s'] & $q(s_0)$]]

Actually, (123) is equivalent to saying that Anya and Masha are girls who came. This is shown by the proof in (126).

(126) $\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \exists j[\exists x[x \text{ is a girl } \& \ x \in Y \ \& \ j = [\lambda s'.x \text{ came in } s']] \ \& \ j(s_0)]] =$
$\forall Y[Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \exists x[x \text{ is a girl } \& \ x \in Y \ \& \ x \text{ came in } s_0]] =$
$\forall Y[\neg\exists x[x \in Y \ \& \ x \text{ is a girl } \& \ x \text{ came in } s_0] \rightarrow \neg[Y \cap \{\text{Anya, Masha}\} \neq \varnothing]] =$
$\forall Y[\forall x[x \in Y \rightarrow \neg(x \text{ is a girl } \& \ x \text{ came in } s_0)] \rightarrow \neg[Y \cap \{\text{Anya, Masha}\} \neq \varnothing]] =$
$\forall Y[Y \subseteq \overline{\{x\text{: x is a girl \& x came in s0}\}} \rightarrow Y \subseteq \overline{\{\text{Anya, Masha}\}}\ ] =$
$\overline{\{x\text{: x is a girl \& x came in s0}\}} \subseteq \overline{\{\text{Anya, Masha}\}} =$
$\{\text{Anya, Masha}\} \subseteq \{x\text{: x is a girl \& x came in } s_0\} =$
Anya and Masha are girls who came in s_0[41]

What we see here is that the additivity condition could be derived as a result of the interaction of an exceptive-additive phrase and a question if we could somehow introduce existential quantification over propositions in the question denotation.

Granted this move, we could also extend von Fintel's idea about the unacceptability of existentials with exceptives and explain the fact that exceptives are unacceptable with *wh*-questions and exceptive-additive phrases do not get the exceptive reading in questions. Recall that Leastness (assuming we work with the set {Anya, Masha}) is the claim that says: take any set that has Anya or Masha in it and restrict your quantification to this set, what you will find is that the quantificational claim is false. So here it will be the claim that differs from (123) in having negation taking scope the existential quantification over propositions. This is shown in (127), which is equivalent to saying 'no girl came'.

(127) $\forall Y\ [Y \cap \{\text{Anya, Masha}\} \neq \varnothing \rightarrow \neg\exists q \exists x\ [x \text{ is a girl } \& \ x \in Y \ \& \ q = [\lambda s'.\ x \text{ came in } s'] \ \& \ q(s_0)]]$

[41] The set theoretic tautologies employed here are as follows. For any sets A and B:

(i) $\overline{A} \subseteq \overline{B} = B \subseteq A$

(ii) $\forall Y[Y \subseteq A \rightarrow Y \subseteq B] = A \subseteq B$

Here the most informative set for us is U, the set containing all entities in the world. Since $U \cap \{Anya, Masha\} \neq \emptyset$, (127) requires that (128) is true. (128) says: there is no true proposition of the form [λs'. x came in s'], where x is a girl in the world. If we model this as a presupposition of the question, this presupposition would not be compatible with asking the question 'Which girl other than Anya and Masha came?'.

(128) $\neg\exists q \exists x$ [x is a girl & $x \in U$ & q = [λs'. x came in s'] & $q(s_0)$]

To conclude if we introduce existential quantification over propositions, we can predict the additive reading of exceptive-additive phrases with questions and exclude the exceptive reading. The question is where the existential quantifier quantifying over propositions is coming from. In the next subsection I propose that the existential quantifier is introduced as a result of applying of a type-shifting operation Answer3 from (Beck & Rullmann 1999).

2.4.3.2 Type-shifting of Questions

I propose that an exceptive-additive phrase combines with the result of a type-shifting of a question. I adopt the proposal developed in (Beck & Rullmann 1999) according to which questions can undergo semantic type-shifting from a set of propositions to the type of a generalized existential quantifier over propositions. The idea is that there is a shifter that can take a question (a set of propositions or a function from a proposition to a truth-value) and turn it into the object of type <<pt>t> (where p is a shorthand for <st>): a function from a set of propositions to a truth-value (or a set of sets of propositions) (129). This is a set of sets of propositions that have at least one of the propositions in the original question. Following (Beck & Rullmann 1999), I will call this type-shifter Answer 3. This type-shifter is essentially the type-shifter A (Partee 1986) adapted for the domain of propositions. The shifter A is given in (130). If A applies to a set of kings, it outputs a function from a set of individuals to truth-value with an existential quantification in it. This is illustrated in (131).

(129) Answer3: $\lambda P_{<pt>}. \lambda Q_{<pt>}. \exists x\ [P(x)=1\ \&\ Q(x)=1]$

(130) A: $\lambda P_{<et>}. \lambda Q_{<et>}. \exists x\ [P(x)=1\ \&\ Q(x)=1]$

(131) A (λx_e. x is a king) = $\lambda Q_{<et>}. \exists x$[x is a king & Q(x)=1]

Beck & Rullmann (1999) use this type-shifter to derive mention-some readings in examples like (132), which means that John knows at least one place where we can buy cigarettes and can be true even if John does not know all possible places where cigarettes can be bought. Here I will briefly illustrate how they use Answer 3 in order to derive the meaning of this sentence.

(132) John knows where we can buy cigarettes.

They propose that the question undergoes QR, leaving a trace of type <st> that is bound by the lambda abstractor. The LF they assume is shown in (133).

(133) [[where we can buy cigarettes] [$_{IP}$ 1 John knows p_1]]

The question undergoes type-shifting shown in (134).

(134) [[where we can buy cigarettes]]^g=
λp_p. $\exists x$[x is a place & p=[λs'. we can buy cigarettes at x in s']]
=> by applying Answer 3
$\lambda P_{<pt>}.\exists p[\exists x$[x is a place & p=[$\lambda$s'. we can buy cigarettes at x in s']] & P(p)=1]

The sister of the question in (133) gets the interpretation shown in (135) (here I assume the standard quantificational semantics for the propositional attitude verb).

(135) $[[1 \text{ John knows } p_1]]^{gso} =$

$$\lambda q.\ \forall s[\text{s is compatible with what John knows in } s_0 \rightarrow q(s)]$$

Now the type-shifted question and its sister can combine via functional application as shown in (136).

(136) $[[(133)]]^{gso} = [\lambda P_{<pt>}.\exists p[\exists x[\text{x is a place} \ \&\ p=[\lambda s'.\text{ we can buy cigarettes at x in } s']] \ \&\ P(p)=1]\ (\lambda q_p.\forall s[\text{s is compatible with what John knows in } s_0 \rightarrow q(s)=1])] =$ by lambda conversion

1 iff $\exists p[\exists x[\text{x is a place} \ \&\ p=[\lambda s'.\text{ we can buy cigarettes at x in } s']] \ \&\ [\lambda q_p.\ \forall s[\text{s is compatible with what John knows in } s_0 \rightarrow q(s)=1]](p)]=$ by lambda conversion

1 iff $\exists p[\exists x[\text{x is a place} \ \&\ p=[\lambda s'.\text{ we can buy cigarettes at x in } s']] \ \&\ \forall s[\text{s is compatible with what John knows in } s_0 \rightarrow p(s)]]$

The truth conditions derived in (136) correctly capture the meaning of (132). Thus, the type-shifter I use in order to derive the additive meaning of exceptive-additive phrases with questions has been independently proposed in order to capture one of the readings available for questions.

This type-shifter can take a question with the meaning given in (137) (a set of propositions or a function from a proposition to a truth-value) and turn it into the function shown in (138) (where p is a shorthand for <st>): a function from a set of propositions to a truth-value (or a set of sets of propositions). This is a set of sets of propositions that have at least one of the propositions in the original question in (137).

(137) $\lambda q_p.\ \exists x[\text{x is a girl} \ \&\ q = [\lambda s'\!: \text{x came in } s']]$

(138) $\lambda P_{<pt>}.\ \exists q[\exists x[x \text{ is a girl } \& \ q = [\lambda s'\text{: x came in s' }]\ ]\&\ P(q)=1]$

The object resulting from Answer3 is useful for our purposes for the following reason: on the one hand it introduces existential quantification over propositions and it is very easy to go from (138) to an existential statement, which is what we need in order to be able to derive the additivity, on the other hand, it is very easy to go from (138) back to the question denotation (and we need to output a set of propositions as question denotation and not a statement).

To get a statement out of (138) we need to feed it a property of being true in the situation of evaluation (which I again have taken to be s_0). This is shown in (139), the last line of which is just an existential statement equivalent to some girl came.

(139) $(138)\ (\lambda j_p.j(s_0)=1)=$
$\exists q[\exists x[x \text{ is a girl } \& \ q = [\lambda s'\text{: x came in s' }]\ ]\&\ [\lambda j_p.j(s_0)=1\ (q)]]=$
$\exists q[\exists x[x \text{ is a girl } \& \ q = [\lambda s'\text{: x came in s' }]\ ]\&\ q(s_0)]$

In order to go from (138) to a question denotation, all we need to do is to embed this function into the formula in (140). What we get in (140) is the set of propositions p such that there is a proposition of the form 'x came' where x varies over girls that is equal to p.

(140) $\lambda p[(138)\ (\lambda m_p.p=m)]=$
$\lambda p[\lambda P_{<p,t>}.\ \exists q\exists x[x \text{ is a girl } \& \ q = [\lambda s'\text{: x came in s' }]\ \&\ P(q)=1]\ (\lambda m_p.p=m)]=$
$\lambda p.\ \exists q\exists x[x \text{ is a girl } \& \ q = [\lambda s'\text{: x came in s' }]\ \&\ [\lambda m_p.p=m(q)]]=$
$\lambda p.\ \exists q\exists x[x \text{ is a girl } \& \ q = [\lambda s'\text{: x came in s' }]\ \&\ p=q]$

Note that we could choose a different way of modeling a new set of propositions by feeding the function in (138) a different property of propositions. For example, we could say that we want to collect propositions p such that they all differ from q in the original question in a relevant way. For example, we could collect the propositions that are just like the propositions in the original set, but carry a presupposition that Anya and Masha are girls who came. This is shown in (141), where what we collect is the set of propositions of the form ‘x came’ where x varies over girls and each of the propositions in the new set carries a presupposition ‘Anya and Masha are girls who came’ (m is a variable of a propositional type here).

(141) $\lambda p\textbf{[}(138)\ (\lambda m_p.p=[\lambda s'': A\ \&\ M \text{ are girls who came in s. } m(s'')=1])\textbf{]}=$
$\lambda p.\exists q\exists x[x \text{ is a girl } \&\ q=[\lambda s': x \text{ came in } s']\ \&\ p=[\lambda s: A\ \&\ M \text{ are girls who came in s. } q(s)=1]]$

The details of the derivation of the additive reading of exceptive-additive phrases with questions will be discussed in the next section. Just to preview some of the results of that discussion, the modifications I have to make in the system in order to account for the interaction of exceptive-additive phrases with questions are as follows. I will give OP a new denotation. Now after taking its first argument (the set of individuals) it will look for an argument of type <<et><<pt>t>> - a function from a set of individuals to a set of properties of propositions. The argument of this type is the result of type-shifting a question and abstracting over the domain restriction variable inside a *wh*-phrase.

The general idea remains the same: the exceptive-additive marker is a spell-out of a complex operator consisting of OP and negation (NEG) and they interact scopaly. Negation is a type flexible operator. The lower scope negation is modeled via function composition and the higher scope negation is modeled via function-argument application.

I will model the additive presupposition as a presupposition that each of the propositions in the question denotation carries. When an exceptive-additive phrase under the additive mode of composition applies to a type-shifted question, it subtracts a set that it takes as its first argument from the domain of a *wh*-word and introduces an additive presupposition into each of the propositions in the resulting question denotation. Under the assumption that asking a question introduces the presupposition that at least one of the answers is true, I derive the additive meaning of exceptive-additive phrases in questions.

The fact that the exceptive reading is not available in questions is captured in this system in a straightforward way. To preview, an exceptive presupposition that an exceptive-additive phrase under the exceptive mode of composition adds into each of the propositions in a question denotation in the example (102) considered so far is *no girl came*. It is predicted that there is a conflict between the presupposition and the at-issue meaning in each of the propositions in the question denotation, because their at-issue meaning is of the form 'x came' where x is one of the girls. Thus, every proposition in the question denotation is predicted to have an ill-formed meaning. Whenever it is defined, it is false.

After the discussion of the interaction between exceptive-additive phrases and questions I demonstrate that this updated system makes the correct predictions for the simpler quantificational cases with *all* and *some* under the assumption that two type shifting principles that exist in the nominal domain (Partee 1986) can apply to propositions, namely, IDENT and IOTA. All of this is discussed in detail in the subsections that follow.

2.4.3.3 Exceptive-Additive Phrases with Questions: Compositional Analysis

I will start this discussion by expressing formally the meaning of the question in (102) (repeated below as (142)) that I aim to derive in a compositional manner.

(142) Kakie devočki krome Ani i Maši prišli?
Which girls krome Anya and Masha came?
'Which girl besides Anya and Masha came?'

The assumption here is that the question without an exceptive-additive, like the one in (143) denotes a set of propositions. If the set of girls is as shown in (144), the set denoted by (143) is as shown in (145).

(143) Which girls came?

(144) girls = {Anya, Masha, Katia, Sveta, Olga}

(145) {λs. Anya came in s,
λs. Masha came in s,
λs. Katia came in s,
λs. Sveta came in s,
λs. Olga came in s}

The meaning that I think the question with an exceptive-additive phrase (the one in (142)) has is shown in (146). This is a set of propositions p, such that each of them carries the presupposition that Anya and Masha are girls who came. The at-issue content of each of the propositions in this set has a form 'x came' where x is a girl who is not Anya or Masha.

(146) { λs: Anya and Masha are girls who came in s. Katia came in s,
λs: Anya and Masha are girls who came in s. Sveta came in s,
λs: Anya and Masha are girls who came in s. Olga came in s }

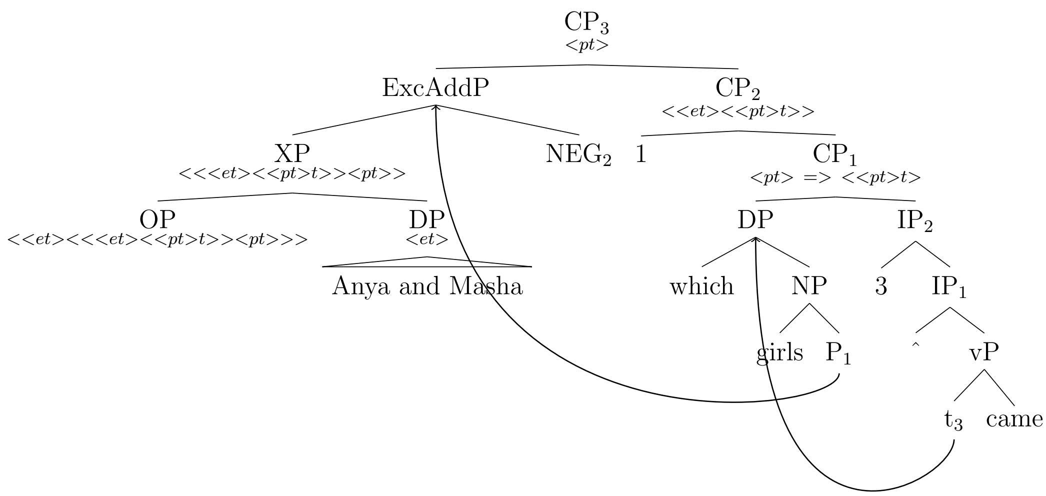
The set in (146) can be presented as a function shown in (147).

(147) $\lambda p.\ \exists x[x \text{ is a girl} \ \&\ x \notin \{\text{Anya, Masha}\}$
$\&\ \ p=[\lambda s\text{: Anya and Masha are girls who came in s. x came in s}]\ ]$

Thus, what an exceptive-additive phrase does to a question in (145) is remove the first two propositions and add the additive presupposition into each of the remaining propositions in that set.

The structure for the question in (142) that I will propose is shown in (148). As in the quantificational cases that we saw earlier, the exceptive-additive phrase undergoes quantifier raising from its original position inside the *wh*-phrase. It leaves a trace P_1 of type <et> that is bound by the lambda abstractor in the syntax.

(148)



For simplicity of exposition[42], I will give the question word the semantics that ensures that we are getting the set of propositions in the end (or a function from a proposition to truth-value) as shown in (149). I will take *which* to be a function that first combines with an NP, then with its sister IP of type <e<st>> and outputs a set of propositions. In order to get the

[42] This cannot be the correct semantics for *which* as it runs into a problem with multiple wh-words. The more accurate representation of what is going on in a question would be Karttunen's question operator in the scope of wh-word that ensures that we get the set of propositions as the question denotation. This issue is irrelevant for the current purposes of this project.

IP denotation of the right semantic type, I merge ^ operator in syntax below the abstraction over individuals (Keshet 2011).

(149) $[[\text{which}]]^{gs} = \lambda M_{<et>}.\lambda Q_{<e<st>>}.\lambda q.\ \exists x[M(x)=1\ \&\ q=Q(x)]$

(150) $[[\hat{}\ t_3\ \text{came}]]^{gs} = \lambda s'[[t_3\ \text{came}]]^{gs'} = \lambda s'.\ g(3)\ \text{came in}\ s'$

The denotation for the node directly below abstraction over P_1 is given in (151). This is a set of propositions of the form 'x came', where x varies over girls that belong to the set denoted by the variable P_1.

(151) $[[CP_1]]^{sg} = \lambda q_p.\ \exists x[x\ \text{is a girl}\ \&\ x \in g(1)\ \&\ q=[\lambda s.\ x\ \text{came in}\ s]]$

I propose that this constituent undergoes type shifting from <pt> to <<pt>t> (where p stands for <st> - the semantic type of a proposition).

The result of this is shown in (152): a set of properties that at least one of the propositions in the question denotation has. I propose that the type shifting is driven by the type of OP that is looking for a constituent of type <<et><<pt>t>>> and not of type <<et><pt>>. Essentially this type-shifter introduces an existential quantifier over propositions; and this is the key to the additive meaning with exceptive-additive phrases.

(152) $[[CP_1]]^{gs} = \lambda p.\ \exists x[x\ \text{is a girl}\ \&\ x \in g(1)\ \&\ p=[\lambda s.\ x\ \text{came in}\ s]]$ =>by applying Answer3

$\lambda P_{<pt>}.\ \exists p[\exists x[x\ \text{is a girl}\ \&\ x \in g(1)\ \&\ p=[\lambda s.\ x\ \text{came in}\ s]]\ \&\ P(p)=1]$

The abstraction over the <et> type variable happens after the type-shifting applies (153).

(153) $[[CP_2]]^{gs} =$

$\lambda Z_{<et>}.\lambda P_{<pt>}.\ \exists p[\exists x[x\ \text{is a girl}\ \&\ x \in Z\ \&\ p=[\lambda s.\ x\ \text{came in}\ s]]\ \&\ P(p)=1]$

The denotation of OP that I am proposing is given in (154).

(154) $[[\mathrm{OP}]]^{gs}$ =

domain subtraction

$$\lambda X_{<et>}.\lambda Q_{<<et><<pt>t>>}.\lambda p.\ \neg Q(\mathbf{\bar{X}})$$
$$(\lambda q.p=[\lambda s: \forall \mathbf{Y[Y\cap X\neq\varnothing \rightarrow Q(Y)(\lambda f_p.f(s)=1)=1]}.\ q(s)]\ )=1$$

the additivity presupposition

This is a function that is looking for an argument of type <et>. This argument in this specific case will be filled by the set {Anya, Masha}. After that OP is looking for an argument of type <<et><<pt>t>> - this is the denotation of the sister of the exceptive-additive phrase after the type-shifting applies (this argument position will be filled by the function in (152)). This argument occurs twice in the formula in (154). Once it occurs as the function with the largest (after negation) scope. It also occurs inside the argument that the first occurrence of Q takes. This is because (153) is used to create the additive presupposition introduced into each of the propositions and also to get the set of propositions as the final output.

The first occurrence of Q takes two arguments. The first is the complement set of the first argument of OP (in our case this will be the complement set of {Anya, Masha}): this is domain subtraction, we are removing this set from the domain of the *wh*-phrase. The second argument is a function from a proposition to truth-value (is of type <pt>). As was shown in the previous section, this is the way of getting the set of propositions: we embed Q under the abstraction over the propositional variable (the λp. part) and feed Q the property of being equal to this proposition (λq.p= [λs: ….q(s)] part).

The second occurrence of Q in the formula in (154) is inside of the complex formula – the additivity condition that is introduced into each of the proposition in the question denotation. The resulting set of propositions will include the propositions p that have the following shape: [λs: additivity(s). at-issue(s)].

Additivity is the result of the quantification over sets ($\forall Y[Y \cap X \neq \emptyset \rightarrow \ldots$) interacting with existential quantification over propositions introduced by the type-shifter.

There is negation in the formula in (154) that takes scope over the occurrence of Q with the largest scope. The idea is that this negation is neutralized by the negation that we see in the syntax in (148). The details of this computation are discussed below. The node containing OP and *Anya and Masha* (XP) has the denotation shown in (155).

(155) $[[XP]]^{gs} = \lambda \mathbf{Q}_{<<et><<pt>t>>}.\lambda p_p. \neg \mathbf{Q}(\{\text{Anya, Masha}\})$
$$(\lambda q_p.p=[\lambda s: \forall Y\ [Y \cap \{\text{Anya,Masha}\} \neq \emptyset \rightarrow \mathbf{Q}(Y)(\lambda f.f(s)=1)=1].\ q(s)])=1$$

Before it can combine with the sister of the exceptive-additive phrase, it has to combine with negation. In this section I focus on deriving the additive meaning with questions. I demonstrate the derivation of the predicted exceptive meaning in the next section, where I also explain why it is not available with questions.

The negation that we need to get the additive reading is the one that takes scope over (155). Intuitively, when negation applies to (155) as a function to an argument, the negation we see in (155) is cancelled out. More formally, the negation we need here is a function of the type $<<<<et><<pt>t>><pt>>\ \ <<<et><<pt>t>><pt>>>$. It is the function that takes (155) as its argument and returns back the function of the same type (156). Feeding (156) the function in (155) gives us (157). As the reader can verify in (157) the only effect that this negation has is that the negation we see in the formula in (155) disappears.

(156) $[[NEG_2]]^{gs} = \lambda W_{<<et><<pt>t>><pt>}.\lambda O_{<<et><<pt>t>>}.\lambda m_p.\ \neg W(O)(m)=1$

Deriving the additive operator:

(157) $[[XP\ NEG_2]]^{gs}$ = by functional application

$[[\mathbf{NEG_2}]]^{gs}\ ([[XP]]^{gs}) = \boldsymbol{\lambda} \mathbf{O}_{<<et><<pt>t>>}.\boldsymbol{\lambda} \mathbf{m_p.}$

$\boldsymbol{\neg}\ \mathbf{[}\lambda Q.\lambda p.\neg Q(\overline{\{A, M\}})(\lambda q.p=[\lambda s{:}\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow Q(Y)(\lambda f.f(s)=1)=1].q(s)])=1$
$\mathbf{(O)(m)]}$ =

by 2 applications of lambda abstraction

$\boldsymbol{\lambda} \mathbf{O}_{<<et><<pt>t>>}.\boldsymbol{\lambda} \mathbf{m_p.}\neg\neg O(\overline{\{A, M\}})$
$(\lambda q.\mathbf{m}=[\lambda s{:}\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow \mathbf{O}(Y)(\lambda f_p.f(s)=1)=1].q(s)])=1$

$\boldsymbol{\lambda} \mathbf{O}_{<<et><<pt>t>>}.\boldsymbol{\lambda} \mathbf{m_p.}\ O(\overline{\{A, M\}})$
$(\lambda q.\mathbf{m}=[\lambda s{:}\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow O(Y)(\lambda f_p.f(s)=1)=1].q(s)])=1$

The next step is to put together the exceptive-additive phrase and its type-shifted sister the meaning of which was shown in (153).

When we do lambda conversion in (158), we need to substitute both occurrences of O in (158) by the long function that the exceptive-additive phrase takes as its argument. I will illustrate this in two steps. I will first show what happens inside the boxed part of the formula when O is substituted by the argument. This is the presupposition introduced into each of the propositions in the question denotation. This part of the computation is shown in (159).

(158) $[[ExcAddP]]^{gs}\ ([[CP_2]]^{gs})=$
$\mathbf{[}\lambda \mathbf{O}_{<<et><<pt>t>>}.\lambda m_p.\mathbf{O}(\overline{\{A, M\}})(\lambda q.m=[\lambda s{:}\boxed{\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow \mathbf{O}(Y)(\lambda f.f(s)=1)=1}].q(s)])=$
$1\ \ (\lambda Z_{<et>}.\ \lambda P_{<pt>}.\ \exists p[\exists x[x \text{ is a girl } \&\ x\in Z\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ P(p)=1])\ \mathbf{]}$

(159) **Computing the additive presupposition**:

$\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow[\lambda Z_{<et>}.\ \lambda P_{<pt>}.\ \exists p[\exists x[x \text{ is a girl } \&\ x\in Z\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ P(p)=1]\ (Y)(\lambda f_{p}.f(s)=1)]\ ]$ = by 2 application of lambda conversion

$\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow\exists p[\exists x[x \text{ is a girl}\&\ x\in Y\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ (\lambda f.f(s)=1)(p)]]$ = by lambda conversion

$\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow\exists p[\exists x[x \text{ is a girl}\&\ x\in Y\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ p(s)]]$

The result in (159) can be further simplified. Given the proof in (126), (159) is equivalent to ‘Anya and Masha are girls who came’.

(160) $\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow\exists p[\exists x[x \text{ is a girl}\&\ x\in Y\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ p(s)]]=$ Anya and Masha are girls who came in s

Now I will go back to (158) and finish its computation. This time I will focus on substituting the first occurrence of O with the argument.

(161) (158) = by lambda conversion and by (160)

$\lambda m_{p}.\ [\lambda Z_{<et>}.\ \lambda P_{<pt>}.\ \exists p[\exists x[x \text{ is a girl } \&\ x\in Z\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ P(p)=1]\ (\overline{\{A, M\}})$
$(\lambda q_{p}.m=[\lambda s\text{: } \boxed{\text{A \& M are girls who came in s}}.\ q(s)])\ ]$
by 2 applications of lambda conversion

$\lambda m_{p}.\exists p[\exists x[x \text{ is a girl}\&\ x\in\overline{\{A, M\}}\ \&p=[\lambda s'.\ x \text{ came in } s']]\&$
$[\lambda q_{p}.m=[\lambda s\text{: } \boxed{\text{A \& M are girls who came in s}}.q(s)])(p)]]=$
by lambda conversion

$\lambda m_{p}.\exists p[\exists x[x \text{ is a girl}\&\ x\in\overline{\{A, M\}}\&p=[\lambda s'.\ x \text{ came in } s']]\ \&$
$m=[\lambda s\text{: } \boxed{\text{A \& M are girls who came in s}}.\ p(s)]]$

The final line of (161) is the denotation for the entire question. This is a set of propositions. This set includes all propositions m that have the form [λs: Anya and Masha are girls who came in s. p(s)], where p is one of the propositions of the form [λs. x came in s], where x is a girl, but not Anya or Masha. As the reader can verify, the last line of (161) can be further simplified to (162). This is the desired denotation for our question.

(162) $[[(148)]]^{gs}$ =
$\lambda p_p.\exists x[\text{x is a girl } \& \text{ x} \in \& \text{ p}=[\lambda s\text{: A } \& \text{ M are girls who came in s. x came in s}]]$

To sum up the discussion here, I have proposed a modified version of the semantics of OP. This semantics is compatible with the question denotation under the assumption that questions can undergo type-shifting from a set of propositions to a set of properties that at least one proposition in the original set has. I did not make any changes in the rest of the system, where *krome DP* is a spell-out of a complex structure that undergoes QR at LF. This structure has two crucial ingredients in it: OP and negation. I showed that if negation outscopes OP, the additive meaning with questions is predicted. The positive entailment and containment entailment come as a result of quantifying over sets of individuals: for any set that has at least one element from the set introduced by the exceptive-additive marker, including the singletons, it holds that there is a true proposition in the question denotation if the domain of the *wh*-phrase reduced to that set.

In the next Section I discuss the exceptive mode of putting together OP and NEG. I show what the exceptive meaning for a question would be. I argue that this meaning is not well-formed and for that reason it is unavailable.

2.4.3.4 No Exceptive Meaning in Questions

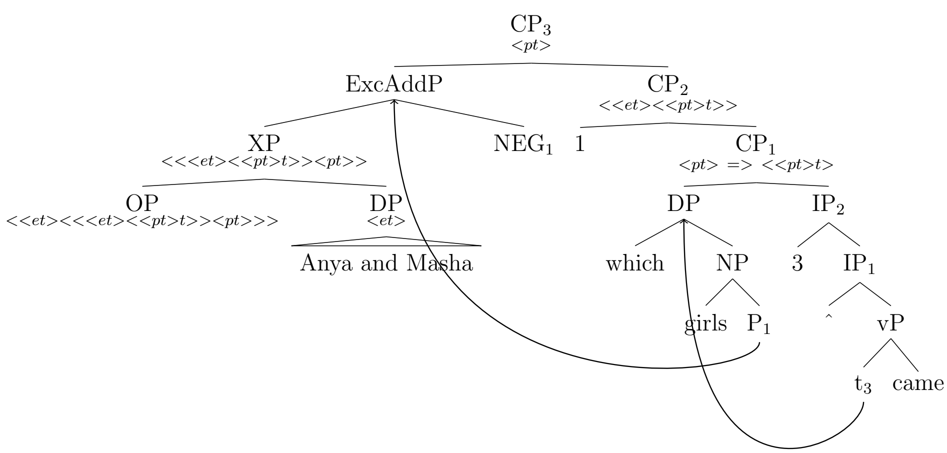
As was pointed out earlier, exceptive-additive phrases only get the additive reading in questions. This is predicted by the system developed here and in this Section I explain why that is the case.

I proposed in earlier sections of this Chapter that the exceptive reading of *krome* (and other exceptive-additive markers) with universal quantifiers is the result of interpreting NEG under the scope of OP+DP (XP), which was modeled via giving NEG a lower semantic type and letting it compose with XP via function composition.

Recall that with existential quantifiers this scope resulted in a contradiction between the presupposition introduced by an exceptive-additive phrase and the at-issue meaning of the resulting statement. In a similar way in cases where an exceptive-additive phrase interacts with a question this scope will result in a meaning that is not well-formed.

The exceptive meaning for the question in (142) that we are considering here is generated by essentially the same LF as the one that was given in (148). It is repeated below as (163). The only difference is that negation needs to have a different semantic type.

(163)



The reminder of the denotation of the constituent below negation is given in (164).

(164) $[[\text{OP Anya and Masha}]]^{gs} = \lambda Q_{<<et><<pt>t>>}.\ \lambda m_p.$
$\neg \mathbf{Q}(\overline{\{\text{Anya, Masha}\}})(\lambda q_p.m=[\lambda s: \forall Y\ [Y \cap \{\text{Anya,Masha}\} \neq \varnothing \rightarrow \mathbf{Q}(Y)(\lambda f.f(s)=1)=1].$
$q(s)])=1$

Negation is a type flexible operator. One possible type it can have is <<<et><<pt>t>><<et><<pt>t>>. This is a function shown in (165). Negation of this type cannot combine with the node with the denotation given in (164) via function argument application, but they can combine via function composition. Negation of this type will target every occurrence of the first argument of (164).

(165) $[[NEG_1]]^{gs} = \lambda W_{<<et><<pt>t>>}.\lambda Z_{<et>}.\lambda P_{<pt>}. \neg W(Z)(P)=1$

Function composition of negation given in (165) with its sister with the denotation in (164) will result in substituting every occurrence of Q by an argument of the same type with the opposite polarity.

This is computed in (166). What we see in the last line of (166) is the function of the same type as the one given in (164), but every occurrence of Q is substituted by the function with an extra negation.

Deriving the exceptive operator:

(166) $[[\text{OP Anya and Masha NEG}_1]]^{gs}$ by function composition=

$\lambda O_{<<et><<pt>t>>}[[\text{OP Anya and Masha}]]^{gs}\ ([[\mathbf{NEG_1}]]^{gs}\ (O)) =$

$\lambda O_{<<et><<pt>t>>}\ [(164)\ \boldsymbol{(\lambda Z_{<et>}.\lambda P_{<pt>}.\ \neg O(Z)(P)=1)}\ ] =$

$\lambda O_{<<et><<pt>t>>}.\lambda m_p.\neg\boldsymbol{[\lambda Z_{<et>}.\lambda P_{<pt>}.\ \neg O(Z)(P)=1}\ (\overline{\{A, M\}})$
$(\lambda q_p.m=[\lambda s{:}\ \forall Y\ [Y\cap\{A,M\}\neq\varnothing \rightarrow \boldsymbol{[\lambda Z_{<et>}.\lambda P_{<pt>}.\ \neg O(Z)(P)=1}\ (Y)(\lambda f.f(s)=1)]\ \mathbf{]}.\ q(s)])\ \mathbf{]}$
$=$

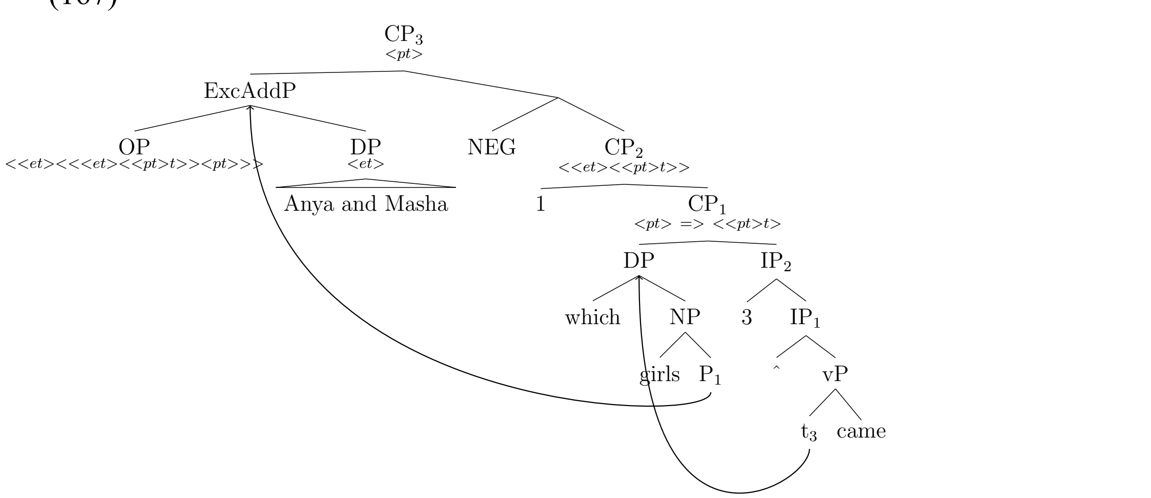
by 4 applications of lambda conversion

$\lambda O_{<<et><<pt>t>>}.\lambda m_p.\neg\neg O(\overline{\{A, M\}})$
$(\lambda q_p.m=[\lambda s{:}\forall Y[Y\cap\{A,M\}\neq\varnothing \rightarrow\neg O(Y)(\lambda f.f(s)=1)=1].\ q(s)])=1=$

$\lambda O_{<<et><<pt>t>>}.\lambda m_p.O(\overline{\{A, M\}})$
$(\lambda q_p.m=[\lambda s{:}\ \forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow\neg O(Y)(\lambda f.f(s)=1)=1].\ q(s)])\ =1$

A useful way of thinking about the result of putting together (164) and (165) by function composition and applying the result to the sister of ExcAddP is that it is equivalent to interpreting the LF in (163), where the exceptive-additive phrase does not have negation and negation appears as the highest operator in the sister of the ExcAddP. In (167) the sister of the ExcAdd phrase comes with its own negation.

(167)



Under the assumption that the type-shifting applies to CP_1, the predicted denotation of the node CP_2 in (167) is as shown in (168).

(168) $[[CP_2]]^{gs} =$

$\lambda Z_{<et>}.\lambda P_{<pt>}.\ \neg\exists p[\exists x[x \text{ is a girl } \&\ x\in Z\ \&\ p=[\lambda s.\ x \text{ came in } s]]\ \&\ P(p)=1]$

Since the Q argument of OP in (167) has negation, after putting together P and its sister, the negation that we see with the first occurrence of Q in (164) is cancelled out by the negation that comes with the Q argument. The second occurrence of the argument Q will be negative.

For the reasons described in Section 2.3.2 this is not the structure I propose for this sentence. Briefly, the main reason is that placing negation in the sentential spine might create an undesired syntactic constituent where licensing of NPIs would be wrongly predicted. The semantically equivalent result can be achieved via interpreting the structure in (163), where XP and NEG are composed via function composition.

The next step is to put together the exceptive-additive phrase and CP_2 in (148): they come together via functional application. This is shown in (169). Lambda conversion requires substituting both occurrences of O by the argument (the function of type $<<et><<pt>t>>$). I will compute it in two steps again.

(169) $[[ExcAddP]]^{gs}([[CP_2]]^{gs}) = \mathbf{[\lambda O}_{<<et><<pt>t>>}.\lambda m.$

$\mathbf{O}(\overline{\{A, M\}})\ (\lambda q.m=[\lambda s: \boxed{\forall Y\ [Y\cap\{A,M\}\neq\varnothing \rightarrow \neg\mathbf{O}(Y)(\lambda f.f(s)=1)=1}].\ q(s)]\ )=1$

$\mathbf{(\lambda Z_{<et>}.\ \lambda P_{<pt>}.\ \exists p[\exists x[x \text{ is a girl } \&\ x\in Z\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ P(p)=1])\ ]}$

I will fist substitute O by the argument of the ExcAddp in the boxed part and simplify it. This is the exceptive presupposition introduced into every proposition in the question denotation.

(170) $\boxed{\text{Computing the exceptive presupposition}}$

$\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \neg \mathbf{[}\lambda Z_{<et>}.\ \lambda P_{<pt>}.\ \exists p[\exists x[x \text{ is a girl } \&\ x \in Z\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ P(p)=1]\ (Y)(\lambda f_p.f(s)=1)\mathbf{]}]$ = by 2 applications of lambda conversion

$\forall Y[Y \cap \{A,M\} \neq \varnothing \rightarrow \neg \exists p[\exists x[x \text{ is a girl } \&\ x \in Y\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ \mathbf{[}\lambda f_p.f(s)=1(p)\mathbf{]}\ ]]$= by lambda conversion

$\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \neg \exists p[\exists x[x \text{ is a girl } \&\ x \in Y\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ p(s)=1]]$

The last line of (170) is equivalent to *no girl came* (shown in (171)).

(171) (170) $= \neg \exists z[z \text{ is a girl } \&\ z \text{ came in } s]$

The reason for this has been discussed above, I repeat it here. The quantification over sets is universal. Let's take U the universal set containing all individual in the word. It is true that $U \cap \{A,M\} \neq \varnothing$. Thus, the scope of the universal quantifier over sets should be true when applied to this argument (172): it says that there is no true proposition of the form x came where x is any girl. Thus, it means, no girl came.

(172) $\neg \exists p[\exists x[x \text{ is a girl } \&\ x \in U\ \&\ p=[\lambda s'.\ x \text{ came in } s']]\ \&\ p(s)=1]$

With this in mind, we can continue the computation of (169).

(173) (169)= by lambda conversion and by (171)

$$\lambda m.\ [\lambda Z_{<et>}.\lambda P_{<pt>}.\ \exists p[\exists x[x \text{ is a girl } \& \ x \in Z \ \& \ p=[\lambda s'.\ x \text{ came in } s']] \ \& \ P(p)=1]$$
$$(\overline{\{A, M\}})\ (\lambda q_p.m=[\lambda s{:}\ \boxed{\neg\exists z[z \text{ is a girl } \& \ z \text{ came in } s}].\ q(s)=1])\ ]$$

by 2 applications of lambda conversion

$$\lambda m.\ \exists p[\exists x[x \text{ is a girl } \& \ x \notin \{A,M\} \ \& \ p=[\lambda s'.\ x \text{ came in } s']] \ \&$$
$$[\lambda q.m=[\lambda s{:}\ \boxed{\neg\exists z[z \text{ is a girl } \& \ z \text{ came in } s}].\ q(s)=1])\ (p)\ ]\ ] \ =$$

by lambda conversion

$$\lambda m.\ \exists p[\exists x[x \text{ is a girl } \& \ x \notin \{A,M\} \ \& \ p=[\lambda s'.\ x \text{ came in } s']] \ \&$$
$$m=[\lambda s{:}\ \boxed{\neg\exists z[z \text{ is a girl } \& \ z \text{ came in } s}].\ p(s)]]$$

The last line of (173) is the predicted exceptive denotation for the question we consider here. It can be further simplified and reduced to (174).

(174) $\lambda p.\exists x[x \text{ is a girl } \& \ x \notin \{A,M\}$
$\& \ p=[\lambda s{:}\boxed{\neg\exists z[z \text{ is a girl } \& \ z \text{ came in } s}].z \text{ came in } s]]$

Let's again assume that the set of girls is as shown in (175). Then, (174) picks the set of propositions shown in (176). None of those propositions is well formed. Whenever their presupposition is satisfied, they are false: this is because their presupposition contradicts their at-issue content.

(175) girls = {Anya, Masha, Katia, Sveta, Olga}

(176) $\{\lambda s{:}\ \neg\exists z[z \text{ is a girl } \& \ z \text{ came in } s.$ Katia came in s,
$\lambda s{:}\ \neg\exists z[z \text{ is a girl } \& \ z \text{ came in } s.$ Sveta came in s,
$\lambda s{:}\ \neg\exists z[z \text{ is a girl } \& \ z \text{ came in } s.$ Olga came in s $\}$

Under the assumption that asking a question presupposes that the person who is asking believes there is a true answer, we derive the fact that the exceptive meaning of exceptive-additive phrases is not attested in questions.

2.5 Extension of the Updated System for cases with *Every* and *Some*.

In this section I extend the system developed for questions to simple cases involving *vse* ('all') and *kakie-to* ('some'). Since assertive statements and questions do not have the same semantic type, one and the same OP can apply in both cases only if some type shifting operations apply. The type-shifting principle that I will use to resolve the type clash between the denotation of the exceptive-additive phrase and its sister is type-shifter from the nominal domain LIFT (Partee 1986). In this updated system an exceptive-additive phrase outputs a set of propositions (a question) after it applies to its sister. In cases with *vse* ('all') and *kakie-to* ('some') the desired output is a proposition. I propose that this result is achieved by applying the type-shifter IOTA (Partee 1986). I show how under the assumption that these type shifters can apply in the domain of propositions, the semantics for OP developed in the previous section makes the right predictions about simple quantificational cases. Namely, it still correctly captures the distribution of exceptive and additive readings, as well as the entailments that come with those readings.

2.5.1 The Exceptive Reading with *Every*

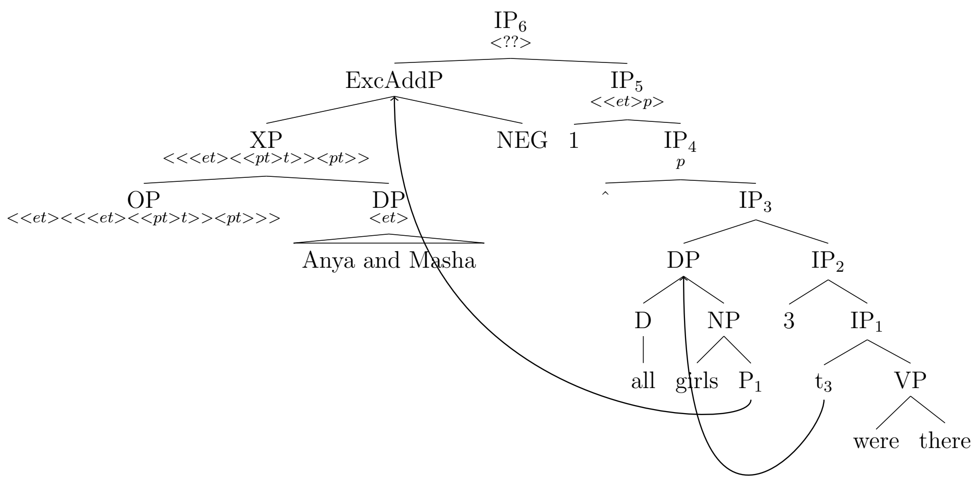
In the previous section I proposed a revised version of the system in order to account for the additive meaning of exceptive-additive markers in *wh*-questions. I suggested a change in the denotation of the OP. The constituent it is looking for is of type <et><<<pt>t> and the meaning it outputs is of type <pt> - a set of propositions.

OP with this denotation cannot compose with a constituent of type <<et>t>, the type I propose the sister of the exceptive-additive phrase has in simple cases involving quantificational expression (as it is demonstrated in the tree below). Let's go back to our example with a universal quantifier repeated here as (177).

Even if we merge ^ operator above the node IP_3, the sister of the exceptive-additive phrase is predicted to be a function from a set to a proposition – therefore a function of type <<et>p>. This is still not the right type and the exceptive additive phrase cannot compose with it. The type-clash is illustrated in (178).

(177) Na sobranii prisutstvovali vse devočki krome Ani i Maši.
On meeting present all girls krome Anya and Masha
'All girls except Anya and Masha were at the meeting.'

(178) type-clash



I propose that this type-clash discussed above is resolved via a type-shifting operation $LIFT_p$, that is the type shifter LIFT (Partee 1986) extended to the domain of propositions. This operation applies to the node right below the abstraction over <et> type variable. $LIFT_p$ shifts a proposition into a set of properties of that proposition.

The type-shifting operator LIFT from the nominal domain is shown in (179). It takes an entity and returns a set of properties that this entity has. If LIFT applies to John it outputs the set of properties that John has (180).

(179) $LIFT=\lambda x_e.\lambda P_{<et>}.\ P(x)=1$

(180) LIFT(John) = $\lambda Q_{<et>}.Q(John)=1$

LIFT$_p$ does the same to a proposition: it applies to a proposition and returns the set of properties that this proposition has (181) (a set of sets that have this proposition as a member).

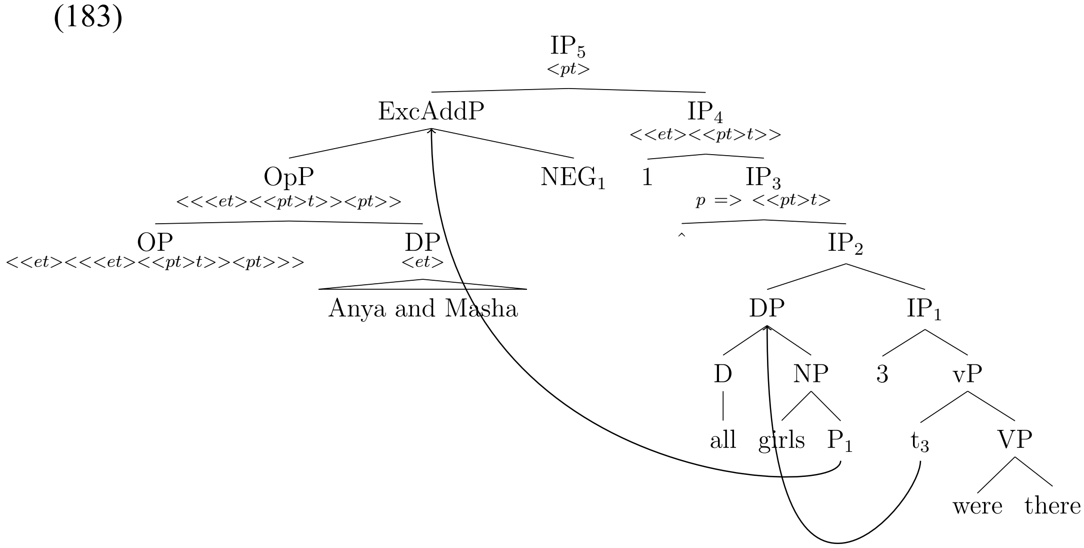
(181) LIFT$_p$=$\lambda p_{<st>}.\lambda P_{<pt>}.\ P(p)=1$

The work LIFT$_p$ does in our case is shown in (182).

(182) LIFT$_p$ (λs'. $\forall$x[x is a girl & x$\in$g(1) $\rightarrow$ x was there in s']) =
$\lambda Q_{<pt>}$. Q(λs'. $\forall$x[x is a girl & x$\in$g(1) $\rightarrow$x was there in s'])=1

The new LF (mainly, the types are new) for the sentence with a universal quantifier in (177) is given in (183).

(183)



After LIFT$_p$ applies, the abstraction over the <et> variable (the trace) is computed. Now the sister of the exceptive-additive phrase is of type <<et><<<pt>t>> as it is shown in (184) and it can combine with the ExcAddP via functioan application. ExcAddP can have two possible denotations depending on the type of NEG and its mode of composition with OpP. The reminder of its denotation under the exceptive mode of composition meaning is given in (185).

(184) $[[\mathrm{IP}_4]]^{gs}=\lambda Z_{<et>}\ \lambda Q_{<pt>}.\ Q(\lambda s.\ \forall x[x \text{ is a girl } \&\ x \in Z \rightarrow x \text{ was there in } s])=1$

(185) Exceptive meaning of the ExcAddP:

$$\lambda \mathbf{O}_{<<et><<pt>t>>}.\lambda m_p.\ \mathbf{O}(\overline{\{A, M\}})\ (\lambda q.m=[\lambda s: \boxed{\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \neg \mathbf{O}(Y)(\lambda f.f(s)=1)=1}].\ q(s)])=1$$

As in the case of questions that I have discussed earlier, ExcAddP will combine with its sister the denotation of which is given in (184) via functional application. The result of this operation is a set a set of propositions. This set contains only one proposition. This proposition carries a presupposition (the Leastness Condition) and its at-issue content is equal to the proposition expressed by 'all girls who are not Anya or Masha were there'. Below I show how this result is computed in detail.

Lambda conversion in (186) requires substituting every occurrence of O by the argument. I will do this in two steps. I will compute the boxed part and simplify it first. This is the presupposition introduced into the unique proposition in the returned set. This is shown in (187).

(186) $[[\mathrm{ExcAddP}]]^{gs}([[\mathrm{IP}_4]]^{gs})=$

$$[\boldsymbol{\lambda}\mathbf{O}_{\mathbf{<<et><<pt>t>>}}\mathbf{.}\lambda m_p.\ \mathbf{O}(\overline{\{A, M\}})\ (\lambda q.m=[\lambda s: \boxed{\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \neg \mathbf{O}(Y)(\lambda f.f(s)=1)=1}].\ q(s)])=1$$
$$\mathbf{(\lambda Z_{<et>}\ \lambda Q_{<pt>}.\ Q(\lambda s'.\ \forall x[x \text{ is a girl } \&\ x \in Z \rightarrow x \text{ was there in } s'])=1\ )}\ ]$$

(187) $\boxed{\text{Computing the exceptive presupposition}}$

$\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow$
$\neg[\lambda Z_{<et>}\ \lambda Q_{<pt>}.\ Q(\lambda s.\ \forall x[x \text{ is a girl } \&\ x \in Z \rightarrow x \text{ was there in } s]) = 1\ (Y)(\lambda f_p.f(s)=1)\ ]\ ] =$
by 2 applications of lambda conversion

$\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \neg[\lambda f_p.f(s)=1(\lambda s'.\ \forall x[x \text{ is a girl } \&\ x \in Y \rightarrow x \text{ was there in } s'])\ ]\ ] =$
by 2 applications of lambda conversion

$\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \neg \forall x[x \text{ is a girl } \&\ x \in Y \rightarrow x \text{ was there in } s]\ ] =$

$\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \exists x[x \text{ is a girl } \&\ x \in Y\ \&\neg x \text{ was there in } s]\ ] =$

A and M are girls who were NOT there in s

Having simplified this part, we can continue computing (186).

(188) (186) = by lambda conversion and by (187)

$\lambda m_p.\ [\lambda Z_{<et>}\ \lambda Q_{<pt>}.\ Q(\lambda s'.\ \forall x[x \text{ is a girl } \&\ x \in Z \rightarrow x \text{ were there in } s']) = 1$
$(\overline{\{A, M\}})\ (\lambda q.m = [\lambda s\text{: } \boxed{\text{A and M are girls who were NOT there in s}}.\ q(s)=1])\ ] =$
by 2 applications of lambda conversion

$\lambda m_p.\ [\lambda q.m = [\lambda s\text{: } \boxed{\text{A and M are girls who were NOT there in s}}.\ q(s)]$
$(\lambda s'.\ \forall x[x \text{ is a girl } \&\ x \notin \{A,M\} \rightarrow x \text{ was there in } s'])] =$
by 2 applications of lambda conversion

$\lambda m_p.\ m = [\lambda s\text{: } \boxed{\text{A and M are girls who were NOT there in s}}.$
$\forall x[x \text{ is a girl } \&\ x \notin \{A,M\} \rightarrow x \text{ was there in } s]]$

This is not quite the denotation we are looking for in this case, as the desired denotation would be the proposition that is the only member of the singleton set in (188) and not the set itself. I propose that in order to get from the set in (188) to the proposition we use another type-shifting operation, namely $IOTA_p$. This is the type-shifter IOTA (shown in (189)) (Partee 1986) modified here to be able to apply to a set of propositions instead of a set of entities. The definition of $IOTA_p$ is given in (190). $IOTA_p$ applies to a set of propositions and returns the unique member of this set (this operation is only defined if the set is singleton).

(189) IOTA $=\lambda P_{<et>}.\iota y.\ y \in P$

(190) $\text{IOTA}_p = \lambda P_{<pt>}.\iota q.\ q \in p$

The result of applying IOTA_p to (188) is shown in (191).

(191)

$\iota q_p.\ q=[\lambda s$: A and M are girls who were NOT there in s.
$\forall x[x \text{ is a girl } \& \ x\in \rightarrow x \text{ was there in s}]]=$

λs: A and M are girls who were NOT there in s.
$\forall x[x \text{ is a girl } \& \ x\in \rightarrow x \text{ was there in s}]$

The result that this system has delivered is exactly the result we had in the previous system: Leastness as the presupposition of the sentence and domain subtraction as the assertive component.

The advantage of this more complex system over the old simpler system is that it can apply to questions (sets of propositions) and propositions in the same way. This correctly captures the crosslinguistic distribution of exceptive-additive markers. The cost is that a regular proposition has to be brought to a generalized quantifier over propositions first via a type-shifting operation before it can compose with an ExcAddP and it has to be brought back to a proposition denotation via another type-shifting operation.

2.5.2 No Additive Reading with *Every*

Since in this new system a quantificational phrase with domain subtraction is inserted into the at issue content of the only proposition in the singleton set returned by an ExcAddP and the presupposition introduced into this proposition is either Additivity or Leastness depending on the mode of composition between XP and NEG, this system makes the same prediction about quantificational sentences as the previous one. It was illustrated with the derivation of the exceptive reading with a universal quantifier. We will now see that like in the previous simpler system the additive reading generated for sentences with universal quantifiers is not well-formed. This explains why the sentence with the universal quantifier given in (177) does not have the additive meaning. The result that will be generated by this system replicates the earlier result: the presupposition is predicted to be stronger than the assertion.

As we already know, under the additive mode of putting together NEG and XP the ExcAddP gets the denotation given in (192).

(192) Additive meaning of ExcAddP:

$$\lambda \mathbf{O}_{<<et><<pt>t>>}.\lambda m.\ \mathbf{O}(\overline{\{A,M\}})(\lambda q.m=[\lambda s{:}\ \forall Y\ [Y\cap\{A,M\}\neq\varnothing \rightarrow \mathbf{O}(Y)(\lambda f.f(s)=1)=1].\ q(s)])=1$$

ExcAddP takes its sister as its argument. I will break this computation into two steps again. The first one is computing the boxed part where O has to be substituted by the meaning of the type-shifted quantificational proposition with abstraction over domain restriction variable.

(193) $[[\text{ExcAddP}]]^{gs}([[\text{IP}_4]]^{gs})=$

$$\mathbf{[}\lambda \mathbf{O}_{<<et><<pt>t>>}.\lambda m.\ \mathbf{O}(\overline{\{A,M\}})(\lambda q.m=\lambda s{:}\boxed{\forall Y[Y\cap\{A,M\}\neq\varnothing \rightarrow \mathbf{O}(Y)(\lambda f.f(s)=1)=1]}.q(s))=1$$
$$(\lambda Z_{<et>}\ \lambda Q_{<pt>}.\ Q(\lambda s'.\ \forall x[x \text{ is a girl } \&\ x\in Z \rightarrow x \text{ was there in } s'])=1)\mathbf{]}$$

(194) Computing the additive presupposition:

$\forall Y[Y \cap \{A,M\} \neq \varnothing \rightarrow$
$[\lambda Z_{<et>}\ \lambda Q_{<pt>}.\ Q(\lambda s'.\ \forall x[x \text{ is a girl } \&\ x \in Z \rightarrow x \text{ was there in } s'])(Y)(\lambda f_s.f(s)=1)\ ]\ ]=$
by 2 applications of lambda conversion

$\forall Y[Y \cap \{A,M\} \neq \varnothing \rightarrow [\lambda f.f(s)=1\ (\lambda s'.\forall x[x \text{ is a girl } \&\ x \in Y \rightarrow x \text{ was there in } s'])\ ]\ ] =$
by 2 applications of lambda conversion

$\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \forall x[x \text{ is a girl } \&\ x \in Y \rightarrow x \text{ was there in } s]]$

The last line in (194) is equivalent to 'every girl was there'. This is because one of the sets that contains Anya or Masha is the universal set U. Thus, (194) requires that all girls in the universe came.

(195) $\forall Y\ [Y \cap \{A,M\} \neq \varnothing \rightarrow \forall x[x \text{ is a girl } \&\ x \in Y \rightarrow x \text{ was there in } s]] =$
$\forall z[z \text{ is a girl} \rightarrow z \text{ was there in } s]$

With this in mind we can carry on with the computation of (193).

(196) (193) = by lambda conversion and by (195)

$\lambda m_p.\ [\lambda Z_{<et>}.\lambda Q_{<pt>}.\ Q(\lambda s'.\ \forall x[x \text{ is a girl } \&\ x \in Z \rightarrow x \text{ were there in } s'])=1\ (\overline{\{A, M\}})$
$(\lambda q_p.m=[\lambda s{:}\boxed{\forall z[z \text{ is a girl} \rightarrow z \text{ was there in } s]}.q(s)])]=$
by 2 applications of lambda conversion

$\lambda m_p.\ [\lambda q_p.m=[\lambda s{:}\boxed{\forall z[z \text{ is a girl} \rightarrow z \text{ was there in } s]}.q(s)])\ \ (\lambda s'.\ \forall x[x \text{ is a girl } \&\ x \notin \{A,M\}$
$\rightarrow x \text{ were there in } s'])\ ]=$
by 2 applications of lambda conversion

$\lambda m_p.m=[\lambda s{:}\forall z[z \text{ is a girl } s \rightarrow z \text{ was there in } s].\forall x[x \text{ is a girl } s\ \&\ x \notin \{A,M\} \rightarrow x \text{ was there in } s]]$

The desired result – a proposition – is delivered via application of the $IOTA_p$ operator to (196). The predicted denotation is given in (197).

(197) $\lambda s{:}\forall z[z \text{ is a girl } s \rightarrow z \text{ was there in } s].$
$\forall x[x \text{ is a girl } s \ \& \ x \notin \{A,M\} \rightarrow x \text{ was there in } s]$

This replicates the result we got earlier in the simpler system. As before, the unavailability of the additive meaning with universal quantifiers follows from the conflict between the presupposition and the assertion, where the derived presupposition is logically stronger than the assertive content.

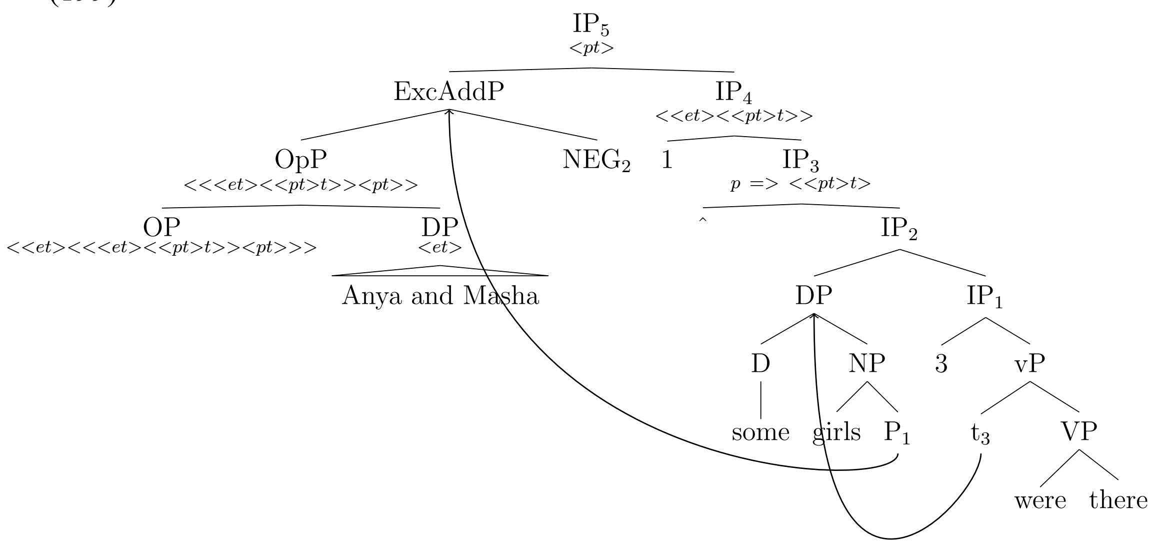
2.5.3 Additive Reading with Existentials

For completeness of the discussion I will provide the computation of the additive and exceptive meaning of an exceptive-additive phrase with an existential quantifier and show that the exceptive reading is still predicted to be unavailable. In this case, the results generated by the new system are equivalent to the results generated by the previous system as well.

The sentence in (198) with an existential quantifier gets the LF shown below in (199), (this structure is already familiar from the discussion of the universal quantifier).

(198) Na sobranii prisutstvovali kakie-to devočki krome Ani i Maši.
On meeting present some girls krome Anya and Masha
'There were some girls besides Anya and Masha at the meeting'.

(199)



The denotation for the sister of the ExcAddP is given in (200).

(200) $[[\mathrm{IP}_4]]^{gs} = \lambda Z_{<et>} .\lambda Q_{<pt>}. Q(\lambda s'. \exists x[x \text{ is a girl } \& \ x \in Z \ \& \ x \text{ were there in } s'])=1$

Since we are aiming at capturing the additive meaning of (198), the configuration we are interested in this case is the one where negation has a higher semantic type and takes its sister as its argument. Thus, the denotation for the ExcAddP that is at play here is the one was used to get the additive meaning with *wh*-questions. The reminder for the additive meaning of ExcAddP is given below in (201).

(201) Additive meaning of ExcAddP:
$\lambda \mathbf{O}_{<<et><<pt>t>>}.\lambda m_p. \ \mathbf{O}(\overline{\{A, M\}}) \ (\lambda q_p.m=[\lambda s: \forall Y[Y \cap \{A,M\} \neq \varnothing \rightarrow \mathbf{O}(Y)(\lambda f_p.f(s)=1)=1].$
$q(s)]) =1$

ExcAddP combines with its sister via functional application. This is shown in (202).

(202) $[[\text{ExcAddP}]]^g([[\text{IP}_4]]^{gs})=$

$[\lambda\mathbf{O}_{<<et><<pt>t>>}.\lambda m_p.\ \mathbf{O}(\overline{\{A, M\}})$

$(\lambda q.m=[\lambda s:\boxed{\forall Y\ [Y\cap\{A,M\}\neq\varnothing\rightarrow\mathbf{O}(Y)(\lambda f.f(s)=1)=1}].\ q(s)])=1$

$(\lambda Z_{<et>}.\lambda Q_{<pt>}.\ Q(\lambda s'.\ \exists x[x \text{ is a girl } \& \ x\in Z \ \& \ x \text{ were there in } s'])) \mathbf{]}$

I will use the familiar strategy and substitute O by the argument in the boxed part first in order to simplify the notation. Again, the boxed part is the presupposition introduced into the only proposition in the resulting set of propositions.

(203) $\boxed{\text{Computing the additive presupposition}}$:

$\forall Y\ [Y\cap\{A,M\}\neq\varnothing\rightarrow\mathbf{[}\lambda Z_{<et>}.\lambda Q_{<pt>}.Q(\lambda s'.\exists x[x \text{ is a girl } \& \ x\in Z \ \& \ x \text{ were there in } s'])\ (Y)$
$(\lambda f.f(s)=1)\ \mathbf{]}\ ]=$ by 2 applications of lambda conversion

$\forall Y\ [Y\cap\{A,M\}\neq\varnothing\rightarrow\mathbf{[}\lambda f_p.f(s)=1\ (\lambda s'.\exists x[x \text{ is a girl } \& \ x\in Y \ \& \ x \text{ were there in } s'])\ \mathbf{]}\ ]=$
by 2 applications of lambda conversion

$\forall Y\ [Y\cap\{A,M\}\neq\varnothing\rightarrow\exists x[x \text{ is a girl } \& \ x\in Y \ \& \ x \text{ were there in } s]]=$

Anya and Masha are girls who were there in s

After this, the computation of (202) continues as follows.

(204) (202) = by (203) and by lambda conversion

$\lambda m_p.\mathbf{[}\lambda Z_{<et>}.\lambda Q_{<pt>}.\ Q(\lambda s'.\ \exists x[x \text{ is a girl } \& \ x\in Z \ \& \ x \text{ were there in } s'])$

$(\overline{\{A, M\}})\ (\lambda q.m=[\lambda s: \boxed{\text{A \& M are girls who were there in s}}.\ q(s)])\ \mathbf{]}=$
by 2 applications of lambda conversion

$\lambda m_p.\ \mathbf{[}\lambda q.m=[\lambda s: \boxed{\text{A \& M are girls who were there in s}}.\ q(s)]$

$(\lambda s'.\ \exists x[x \text{ is a girl } \& \ x\notin\{A,M\} \& \ x \text{ were there in } s'])\mathbf{]} =$
by 2 applications of lambda conversion

$\lambda m_p.\ m=[\lambda s:\boxed{\text{A \& M are girls who were there in s}}.\exists x.\ x \text{ is a girl } \& \ x\notin\{A,M\} \& \ x \text{ were there in } s]$

Again, the result here is a singleton set containing just one proposition. $IOTA_p$ is applied to this function of type <pt> and the result of this is in (205), which is the desired denotation for this sentence.

(205) λs: Anya and Masha are girls who were there in s.

$$\exists x[x \text{ is a girl } \& \ x \notin \{A,M\} \ \& \ x \text{ were there in } s]$$

2.5.4 No Exceptive Reading with Existentials

I will again break the computation of putting together the ExcAddP under the exceptive mode of composition and its sister IP in two steps. I will first substitute O variable with the denotation of the IP in the boxed part – this is the presupposition. The computation is shown in detail in (208).

The reminder for the exceptive meaning of ExcAddP is given below in (206).

(206) Exceptive meaning of the ExcAddP:

$$\lambda O_{<<et><<pt>t>>}.\lambda m_p.\ O(\overline{\{A, M\}})$$
$$(\lambda q.m=[\lambda s: \boxed{\forall Y\ [Y\cap\{A,M\}\neq\varnothing \rightarrow\neg O(Y)(\lambda f.f(s)=1)=1}].q(s)]) =1$$

(207) $[[\text{ExcAddP}]]^{gs}\ ([[\text{IP}_4]]^{gs})$=by functional application

$$\mathbf{[\lambda O_{<<et><<pt>t>>}}.\lambda m_p.\mathbf{O}(\overline{\{A, M\}})$$
$$(\lambda q.m=[\lambda s:\boxed{\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow\neg \mathbf{O}(Y)(\lambda f.f(s)=1)=1}].q(s)])=1$$
$$(\lambda Z_{<et>}.\lambda Q_{<pt>}.\ Q(\lambda s'.\ \exists x[x \text{ is a girl } \& \ x\in Z \ \& \ x \text{ were there in } s']))\ \mathbf{]}$$

(208) Computing the exceptive presupposition:

$$\forall Y[Y\cap\{A,M\}\neq\varnothing\rightarrow$$
$$\neg\mathbf{[}\lambda Z_{<et>}.\lambda Q_{<pt>}.\ Q(\lambda s'.\ \exists x[x \text{ is a girl } \& \ x\in Z \ \& \ x \text{ was there in } s'])\ (Y)(\lambda f_p.f(s)=1\ \mathbf{]}] =$$

by 4 applications of lambda conversion

$$\forall Y\ [Y\cap\{A,M\}\neq\varnothing\rightarrow\neg\exists x[x \text{ is a girl } \& \ x\in Y \ \& \ x \text{ was there in } s]]$$

The last line of (208) can be simplified as shown in (209). This is because one of the sets that has Anya or Masha in it is the universal set U. (208) requires that there is no girl in the universal set who was there.

(209) (208)= ¬∃z[z is a girl & z was there in s]

Now, the computation of (207) proceeds as shown in (210).

(210) (207) by (208) and by lambda conversion

λm_p. **[**$\lambda Z_{<et>}.\lambda Q_{<pt>}$. Q($\lambda$s'. ∃x[x is a girl & x∈Z & x were there in s']) ($\overline{\{A, M\}}$)=1
(λq_p.m=[λs. $\boxed{\neg\exists z[\text{z is a girl \& z was there in s}]}$. q(s)]) **]** = by lambda conversion

λm_p.**[**$\lambda Q_{<pt>}$. Q(λs'. ∃x[x is a girl & x∉{A, M} & x were there in s'])
(λq.m=[λs.¬∃x[x is a girl & x was there in s]. q(s)]) **]** =by lambda conversion

λm_p. **[**λq.m=[λs.¬∃x[x is a girl & x was there in s]. q(s)]
(λs'. ∃x[x is a girl & x∉{A, M} & x were there in s']) **]** =by 2 applications of lambda conversion

λm_p. m=λs: ¬∃x[x is a girl & x was there in s].
∃x[x is a girl & x∉{A, M} & x were there in s]

This is a set of propositions that has only one proposition in it. This proposition is ill-formed: whenever it is defined, it is false: there can be no situation where no girl came and some girl who is not Anya or Masha came. The presupposition and the assertive part cannot be true together and this is because Leastness is not compatible with existential quantifiers. This again replicates the result of the earlier system.

I have shown that under the assumption that two type-shifters existing in the nominal domain LIFT and IOTA can apply to propositions, one and the same denotation for OP can be used to derive the additive meaning of exceptive-additive markers with *wh*-questions and existentials and the exceptive reading with universal quantifiers.

I also showed that the result of the previous system that derived an unavailability of the exceptive reading with existential quantifiers and additive with universal quantifiers was replicated in this system as well.

In the next section I will demonstrate how the system developed here for questions is extendable in a straightforward way to constructions with focus.

2.6 Additive Readings with Focus Associates

2.6.1 Relating Exceptive-Additive Constructions to QUDs.

The exceptive-additive markers like Russian *krome* interact with focus and get the additive reading with focus associates. For example, (211) and (212) do not have the same meaning due to the fact that different elements are focused: (211) where the focus falls on *Petya* means that Masha talked to two people about this: Petya and Anya; (212) where the focus falls on *Masha* means that two people talked about this with Petya: Masha and Anya.

(211)

Krome	Ani,	Maša	pogovorla	ob	etom	s	Petej$_F$.
Krome	Anya	Masha	talked	about	this	with	Petya$_F$

'Besides Anya, Masha talked about this with Petya$_F$'

(212)

Krome	Ani,	Maša$_F$	pogovorla	ob	etom	s	Petej.
Krome	Anya	Masha$_F$	talked	about	this	with	Petya

'Besides Anya, Masha$_F$ talked about this with Petya'

In all previously considered cases *krome* introduced a set that is used to restrict the domain of a quantificational expression. The challenge posed by the cases like the one in (211) and (212) is that there is no quantificational expression *krome* can operate on in the surface structure of the sentence. The two DPs we have in those sentences are referential expressions and trying to restrict their domains by a set including or not including Anya is not useful. This is a pattern that we find in language after language: one and the same expression can be used to restrict the domains of universal quantifiers and *wh*-phrases and it can be used to deliver the additive reading with focus associated in the apparent absence of a quantificational expression. Can we bring those cases together? I suggest that we can and the basic idea that an exceptive-additive phrase like Russian *krome* always does something to the quantifier domain is on the right track. In cases like (211) and (212) there is also a quantificational expression the domain of which *krome* restricts, however this expression is not pronounced. This quantificational expression is a question under discussion.

In this section I will show how the analysis developed here for questions can be extended to cases like (211) and (212). I build on Rooth's (1992a, 1996) widely adopted theory of focus interpretation, according to which every time there is an element in a sentence that is marked with focus, ~ operator and a silent variable of a question type are inserted at the LF. A question and a focus value of a sentence have the same semantic type – a type <pt> (a set of propositions). ~ relates the focus value of a sentence and the meaning of this silent variable. This variable can denote the question under discussion that the ordinary value of the sentence addresses.

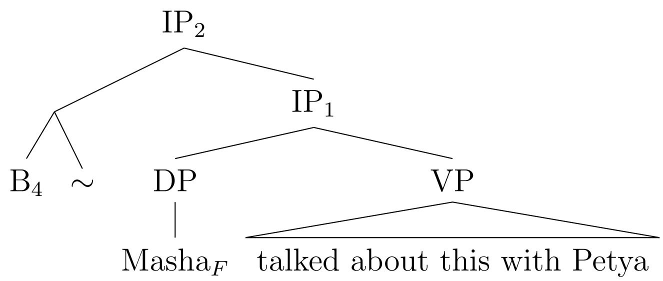
Intuitively, questions under discussion in (211) and (212) are different: in (211) it is 'who besides Anya did Masha talk about this with?' and in (212) it is 'who besides Anya talked about this with Petya?'.

I will develop this idea formally. To preview, I will build a system where *krome* in constructions like (211) and (212) modifies a silent question. This idea accounts for the fact that only the additive reading is available with focus associates: as we know the exceptive reading generated for questions in this system is ill-formed.

According to Rooth's theory (1992a) of focus interpretation, the structure of the sentence (213) with the focus on *Masha* is as shown in (214).

(213) Maša$_F$ pogovorla ob etom s Petej.
Masha$_F$ talked about this with Petya
'Masha$_F$ talked about this with Petya'.

(214)



In (214) ~ is an operator and B$_4$ is a free variable that has a semantic type of a question (<pt>). In most contexts this will be a variable denoting a question under discussion. In some contexts this variable can be used to restrict domains of various focus sensitive operators. This variable gets its denotation via the assignment function. ~ is interpreted via a syncategorematic rule that is given in (215). The rule assigns a denotation to the configuration where ~ forms a constituent with a phrase (a silent variable) and this whole constituent forms a bigger constituent with its sister. ~ has no effect on the ordinary meaning of the sentence but introduces a presupposition that the value of the free variable (a question) is a subset of the focus value of the clause and that it contains the ordinary meaning of a sentence.

(215) $[[(\gamma\sim)\phi]]^{gs} = [[\phi]]^{gs}$
$[[(\gamma\sim)\phi]]^{gs}$ is defined only if $\forall p[p\in[[\gamma]]^{gs}\rightarrow p\in[[\phi]]^{gsF}]$ & $[[\phi]]^{gs}\in[[\gamma]]^{gs}$

I make the standard assumptions about the focus value of a sentence: it is a set of propositions formed by substitution of the element marked with focus by its focus alternatives. In our case the element that is marked with focus is Masha. Given that the focus value of this sentence is as shown in (216). ~ requires that the value of the question denoted by B_4 is a subset of this set, the question salient in the context has to be of the form 'who talked about this with Petya?'.

(216) λp. $\exists$x[p=[λs. x talked about this with Petya in s]]

One remaining issue is how we know that the silent variable B_4 is a question under discussion in (213). The idea is that focus forces introduction of a silent variable. Like any pronoun this variable requires an antecedent. In order for the sentence in (213) to be felicitous, the value of the variable B_4 has to be fixed. One possibility is that it finds its antecedent in the context of the conversation. There might be an implicit or explicit question that this sentence is the answer to. (The link between the focus value of a sentence and an implicit question under discussion this sentence addresses was substantially explored in Roberts 1996, 2012). Because of the presence of focus forces the presence of the variable of the question semantic type that need an antecedent, there is a question-answer congruence as shown by the contrast between (217) and (218). (218) is infelicitous because a silent variable forced by the focus structure of answer produced by B cannot find the antecedent.

(217) A: Who danced with Bill?
B: Mary_F danced with Bill.

(218) A: Who danced with Bill?
B: #Mary danced with Bill$_F$.

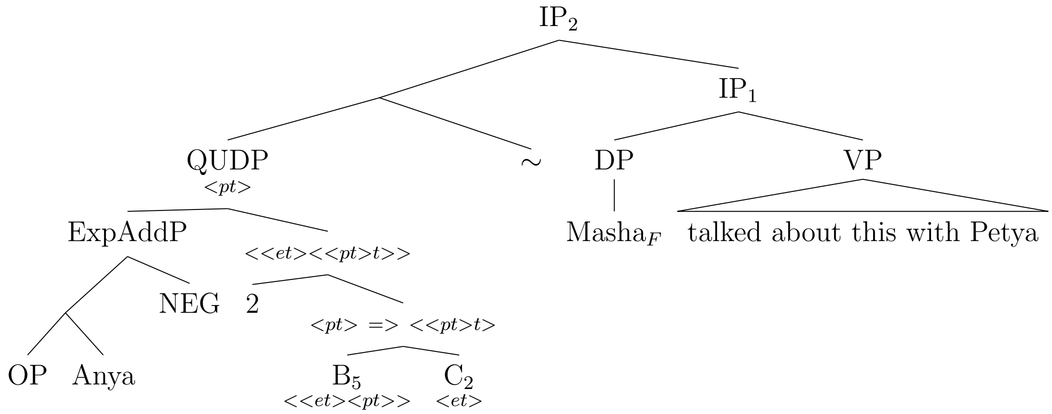
2.6.2 Additive Readings with Focus Associates

Given that I have already made a proposal about interaction of *krome* with questions and given that there is an independent proposal relating focus value of a sentence to a silent question, it is possible to extend the analysis questions with *krome* to cases where *krome* contributes the additive reading with focus associates. My goal here is to develop a system, where *krome* can operate on these silent questions that ~ relates to the focus value of a sentence.

One immediate complication is that ~ introduces a variable of type <pt> and an exceptive additive phrase is looking for an argument of type <<et><<pt>t>>. Therefore, in order to provide an exceptive-additive phrase with an argument compatible with it, the system has to slightly diverge from Rooth's story. But the overall picture will remain the same: ~ relates its sister to the focus value of a sentence (a constituent of type <pt>) and the result of putting together ExcAddP and its argument is a question (is exactly of type <pt>).

Here is how the idea that an exceptive-additive phrase can modify a question under discussion can be implemented formally. Let's assume that instead of a simple variable of the question type B_4 we have a more complex structure shown in (219).

(219)



There is a silent variable B_5 that has a type <<et><pt>>: a type of a function from a domain restriction to a question. One possible value for this variable is given in (220). This is a good candidate, because we know from the denotation of ~ that ultimately the sister of ~ has to be a subset of the focus value of the sentence.

(220) g(5) =
$\lambda Z_{<et>}.\lambda p_p.\exists x[x \in Z \ \& \ p = \lambda s.$ x talked about this with Petya in s$]$

The domain restriction variable is given in the structure too: it is the sister of B_5 - the variable of C_2 type <et>. This variable is bound in syntax by the lambda abstractor 2 in (219).

The denotation of the node immediately dominating B_5 and C_2 is of type <pt> (a set of propositions, a question type). Following the proposal developed earlier for questions, I suggest that it undergoes type shifting from a set of propositions into a set of properties that at least one proposition in this set has: it becomes of type <<pt>t>. The denotation of the sister of the exceptive-additive phrase is of type <<et><<pt>t>>. This is the type the exceptive additive phrase requires its argument to have. It is shown in (221).

(221) $[[\ (2(B_5\, C_2))\ ]]^{gs} =$
$\lambda Z_{<et>}.\lambda P_{<pt>}.\exists p[\exists x[x{\in}Z\ \&\ p{=}[\lambda s'.\ \text{x talked about this with Petya in } s']]\ \&P(p){=}1]$

Since we are aiming at deriving the additive reading, like in other cases we saw previously, negation has to have a higher semantic type and take its sister as its argument. The reminder of the additive denotation of the exceptive-additive phrase is given in (222).

(222) The additive meaning of ExcAddP:
$\lambda \mathbf{O}_{<<et><<pt>t>>>}.\lambda m_p.\ \mathbf{O}(\overline{\{A\}})\ (\lambda q_p.m{=}[\lambda s{:}\ \boxed{\forall Y[Y{\cap}\{A\}{\neq}\varnothing{\rightarrow}\mathbf{O}(Y)(\lambda f.f(s){=}1){=}1}].\ q(s)])\ {=}1$

Computing the value of QUDP requires substitution every occurrence of O in (222) by (221).

(223) $[[QUDP]]^{gs}{=}$
$[\lambda \mathbf{O}_{<<et><<pt>t>>}.\lambda m.\ \mathbf{O}(\overline{\{A\}})(\lambda q.m{=}[\lambda s{:}\ \boxed{\forall Y[Y{\cap}\{A\}{\neq}\varnothing{\rightarrow}\mathbf{O}(Y)(\lambda f.f(s){=}1){=}1}].\ q(s)]){=}1$
$(\lambda Z_{<et>}.\lambda P_{<pt>}.\exists p[\exists x[x{\in}Z\ \&\ p{=}[\lambda s'.\ \text{x talked about this with Petya in } s']]\ \&P(p){=}1])]$

I again will first compute the presupposition that is a boxed part in (222). Substituting O by the argument given in (221) in the boxed part results in (224): this is the presupposition that is introduced into all of the propositions in the question denotation.

(224) $\boxed{\text{Computing the additive presupposition}}$:
$\forall Y[Y{\cap}\{A\}{\neq}\varnothing{\rightarrow}[\lambda Z_{<et>}.\lambda P_{<pt>}.\exists p[\exists x[x{\in}Z\ \&\ p{=}[\lambda s'.\ \text{x talked about this with Petya in } s']]$
$\&P(p){=}1]\ (Y)(\lambda f_p.f(s){=}1)\ ]\ ]$ = by 2 application of lambda conversion

$\forall Y[Y{\cap}\{A\}{\neq}\varnothing{\rightarrow}\exists p[\exists x[x{\in}Y\ \&\ p{=}[\lambda s'.\text{x talked about this with Petya in } s']]\ \&$
$[\lambda f_p.f(s){=}1\ (p)]\ ]\ ]{=}$
by lambda conversion
$\forall Y[Y{\cap}\{A\}{\neq}\varnothing{\rightarrow}\exists p[\exists x[x{\in}Y\ \&\ p{=}[\lambda s'.\ \text{x talked about this with Petya in } s']]\ \&\ p(s)]]$

The last line in (224) is equivalent to saying that Anya talked about this with Petya. Let's take the singleton set containing just Anya {A}. According to (224) there is a proposition that is true in s and that proposition is [λs'. Anya talked about this with Petya in s']

(225) (224) = $\boxed{\text{Anya talked about this with Petya in s}}$

Having simplified the presupposition, we can continue computing [[QUDP]] in (223).

(226) (223) = by (225) and by lambda conversion

$\lambda m_p.\ [\lambda Z_{<et>}.\lambda P_{<pt>}.\exists p[\exists x[x \in Z\ \&\ p=[\lambda s'.\ x \text{ talked about this with Petya in } s']]\ \&P(p)=1\ ]$
$(\{A\})\ (\lambda q.m=[\lambda s: \boxed{\text{Anya talked about this with Petya in s}}.\ q(s)])\ ] =$
by 2 applications of lambda conversion

$\lambda m_p.\exists p[\exists x[x \notin \{A\}\ \&\ p=[\lambda s'.\ x \text{ talked about this with Petya in } s']]\ \&\ [\lambda q_p.m=[\lambda s: \boxed{\text{Anya talked about this with Petya in s}}.\ q(s)]\ (p)\ ]\ ]=$ by lambda conversion

$\lambda m_p.\exists p[\exists x[x \notin \{A\}\ \&\ p=[\lambda s'.\ x \text{ talked about this with Petya in } s']]\ \&$
$m=[\lambda s: \boxed{\text{Anya talked about this with Petya in s}}.\ p(s)]\ ]$

By slightly simplifying the last line in (226) we get the following denotation for QUDP. This is a set of propositions that carry a presupposition that Anya talked about this with Petya and their at-issue content has the form 'x talked about this with Petya in s' where x is an individual other than Anya. This is the denotation that this system would produce for the question 'who besides Anya talked about this with Petya?'. Thus, it correctly captures the intuition about the question under discussion in this case.

(227) $[[\text{QUDP}]]^{gs} = \lambda m_p.\exists x[x \notin \{\text{Anya}\}\ \&$
$m=[\lambda s: \boxed{\text{Anya talked about this with Petya in s}}.\ x \text{ talked about this with Petya in s}]\ ]$

Now ~ has to relate the denotation of the QUDP and the focus value of the sentence. And here is another complication that we face with. The focus value of 'Masha$_F$ talked about this with Petya' is a set of propositions given in (228): this is a set formed by substituting of the element marked with focus (*Masha*) by elements of the same semantic type. The set of propositions picked by our QUDP is as shown in (229). Under Rooth's theory ~ should say that (228) is a subset of (229) or in other words that each proposition in (229) is contained in (228). This is not right, because each of the propositions in (229) carries a presupposition that the propositions in (228) do not have.

(228) [[Masha$_F$ talked about this with Petya]]^{gsF}=
{λs. Anya talked about this with Petya in s
λs. Masha talked about this with Petya in s
λs. Sveta talked about this with Petya in s
λs. Oleg talked about this with Petya in s
λs. Kiril talked about this with Petya in s}

(229) [[QUDP]]^{gs} =
{λs: Anya talked about this with Petya in s. Masha talked about this with Petya in s
λs: Anya talked about this with Petya in s. Sveta talked about this with Petya in s
λs: Anya talked about this with Petya in s. Oleg talked about this with Petya in s
λs: Anya talked about this with Petya in s. Kiril talked about this with Petya in s}

However, if we ignore the presupposition and only look at at-issue content of the propositions in (229) it is the case that each of the propositions in this set is in the set given in (228). I propose that this issue can be resolved if we make the assumption that ~ checks only that the at-issue content of propositions in question denotation is in the set of focus alternatives of the sentence. Formally the needed change in the semantics of ~ is done in (230). As in the classic definition, its at-issue content is simply the ordinary value of the proposition that is a sister of the entire QUD~ configuration. The change is in the presupposition it introduces. Instead of saying that every proposition in the silent question denotation is in the focus value, it says that for every proposition p in the question denotation there is a proposition q in the focus value such that either it is identical to p or its version with some presupposition is identical to p.

The same goes for the ordinary value of the proposition that is the sister of QUD~: either it is itself in the question denotation or its variant with a presupposition is. (230) also differs from the original denotation in (Rooth 1992a) in explicitly stating that the sister of ~ is the question under discussion. This last modification is needed because in Rooth's original system the fact that the system of ~ has to be a question salient in the discourse followed from the fact that the question was a free variable that needed to find its antecedent just like any pronoun. In the account proposed here, the sister of ~ can have a more complex structure consisting of a variable and an exceptive-additive phrase and the variable itself is not a question, the question comes as a result of putting those two things together.

(230) $[[\ (\gamma{\sim})\phi\ ]]^{gs} = [[\phi]]^{gs}$
$[[\ (\gamma{\sim})\phi\ ]]^{gs} = [[\phi]]^{gs}$ is defined only if
$[[\gamma]]^{g}$ is the QUD
$\forall p[p \in [[\gamma]]^{gs} \rightarrow \exists q[(q \in [[\phi]]^{gsF}\ \&\ q=p) \text{ or } \exists m[p=[\lambda s{:}m(s).\ q(s)]]]\ ]$
$[[\phi]]^{g} \in [[\gamma]]^{gs} \text{ or } \exists m[\ [\lambda s{:}m(s).[[\phi]]^{gs}(s)] \in [[\gamma]]^{gs}\ ]$

With those assumptions, we derive the fact that the question under discussion has to be 'who besides Anya talked about this with Petya?'. It cannot be any other question because if that was the case then the at-issue content of the propositions in the question denotation would not match the focus value of the sentence. Each proposition in the QUD carries a presupposition that 'Anya talked about this with Petya'. By producing a response to this

QUD the speaker indicates that she/he accepts the question. This is how the entire sentence comes to presuppose that 'Anya talked about this with Petya'.

2.6.3 No Exceptive Readings with Focus Associates

The story developed here for the interaction of exceptive-additive phrases and focus is based on the proposal developed earlier for questions. Therefore, just like in the cases involving questions considered here earlier, the prediction here is that an exceptive-additive phrase under the exceptive mode of composition will add to each of the proposition in the QUD the presupposition that is not compatible with the at-issue content of this proposition.

This will be illustrated below. When the ExcAddP with the exceptive denotation applies to its sister (a constituent with salient variables with the denotation repeated here in (232)), the presupposition ExcAddP will introduce into each of the propositions in the question denotation results from substituting O in the boxed part of the formula by the argument given in (232). The result of this operation is shown in (233). This complex quantificational claim can actually be reduced to a very simple claim given in (234). This is because one of the sets that has Anya in it is the universal set containing all individuals in the world. Thus (233) requires that there is no true proposition of the form 'x talked about this with Petya' where x is any individual in the world.

(231) Exceptive meaning of ExcAddP:
$\lambda \mathbf{O}_{<<et><<pt>t>>}.\lambda m.\ \mathbf{O}(\overline{\{A\}})(\lambda q.m=[\lambda s: \boxed{\forall Y[Y\cap\{A\}\neq\varnothing\rightarrow\neg\mathbf{O}(Y)(\lambda f.f(s)=1)=1}].\ q(s)])=1$

(232) $\lambda Y_{<et>}.\lambda P_{<pt>}.\exists p[\exists x[x\in Y\ \&\ p=[\lambda s.\ x$ talked about this with Petya in $s]]\ \&\ P(p)=1]$

(233) $\forall Y[Y\cap\{A\}\neq\varnothing\rightarrow\neg\exists p[\exists x[x\in Y\&\ p=[\lambda s.x$ talked about this with P. in $s]]\ \&\ p(s)]]$

(234) $\neg\exists z[z$ talked about this with Petya in $s]$

The denotation for the entire QUDP predicted under those assumptions is as shown in (235). This is a set of propositions with the following properties. Their at-issue meaning has the form 'x talked about this with Petya' where x is anyone who is not Anya and their presupposition is 'no one talked about this with Petya'.

(235)

$\lambda m_p.\ \exists x[x \notin \{\text{Anya}\}\ \&$
$m=[\lambda s{:}\neg\exists z[\text{z talked about this with Petya in s}].\ \text{x talked about this with Petya in s}]]$

All of those propositions are not well formed because whenever the presupposition is satisfied, the at-issue content is false. Moreover, this presupposition is not compatible with the ordinary meaning of the sister of QUDP, which is the proposition that Masha talked about this with Petya.

To conclude, the analysis developed here makes the correct predictions about the interaction between focus and exceptive-additive phrases. It captures the additive reading and predicts that this is the only reading that is possible in those contexts.

2.6.4 The Anti-Containment Inference

I have observed in Chapter1 that there are cases where an exceptive-additive phrase occurs in a sentence with an existential quantifier and contributes the anti-containment inference. Those were the cases where an exceptive-additive phrase appears at the beginning of a sentence and not in the position following the existential quantifier. There is a contrast between the infelicitous example in (236) and the well-formed example in (237). This shows that the entire construction comes with the anti-containment inference: (236) is not well-formed because *Maša* is a clearly female name in Russian.

The anti-containment inference:

(236) #Krome Maši, mne pomogali kakie-to devočki.
Krome Masha I-DAT helped some girls
Intended: # 'Besides Masha, some girls helped me'.

(237) Krome Vani, mne pomogali kakie-to devočki.
Krome Vanya I-DAT helped some girls
'Besides Vanya, some girls helped me'.

I propose that in (236) and (237) the exceptive-additive phrase operates on a question under discussion. Thus, it is essentially the same construction as in examples discussed here earlier, like the one in (238).

(238) Krome Ani, Maša pogovorla ob etom s $Petej_F$.
Krome Anya Masha talked about this with $Petya_F$
'Besides Anya, Masha talked about this with $Petya_F$'

The idea is that if the question under discussion in (236) is 'who besides Masha helped me?' it presupposes that Masha helped me. The claim following the exceptive-additive phrase has to address this question. Saying *Some girls helped me* as a response to this question triggers the inference that Masha is not a girl because if she were a girl, the presupposition of the QUD and the assertive content of the sentence would not be independent of each other. There is a general pragmatic principle that requires assertions to be independent of presuppositions.

This principle also rules out the discourse in (239). I follow much of the literature in assuming that the additive particles like *also* and *too* are anaphoric (Heim 1992, Kripke 2009) focus sensitive expressions (Rooth 1985a, 1992, Krifka 1998, Saebo 2004 among others). When such particles occur in a sentence, they contribute a presupposition that there is a specific proposition in the set of focus alternatives other than the original known to be true in the discourse.

Also in (239) has the first sentence as its antecedent. It introduces the presupposition ‘Masha came’ into the second sentence in (239). In virtue of putting the fact that Masha is a girl together with this presupposition, we already know that some girl came or have a partial information that supports the claim ‘some girls came’. It is infelicitous to assert in the second sentence what is already presupposed or partially known.

(239) #Masha came. Some girl(s) also came.

One issue here is how to compute focus alternatives for a quantificational item (*some girl* in this case). This is a more general issue. One possibility is that the focus alternatives for *some girl* are individual denoting expressions. For example, in (240) and (241) the antecedent *too* is making reference to is *John came*. It is also possible that focus alternatives for *some girl* and *all boys* are quantifiers and *John* type-shifts to get the quantificational meaning. I will not further speculate on this point here.

(240) John came. Some girl_F came too.

(241) John came. All girls_F came too.

I have pointed out in Chapter1, that the additive reading of exceptive-additive phrases is possible in sentences containing universal quantifiers, however, it comes with the anti-containment inference. This is illustrated by the contrast between (242) and (243).

The additive reading only:

(242) Krome Ani, tam byli vse mal'čiki.
Krome Anya, there were all boys
'Besides Anya, all boys also were there'.

✓In addition to Anya, all boys were there.

✕ Anya was not there, but all boys were.

The exceptive reading only:

(243) Krome Ani, tam byli vse devočki.
Krome Anya, there were all girls
'Except for Anya, all girls were there'.

✕In addition to Anya, all other girls were there.

✓Anya was not there, but all other girls were.

Given that Anya is a clearly female name in Russian, (242) can only have the additive reading: it means that Anya was there and there were also all boys. In contrast, (243), where the quantifier is 'all girls' and Anya is contained in the restrictor, has only the exceptive meaning. The anti-containment inference under the additive reading in (243) follows from the same general principle as the anti-containment inference in (236). Let's assume that the QUD that is generated in (243) is 'who besides Anya was there?': the question presupposing that Anya was there. Since Anya is a girl, under the additive reading of (243) the presupposition and the assertion are not independent from each other. This triggers the inference that Anya is not a girl.

A similar anti-containment inference comes with the second sentence in (244). Intuitively, the problem with (244) is that *too* has the first sentence as its antecedent and introduces the presupposition that Anna came. The first sentence is entailed by the second one if Anya is a girl. Thus, the assertion and the presupposition are not independent of each other. For this reason, (244) is ruled out. What is this general pragmatic principle that is at play here? One way to express it is to say that the discourse should always move forward, one should not say things that entail what has been already established. We can appeal to the same principle to rule out the additive reading in (243). In this specific case the problem is that a QUD cannot have a presupposition that is entailed by the at-issue content of the sentence addressing that QUD.

(244) #Anna came. All girls came too.

2.7 *How-many* questions and Numerals

2.7.1 Empirical Description of the Facts.

Which-phrases are not the only *wh*-phrases exceptive-additive phrases can operate on. They can also go together with *how-many wh*-phrases. One example from Russian is given in (245).

(245)	Skol'ko	devoček	krome	Ani	i	Maši	prišli?
	How-many	girl	krome	Anya	and	Masha	came

‘How many girls besides Anya came?’

It comes with the familiar set of inferences given in (246), (247) and (248). It is infelicitous to answer the question in (245) with ‘10’ if the overall number of girls who came is 10: the question asks for the number of girls not counting Anya and Masha. This illustrates the domain subtraction inference. The containment inference is tested in (249), where the female names (*Anya, Masha*) are substituted by a male name *Vanya*. The resulting sentence is infelicitous. The positive inference is tested in (250). The resulting discourse is infelicitous because the first negative sentence contradicts the positive presupposition of the question.

(246) **Domain subtraction:**
Not counting Anya and Masha how many girls came?

(247) **Containment:**
Anya and Masha are girls.

(248) **Positive inference:**
Anya and Masha came.

(249) #Skol'ko devoček krome Vani prišli?
How-many girl krome Vanya came
Intended: # 'How many girls besides Vanya came?'

(250) #Horošo, Anya ne prišla, no skol'ko devoček krome Ani prišli?
Well, Anya NOT come, but how-many girl krome Anya came
Intended: #'Ok, Anya did not come, but how many girls besides Anya came?'

These facts directly follow from the account suggested in this Chapter. Before I show this, let me spell out my assumptions about interpretation of sentences with plurals and numerals.

2.7.2 Plurals and Numerals: Formal Background

Following much of the literature, I assume that pluralities exist along with atomic individuals. I will follow the standard practice and use + to represent a plurality consisting of x and y (where x and y are any individuals): x+y (starting from (Link 1983)).

I assume that we go from a set of individuals to a set of pluralities by using the operator * (Link 1983). Its definition is given in (251).

(251) **Definition of the * operator for sets:**
Let P be a non-empty set of entities. Then *P is the smallest set such that (i) $P \subseteq {}^*P$, (ii) if x and y are elements of *P, then so is x+y.

Following (251), if the set of girls is as shown in (252), then the result of applying * to this set is as shown in (253).

(252) {x: x is a girl}={Eva, Mary}

(253) *{x: x is a girl}={Eva, Mary, Eva+Mary}

Since we are dealing with functions rather than sets, we also need to define * operator for functions. This definition is in (254). Given (254), the result of applying * to the function in (255) is as shown in (256).

(254) **Definition: * for functions of type <et>:**
Let P be a function of type <et>, whose domain is D_e. Let S_P be the characteristic set for P. Then *P is the function with domain *D such that *P(x)=T iff $x \in *S_P$.

(255) λx. x is a girl={<Eva, T>, <Mary, T>, <John, F>}

(256) *λx. x is a girl ={<Eva, T>, < Mary, T>, <Eva+Mary, T>, <John+Eva, F>, <John+Mary, F>,<Mary+Eva+John, F>}

Following the standard practice, for shortness I will write '*girl' to mean *[λx. x is a girl]. I will use the standard notation |X| (where X is any plurality) to refer to the cardinality of X. With these assumptions, the meaning of the sentence *two girls came* can be presented as shown in (257).

(257) [[two girls came]]^{gs} = ∃X[*girl(X) & |X|=2 & X came]

With those assumptions the meaning of the *how many*-question without an exceptive-additive phrase given in (258) is as shown in (259). This is a set of propositions of the form [λs.∃X[*girl(w)(X) & |X|=n & X came in s]] where n is a number. This is a function that picks the set of propositions denoted by sentences ‘one girl came’, ‘two girls came’, ‘three girls came’, ‘four girls came’ etc. This set is shown in (260).

(258) How many girls came?

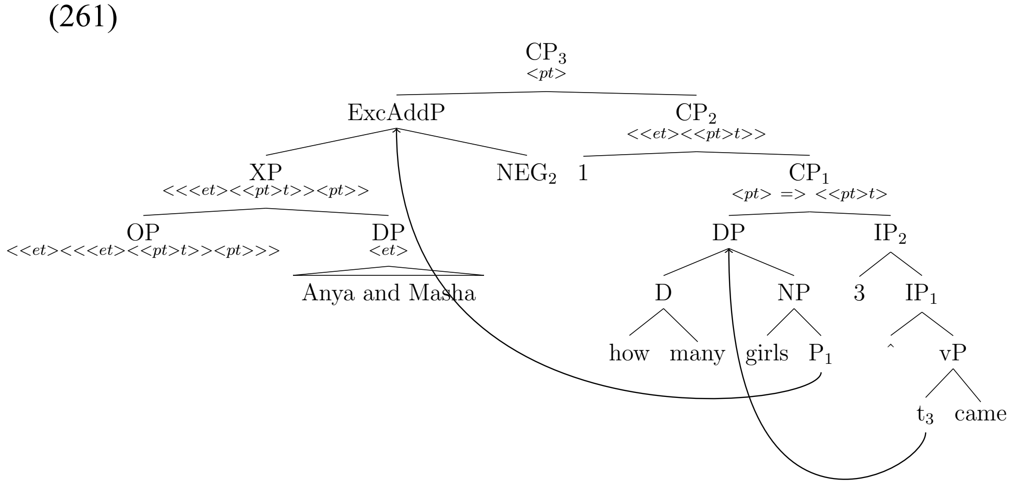
(259) $[[\text{how many girls came?}]]^{gs}=$
$\lambda p.\exists n[\text{n is a number} \ \& \ p=[\lambda s.\exists X[*girl(X) \ \& \ |X|=n \ \& \ \text{X came in s}]]]$

(260) $\{\lambda s.\exists X[*girl(X) \ \& \ |X|=1 \ \& \ \text{X came in s}], \lambda s.\exists X[*girl(X) \ \& \ |X|=2 \ \& \ \text{X came in s}], \lambda s.\exists X[*girl(X) \ \& \ |X|=3 \ \& \ \text{X came in s}] \ ....\}$

2.7.3 Exceptive-Additive Phrases and How-many Questions

Now we are ready to account for the interaction between *how many*-questions and exceptive-additive phrases. The LF for the sentence given in (245) is shown in (261). All parts of this LF are familiar from the previous discussion. The *wh*-phrase undergoes QR leaving a trace of type e that is bound by the abstractor 3. Then the exceptive-additive phrase undergoes movement from its connected position (the position of the sister of the predicate inside the *wh*-phrase). It leaves a trace of type <et> (P_1). This trace is bound by the abstractor shown as a numerical index 1 in (261).

(261)



The denotation of the node below the abstractor 1 is as shown in (262). This constituent undergoes type-shifting along the lines discussed earlier in this chapter. After this type-shifting operation, the denotation of this constituent is as shown in (263).

(262) $[[CP_1]]^{gs}= \lambda p_p.\exists n[n \text{ is a number } \&$
$p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl } \& \ y\in g(1)](X) \ \& \ |X|=n \ \& \ X \text{ came in } s']]]$

(263) $[[CP_1]]^{gs}$ =>by applying Answer3
$\lambda P_{<pt>}.\exists p[\exists n[n \text{ is a number } \&$
$p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl } \& \ y\in g(1)](X) \ \& \ |X|=n \ \& \ X \text{ came in } s']]] \ \& \ P(p)=1]$

The abstraction over the restrictor set inside the *wh*-word happens after the type-shifting applies. The result of this is shown in (264).

(264) $[[CP_2]]^{gs}= \lambda Z_{<et>}.\lambda P_{<pt>}.\exists p[\exists n[n \text{ is a number } \&$
$p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl } \& \ y\in Z](X) \ \& \ |X|=n \ \& \ X \text{ came in } s']]] \ \& \ P(p)=1]$

Since we are trying to capture the additive meaning, I will use the additive mode of putting together the OP+DP and NEG. The reminder of the additive meaning of the exceptive-additive phrase is given in (265). The detailed derivations of both readings of ExcAddP were given in Section 2.4.3 of this Chapter.

(265) The additive meaning of the exceptive-additive phrase:
$[[ExcAddP]]^{gs} = \lambda \mathbf{Q}_{<<et><<pt>t>>}.\ \lambda m_p.$
$\mathbf{Q}\ (\{\text{Anya, Masha}\})$
$(\lambda q.m=[\lambda s: \boxed{\forall Y\ [Y\cap\{\text{Anya,Masha}\}\neq\varnothing \rightarrow\neg \mathbf{Q}(Y)(\lambda f.f(s)=1)=1}].\ q(s)])=1$

The exceptive-additive phrase does two things here. First, it removes Anya and Masha from the set of girls from which the pluralities of girls are formed. It returns a set of propositions m such that each proposition in this set carries the additive presupposition.

The next step is to put together the exceptive-additive phrase in (265) and its sister with the denotation given in (264). They combine via functional application. As before, I will first compute the presupposition that corresponds to the boxed part in (265). This step is shown in (266).

(266) $\boxed{\text{Computing the presupposition (that corresponds to the boxed part of (265)):}}$

$\forall Y[Y\cap\{\text{Anya,Masha}\}\neq\varnothing \rightarrow \mathbf{[\lambda Z_{<et>}.\lambda P_{<pt>}.\exists p[\exists n[n \text{ is a number } \& \ p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl } \& \ y\in Z](X) \ \& \ |X|=n \ \& \ X \text{ came in } s']]] \ \& \ P(p)=1]}\ (Y)\ (\lambda f.f(s)=1)\ \mathbf{]}\ ]=$

by 2 applications of lambda conversion

$\forall Y[Y\cap\{\text{Anya,Masha}\}\neq\varnothing \rightarrow \exists p[\exists n[n \text{ is a number } \& \ p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl } \& \ y\in Y](X) \ \& \ |X|=n \ \& \ X \text{ came in } s']]] \ \& \ \mathbf{[\lambda f.f(s)=1)}\ (p)\mathbf{]}]]=$

by lambda conversion

$\forall Y[Y\cap\{\text{Anya,Masha}\}\neq\varnothing \rightarrow \exists p[\exists n[n \text{ is a number } \& \ p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl } \& \ y\in Y](X) \ \& \ |X|=n \ \& \ X \text{ came in } s']]] \ \& \ p(s)]\ ] =$

$\forall Y[Y\cap\{\text{Anya,Masha}\}\neq\varnothing\rightarrow\exists n[n \text{ is a number } \& \ \exists X[*[\lambda y.\ y \text{ is a girl } \& \ y\in Y](X) \ \& \ |X|=n \ \& \ X \text{ came in } s]]]$

The result of this is equal to simply stating that Anya and Masha are girls who came. This is because it says: take any set that has Anya or any set that has Masha in it (including the singleton sets), what you will find is that there is a singular or plural individual consisting of girls restricted to that set of some cardinality that came in s. This can only be true if Anya is a girl who came and Masha is a girl who came.

(267) (266) = Anya & Masha are girls who came in s

Having (267) in mind, the result of putting together the exceptive-additive phrase and its sister is as shown in (268).

(268) $\lambda m_p.\ \exists p[\exists n[n \text{ is a number } \&$
$p=[\lambda s.\exists X[{*}[\lambda y.\ y \text{ is a girl } \&\ y \notin \{\text{Anya, Masha}\}](X)\ \&\ |X|=n\ \&\ X \text{ came in } s]]]\ \&$
$m=[\lambda s'\text{: } \boxed{\text{Anya \& Masha are girls who came in } s'}.\ p(s')]\ ]=$

$\lambda m_p.\ \exists n[n \text{ is a number } \&$
$m=[\lambda s'\text{: } \boxed{\text{Anya \& Masha are girls who came in } s'}.$
$\exists X[{*}\text{girl who is not Anya or Masha } (X)\ \&\ |X|=n\ \&\ X \text{ came in } s']]]$

This is a function that picks the set of propositions shown in (269). This correctly captures the meaning of this question.

(269) $\{\lambda s'\text{: Anya \& Masha are girls who came in s. } \exists X[{*}[\lambda y.\ y \text{ is a girl } \&$
$y \notin \{\text{Anya, Masha}\}](X)\ \&\ |X|=1\ \&\ X \text{ came in } s'],$
$\lambda s'\text{: Anya \& Masha are girls who came in s. } \exists X[{*}[\lambda y.\ y \text{ is a girl } \&\ y \notin \{\text{Anya,}$
$\text{Masha}\}](X)\ \&\ |X|=2\ \&\ X \text{ came in } s'],$
$\lambda s'\text{: Anya \& Masha are girls who came in s. } \exists X[{*}[\lambda y.\ y \text{ is a girl } \&\ y \notin \{\text{Anya,}$
$\text{Masha}\}](X)\ \&\ |X|=3\ \&\ X \text{ came in } s'],$
$\lambda s'\text{: Anya \& Masha are girls who came in s. } \exists X[{*}[\lambda y.\ y \text{ is a girl } \&\ y \notin \{\text{Anya,}$
$\text{Masha}\}](X)\ \&\ |X|=4\ \&\ X \text{ came in } s']\ \ldots\ \text{etc}\}$

Let me also illustrate that if the exceptive meaning of the exceptive-additive phrase is applied to this question the result is not going to be well-formed. The reminder of the exceptive meaning of the exceptive-additive phrase is given in (270). This meaning is a result of putting together OP+DP and the negation of a lower type by function composition.

(270) The exceptive meaning of the exceptive-additive phrase:
$[[\text{ExcAddP}]] = \lambda \mathbf{Q}_{<<et><<pt>t>>}.\ \lambda m_p.$
$\mathbf{Q}\ (\{\text{Anya, Masha}\})(\lambda q.m=[\lambda s\text{: } \boxed{\forall Y\ [Y \cap \{\text{Anya,Masha}\} \neq \varnothing \rightarrow \neg \mathbf{Q}(Y)(\lambda f.f(s)=1)=1}].$
$q(s)])=1$

I will here compute the boxed part to show the presupposition introduced into each of the propositions in the question denotation. It is shown in (271).

(271) Computing the presupposition (that corresponds to the boxed part of (270)).

$\forall Y[Y \cap \{Anya,Masha\} \neq \varnothing \rightarrow \neg [\lambda Z_{<et>}.\lambda P_{<pt>}.\exists p[\exists n[n \text{ is a number} \ \&$
$p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl} \ \&\ y \in Z](X) \ \&\ |X|=n \ \&\ X \text{ came in } s']]] \ \&\ P(p)=1]\ (Y)$
$(\lambda f_p.f(s)=1)\ ]\ ]=$

by 4 applications of lambda conversion

$\forall Y[Y \cap \{Anya,Masha\} \neq \varnothing \rightarrow \neg \exists p[\exists n[n \text{ is a number} \ \&$
$p=[\lambda s'.\exists X[*[\lambda y.\ y \text{ is a girl} \ \&\ y \in Y](X) \ \&\ |X|=n \ \&\ X \text{ came in } s']]] \ \&\ p(s)]\ ] =$

$\forall Y[Y \cap \{Anya,Masha\} \neq \varnothing \rightarrow \neg \exists n[n \text{ is a number} \ \&$
$\exists X[*[\lambda y.\ y \text{ is a girl} \ \&\ y \in Y](X) \ \&\ |X|=n \ \&\ X \text{ came in } s]]]$

The resulting presupposition is equivalent to saying 'no girl came'. This is because it says: take any set that has Anya or Masha in it including the universal set U, what you will find is that there is no number such that there is a plurality of girls who came of that cardinality.

(272) (271) = $\neg \exists z[z \text{ is a girl} \ \&\ z \text{ came in } s]$

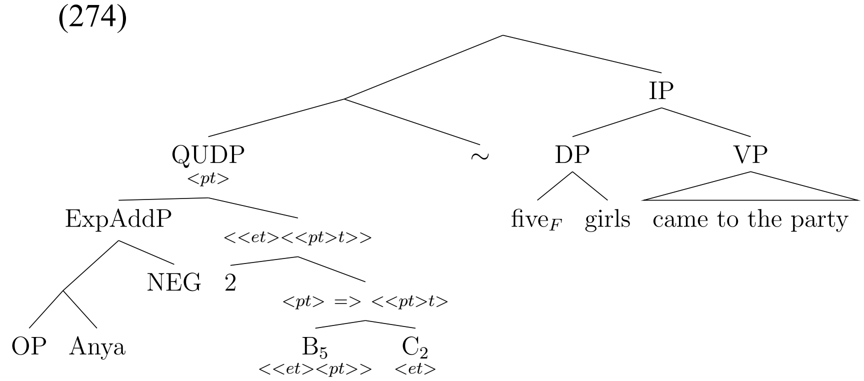
2.7.4 Implicit How-many Questions: Interaction of Exceptive-Additive Phrases with Numerals

In Russian, a clause initial exceptive-additive phrase can get the additive meaning with the containment inference when the sentence contains a bare numeral that is interpreted as an existential, like in example given in (273). The containment inference in this case is the inference that Anya is a girl.

(273) Krome Ani, (ješčjo) pjat'$_F$ devoček prišli na večerinku.
Krome Anya, also five girls came on party
'Five girls besides Anya came to the party'.

The system developed here can account for that under the assumption that the exceptive-additive phrase modifies a salient question under discussion. This question is related to the focus structure of the clause following the exceptive-additive phrase. The focused element in this case is the numeral *five*. The LF for (273) is shown in (274).

(274)



The focus value of the clause following the exceptive-additive phrase is as shown in (275). It is a set of propositions of the form 'n girls came to the party' (where n is a number).

(275) $[[\text{five}_F \text{ girls came to the party}]]^{gsF} = \lambda p_p.\exists n[n \text{ is a number } \& \ p=[\lambda s.\exists X[{}^*\text{girl}(X) \ \& \ |X|=n \ \& \ X \text{ came to the party in s}]]]$

~ relates a salient question under discussion and this focus value requiring that each proposition in the question under discussion (or its version with a presupposition) is in the set picked by (275).

Having in mind this restriction we need to choose an appropriate value for B_5. The value given in (276) will work for that purpose.

(276) $[[B_5]]^{gsF} = g(5) = \lambda Z_{<et>}.\lambda p_{<st>}.\exists n[$n is a number & $p=[\lambda s.\exists X[*[\lambda y.$ y is a girl & $y \in Z](X)$ & $|X|=n$ & X came to the party in s]]]

C_2 is a variable of type <et>. The type-shifting applies to the node consisting of the two unpronounced variables. After that the abstraction over C_2 variable is computed. The result of those operations is shown in (277). This is the sister of the exceptive-additive phrase.

(277) $[[2(B_5\, C_2)]]^{gsF} = \lambda Z_{<et>}.\lambda P_{<pt>}.\exists p_p[\exists n[$n is a number & $p=[\lambda s'.\exists X[*[\lambda y.$ y is a girl & $y \in Z](X)$ & $|X|=n$ & X came to the party in s']]]& $P(p)=1]$

The result of putting together the exceptive-additive phrase under the additive mode of putting together Op and NEG and its sister is the set of propositions shown in (278). ~ requires that its sister is a QUD that sentence addresses. This question comes with the presupposition that Anya is a girl. This is because each of the propositions in the question denotation carries a presupposition that Anya is a girl that came to the party. This happened because the focus value of the sentence tells us the questions has to have something to do with the number of girls who came.

(278) {$\lambda s'$: Anya is a girl who came to the party in s. $\exists X[*[\lambda y.$ y is a girl & $y \notin \{Anya\}](X)$ & $|X|=1$ & X came in s'],
$\lambda s'$: Anya is a girl who came to the party in s. $\exists X[*[\lambda y.$ y is a girl & $y \notin \{Anya\}](X)$ & $|X|=2$ & X came in s'],
$\lambda s'$: Anya is a girl who came to the party in s. $\exists X[*[\lambda y.$ y is a girl & $y \notin \{Anya\}](X)$ & $|X|=3$ & X came in s'],
$\lambda s'$: Anya is a girl who came to the party in s. $\exists X[*[\lambda y.$ y is a girl & $y \notin \{Anya\}](X)$ & $|X|=4$ & X came in s'] ….. etc}

Clause-initial exceptive-additive phrases can also get the additive readings without the containment inference when the clause following the phrase contains a numeral. An example illustrating this is shown in (279), where the exceptive-additive phrase contains the DP *Vanya* – the name that can only be male, and the focused DP inside the clause following the exceptive-additive phrase is a numeral.

(279) Krome Vani, (ješčjo) [pjat' devoček]$_F$ prišli na večerinku.
Krome Vanya, also five girls came on party
'Besides Vanya, five girls came to the party'.

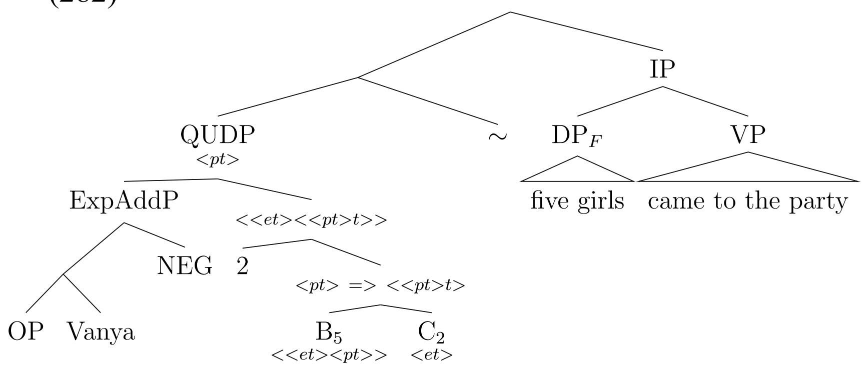
This can be accounted within the proposed approach. In (279) the whole DP *pjat' devoček* ('five girls') if focused. The focus value of the sentence is as shown in (280). This means that exceptive-additive phrase operates on the silent question 'who came to the party'. Since the question is not about girls the containment inference if not predicted in this case.

(280) [[[five girls]$_F$ came to the party]]^{gsF}= $\lambda p_p.\exists x$[x & p=[λs. x came to the party in s]]

Given that ~ requires that its sister is the question under discussion that that this question has to be related in a certain way to the focus value (each proposition in the question denotation has to be in the set of focus values in (280) or its versions with some presupposition has to be in (280)). For this reason, I have chosen the value given in (281).

(281) [[B$_5$]]^{gsF}=g(5)= $\lambda Z_{<et>}\lambda p_p.\exists x$[x is a person & x$\in$Z & p=[$\lambda$s.x came to the party in s]]

(282)



The denotation of the node immediately dominating B_5 and C_2 after we do the type-shifting and compute the abstraction over the <et> variable, the constituent the exceptive-additive phrase combines with is has the meaning shown in (280).

(283) $[[2(B_5C_2)]]^{gsF} = \lambda Z_{<et>}.\lambda P_{<pt>}.\exists p_{<st>}[\exists x[x \text{ is a person } \& \; x \in Z \; \& \; p=[\lambda s.x \text{ came to the party in } s] \;] \;\& \; P(p)=1]$

The result of putting the exceptive-additive phrase under the additive mode of composition and its sister is as shown in (284). ~ introduces the requirement that this is QUD. Each proposition in this set carries a presupposition that Vanya is a person who came. Since the question the exceptive-additive phrase operated here on was 'who came' and not 'how many girls came' there is no inference that Vanya is a girl in this case.

(284) $[[\text{QUDP}]]^{gsF} = \lambda p. \; \exists x[x \text{ is a person } \& \; x \notin \{\text{Vanya}\}$
$p=[\lambda s\text{: Vanya is a person who came in s. x came to the party in s}] \;]$

2.8 Conclusions

In this Chapter I have proposed an analysis for exceptive-additive ambiguity. The story I developed here is based on the assumption that an exceptive-additive phrase introduces a

DP that is interpreted as a set. The analysis proposed here is an extension of von Fintel's (1994) analysis of exceptives: I proposed that Leastness is contributed by two operators one of which is negation. By flipping the scope of those operators we get Additivity. In principle both the additive and the exceptive meaning are generated for all cases. However, one of the readings will always be ill-formed. For this reason, in each individual case we only find one of the readings.

In order to account for the fact that exceptive-additive construction can apply to *wh*-words in questions and get the additive meaning I used the existing idea that questions can undergo type-shifting from their regular semantic type (<<st>t> (for shortness I wrote <pt> here)) to a type of generalized quantifier (<<<st>t>t> (for shortness I wrote <<pt>t>)). Essentially this type-shifting introduces an existential quantification over propositions. I show how with this assumption the additive reading of exceptive-additive phrases with *wh*-questions can be derived and the exceptive reading can be blocked. I also show how one and the same denotation for OP can be used in cases of regular quantificational statements and questions under the assumptions that some type-shifting principles from the nominal domain (Partee 1986) can apply to propositions.

I made an observation that the additive reading is available with focus associates. I suggested to consider questions and focus together: the reason why only the additive reading is available with focus associates is that in those cases an exceptive-additive phrase modifies a silent question under discussion and exceptive-additive markers can only get the additive reading with questions.

CHAPTER 3

CONDITIONAL ANALYSIS OF CLAUSAL EXCEPTIVES

3.1 Introduction

In the first part of this Chapter I discuss the English exceptive construction introduced by *except* like the one given in (1). I offer novel arguments in favor of the idea that (1) can be derived from (2) by ellipsis and I propose a semantic theory that relates the main clause containing a universal quantification over girls and the *except*-clause in such a way that the inferences that (1) comes with are predicted and the known restrictions on the use of exceptives are derived. Later in this Chapter I show how the proposed analysis for clausal exceptives can be extended to other languages.

(1) Every girl came except Eva.

(2) Every girl came except Eva did not come.

My arguments in favor of the idea that the complement of *except* has a clausal structure were discussed in Chapter 1 and they are based on the observation that English *except* can host syntactic elements larger than DPs such as PPs with prepositions making a contribution to the overall meaning of a sentence (as the contrast between (3) and (4) shows).

(3) I got no presents except from my mom.

(4) #I got no presents except my mom.

The clausal story also naturally explains the cases originally noted in (Moltmann 1995) where an exceptive contains multiple elements like in the example (5).

(5) Every boy danced with every girl except Eva with Bill.

I argue that ellipsis story fits the English facts better than a structure sharing story because the unpronounced *except*-clause can contain material that is not present in the main clause. Specifically, based on NPI licensing facts, I argue that in cases like (1) the ellipsis site inside the reduced *except*-clause contains negation.

There are exceptives introduced by other markers in English; some other representative examples of them are given in (6) and (7). In this Chapter I will not make any claims about *except for* and *but*. I will specifically focus on the exceptives introduced by *except*.

(6) Except for Eva every girl came.

(7) Every girl but Eva came.

My goal here is to develop a theory for clausal exceptives that captures the inferences this exceptive contributes to a sentence. The inferences *except* contributes in (1) are familiar from the earlier discussion and they are listed in (8)(the domain subtraction), (9)(the containment entailment – Eva is in the restrictor set), and (10)(the negative entailment).

The Domain Subtraction:

(8) Every girl who is not Eva came.

The Containment Entailment:

(9) Eva is a girl.

The Negative Entailment:

(10) Eva did not come.

My other goal is to explain the fact that like all other exceptives this exceptive is not compatible with existential quantifiers as illustrated in (11), (12), (13)(the distribution puzzle).

(11) * Some girls except Eva came.

(12) * Several girls except Eva came.

(13) * Three girl except Eva came.

As was said previously, the existing semantic theories of exceptives are based on the assumption that an exceptive introduces a DP that is interpreted as a set (Hoeksema 1987, 1995, von Fintel 1994, Gajewski 2008) or an atomic or plural individual (Hirsch 2016). This set can be used to restrict domains of quantifiers quantifying over individuals in a natural way. The classic theory of exceptives was developed in von Fintel's work (1994) for exceptives introduced by *but*, like the one in (7). It accounts for the domain subtraction inference in this example by subtracting the singleton set containing Eva from the set of girls. It accounts for the negative inference and the containment inference by adding a claim that if the subtraction does not happen, the quantificational claim is not true: it is not true that every girl came. This idea also gives us a way of dealing with the distribution puzzle (the fact that *but* is not compatible with existential quantifiers): existential claims unlike universal claims cannot be true for a smaller domain and false for a bigger domain. Thus, by providing an exceptive phrase with access to the domain of a quantifier the classic theory captures the inferences the exceptives come with and the restrictions on their usage.

This analysis cannot be extended to exceptives introduced by *except*. If the complement of *except* in (1) contains (or at least can contain) a reduced clause, as I will argue, *except* must relate the two clauses in (14) and (15) semantically in such a way that the inferences in (8) and (9) are captured and the restriction observed in (11), (12), (13)is derived. A proposition is an object of type <st> and it cannot be used to restrict the domain of a quantifier quantifying over individuals.

(14) Every girl came.

(15) Eva did not come.

One naturally occurring idea about how the clauses (14) and (15) can be related in the relevant way is that the exceptive clause is interpreted as some sort of a counterfactual conditional. The idea roughly is that the meaning of (1) (or at least a part of the meaning of (1)) can be expressed by the counterfactual conditional in (16), where the exceptive clause provides the antecedent.

(16) If (15) was false, (14) would have been true.

There are certain similarities between the meaning of the sentence with the reduced *except*-clause in (1) and the meaning of the counterfactual conditional in (16). Intuitively, the part of the meaning they share is that the fact that Eva did not come is the thing that stands in a way of the proposition denoted by 'every girl came' being true in the actual world.

However, there are important differences between (1) and (16) as well. First of all, (16) does not entail that Eva is a girl (although (16) does come with the inferences that Eva did not come and that it is not true that every girl came). Compare (16) with (17) where *Eva* is substituted by a male name *John*. The sentence in (17) could be true in a scenario where every girl for some reason does whatever John does or goes wherever he goes.

(17) If 'John did not come' was false, 'every girl came' would have been true.

Moreover, the sentence in (18), where *every* is substituted by *some,* is totally coherent. Thus, the counterfactual paraphrase does not have anything to say about the distribution of exceptives and the fact that they are not acceptable with existential quantifiers.

(18) If 'Eva did not come' was false, 'some girl came' would have been true.

In this Chapter I propose a novel analysis for clausal exceptives that is built on the idea that the meaning of the sentence with an exceptive in (1) involves looking at possible situations that differ from what actually happened only with respect to the facts about Eva coming. What this sentence says about those situations is that every girl came in them. Thus, in the story I propose exceptive clauses introduce quantification over possible situations and serve as restrictors for this quantification. This explains the similarities in meanings between sentences with exceptives and their counterfactual paraphrases. I will call this part of the meaning Conditional Domain Subtraction because this is a part of the meaning contributed by *except* that is responsible for the domain subtraction inference (that the quantificational claim is true on the domain that does not include Eva). The negative inference is contributed directly by the clause inside the exceptive.

I propose that there is also another aspect of meaning of exceptives that I will call Conditional Leastness. This is a claim that establishes the law-like relation between the main clause containing a quantificational expression and the clause introduced by *except*. In our example Conditional Leastness is a claim that in every situation where Eva did not come, the claim 'every girl came' is false. The role of this meaning component is threefold. It is responsible for the containment inference, in our example (1) this is the inference that

Eva is a girl. It is also responsible for the fact that clausal exceptives are not compatible with existential quantifiers. Specifically, with some additional independently motivated assumptions about indefinites, Conditional Leastness is guaranteed to contradict Conditional Domain Subtraction if the quantifier *except* operates on is existential. Thus, under the assumption that contradictions that cannot be repaired by changing open-class lexical items are perceived as ungrammatical in natural languages (Gajewski 2002), the ungrammaticality of sentences like (11), where an exceptive operates on an existential, is predicted. The third role of this meaning component is that it controls the ellipsis resolution in *except*-clauses.

I will show how the analysis proposed here explains all the cases that are explained by the classic theory and how it explains the cases that the classic theory cannot explain, such as examples involving PPs and multiple constituents like the one shown here earlier in (3) and (5).

3.2 Exceptive Deletion Exists

3.2.1 English *Except* Does not Introduce a Set of Individuals

In this Section I will briefly review the arguments in favor of the idea that English *except* introduces a clause that were discussed in Chapter 1. I discussed three crucial types of cases. The first one is the one where *except* hosts multiple elements (examples of this type were originally noticed by Moltmann (1995)), as shown in (19). In those cases the complement of *except* can only be clausal.

(19) Every boy danced with every girl everywhere, except Juan with Eva in the kitchen.

One property of exceptives with multiple remnants that a clausal analysis of exceptives must account for is that each element of an exceptive phrase has to have a universal quantifier as a correlate in the main clause (as shown by the ungrammatical (20) and (21)).

(20) *Every girl danced with *some* boy except Eva with Bill.

(21) **Some* girl danced with every boy except Eva with Bill.

This is not a general prohibition against existential quantifiers in the main clause (as shown by the contrast between (22) and (23)). The observation that this contrast exists to my knowledge has not been made in the previous literature[43].

(22) Every girl danced with every boy *somewhere* except Eva with Bill.

(23) *Every girl danced with every boy *somewhere* except Eva with Bill *in the kitchen*.

The second crucial case is a case where an exceptive phrase hosts a PP with a meaningful preposition, like the one given in (24). *From Barcelona* denotes a set of things that are from Barcelona. The denotation of this prepositional phrase is shown in (25). Subtraction of this set from the set of cities cannot have any effect on the overall meaning of the sentence, because things that are from Barcelona are not cities.

(24) I met a student from every city in Spain except from Barcelona.

(25) {x: x is from Barcelona}

---

[43] I thank Kyle Johnson for this observation. The observation that there is a restriction on the types of quantifiers in the main clause is not novel, it goes back to (Moltmann 1995). However, as far as I know, the observation that it is only the type of the correlates of the remnants that matter is novel.

The third case challenging the phrasal syntactic analysis of exceptives that I considered is the one where an exceptive phrase contains a prepositional phrase that has no correlate (a corresponding antecedent) in the main clause. The example is given in (26). In this sentence the preposition *from* cannot be omitted, as the contrast between (26) and (27) shows.

(26) I got no presents except from my mom.

(27) #I got no presents except my mom.

The classic von Fintel's (1994) theory of exceptives cannot be extended to this case. One problem here is that in English *from my mom* cannot be derived by ellipsis from *the one from my mom*. This is because *the one* is not the kind of constituent that be deleted in English, as shown by the contrast between (28) and (29)[44].

(28) I got two presents; the one from my mom was nice.

(29) *I got two presents; from my mom was nice.

Another possibility for the classic theory is that we are subtracting the set of things that are from my mom from the set of presents (30) and restricting the domain of *no* to this set (shown in (31)).

(30) {y: y is a present}-{x: x is from my mom} = {z: z is a present & z is not from my mom}

(31) ¬∃x[x is a present & x is not from my mom & I got x]

[44] A similar example is discussed in (Potsdam and Polinsky 2019). The argument I make here is a different one. They have also argued that English *except* is clausal independently of this work and simultaneously with it.

The theory also requires applying the Leastness Condition and this is where the problem lies. Leastness in this case would be equivalent to (32), which amounts to the following claim: every object that is from my mom is a present such that I got it. The sentence (26) does not come with this inference, thus this is not the right prediction.

(32) $\{x\text{: x is from my mom}\}\subseteq\{y\text{: y is a present}\}\cap\{z\text{: I got z}\}$

These arguments were discussed in more detail in Chapter 1. In the next section I will show that in some cases the unpronounced part of an *except*-clause contains more material in it than the main clause of the sentence. I will show that there is a constituent in the *except*-clause that is neither present in the main clause nor among the pronounced elements of the *except*-clause, namely, negation. This is the argument in favor of the idea that the structures of the examples I have shown in this section are derived by ellipsis rather than via some process that results in sharing a part of the structure.

3.2.2 Evidence for the Polarity Mismatch

In the introduction I suggested that (1) (repeated here as (33)) can be derived from (2) (repeated here as (34)) by ellipsis.

(33) Every girl came except Eva.

(34) Every girl came except Eva did not come.

A reader can observe the polarity mismatch in (34) between the main clause and the *except*-clause: there is negation in the *except*-clause that is not present in the main clause.

Most of English speakers find acceptable the non-elided version of (33) given in (34) and they do not accept a version of it where the *except*-clause is positive (given in (35)).

(35) #Every girl came except Eva came.

Now, let's look at the interaction of *except* with a negative quantifier in (36). No English speaker accepts the full version of the *except*-clause where the polarity of the clause is negative (given in (37)). Some speakers of English accept the full version given in (38). I propose that (36) is derived from (38) by ellipsis.

(36) No girl came except Eva.

(37) #No girl came except Eva did not come.

(38) No girl came except Eva came.

If a reduced *except*-clause operating on a universal quantifier has negation in it and the reduced *except*-clause operating on a negative quantifier does not, the prediction is that we should see differences between those two cases with respect to NPI licensing. Specifically, under the constituent-based approach to NPI licensing (Chierchia 2004; Gajewski 2005; Homer 2011), an NPI is licensed if there is a syntactic constituent containing that NPI which constitutes a downward entailing environment. For instance, in (39) the global position of the NPI *any vegetables* in the sentence is not in DE environment because there are two negations and they cancel each other out. However, the NPI is licensed inside the syntactic constituent bolded in (39), which is a DE environment.

(39) It's not true that **[John did not eat any vegetables]**.

In a similar way, if what I said about how the exceptive ellipsis is resolved is correct, NPIs are predicted to be licensed inside reduced *except*-clauses providing exceptions for universal quantifiers, but not inside reduced *except*-clauses providing exceptions for negative quantifiers because only in the first case there is a constituent – the sentence following *except* – that is a downward entailing environment because it contains negation.

This prediction is borne out as the contrast between (40) and (41) shows. This observation has not been made in the previous work on exceptives. This contrast is not explained by the classic theory of exceptives where an exceptive in both cases subtracts a set from a domain of a universal quantifier (because the negative quantifier is a universal quantifier).

(40) John danced with *everyone* except with *any girl* from his class.

(41) *John danced with *no one* except with *any girl* from his class.

Moreover, if we consider the entire sentence (40) the NPI is not in DE environment. The claim with a larger exception does not grant the inference that a claim with a smaller exception is true. The problem is with what happens with the domain of quantification when we go from (42) to (43): it gets larger. Let's consider a scenario where one of the girls in John's class, Zahra, has black hair. In this situation, the quantificational claim in (42) does not include her (he danced with everyone who is not a girl in his class). The quantificational claim in (43) includes her: he danced with everyone who is not a blond girl from his class, thus, he danced with her. A universal claim restricted to a certain set does not grant the inference that a universal claim restricted to a superset of this set is true. Thus, from (42) we cannot conclude that (43) is true.

(42) John danced with everyone except with girls from his class.

(43) John danced with everyone except with *blond* girls from his class.

It has been argued in von Fintel (1999) that what is relevant for NPI licensing is a Strawson DE environment, and not just DE environment. This notion was introduced in order to account for the NPI licensing pattern in sentences like (44).

(44) Only John ate any vegetables.

The fact that the NPI *any vegetables* is licensed here is surprising because it is not in a downward entailing environment: *Only John ate vegetables* does not entail that only John ate cucumbers. This is because from the fact that John ate vegetables we cannot conclude that he ate cucumbers. However, the inference that John ate cucumbers is generally treated as the presupposition introduced by *only* and not as a part of the truth conditional content (Horn 1992, Horn 1996, Atlas 1993). If we limit ourselves to looking at worlds where the presuppositions of the second sentence are satisfied, the entailment does hold: if we know that no one other than John ate vegetables and we know that John ate cucumbers, we can conclude that only John ate cucumbers. This calls for a new generalization about NPI licensing: NPIs are licensed in Strawson downward entailing environments.

(45) Strawson entailment:
A sentence X Strawson-entails another sentence Y if the truth-conditional content of X entails the truth conditional content of Y if the presuppositions of Y are satisfied.

However, the NPI in (40) is not in a Strawson DE environment. The only way the NPI could be in such an environment in (40) is if the quantificational claim were contributed at the presuppositional level and the only at-issue contribution of *except* were the negative claim. If that was the case we could say that (42) Strawson entails (43): the claim that John did not dance with girls from his class does entail that John did not dance with blond girls from his class. The problem is that the quantificational claim is not contributed at the presuppositional level. This is shown by the question test in (46). When it is pronounced with a neutral intonation it is understood as a question about whether John danced with everyone who is not a girl from his class.

(46) Did John dance with everyone except with girls from his class?

'Wait a minute' (von Fintel 2004) test points in the same direction. The dialog in (47) is not felicitous because the information about John dancing with everyone (with an appropriate restriction) is not contributed at the presuppositional level.

(47) A: John dance with everyone except with girls from his class
B: #Hey, wait a minute, I did not know John danced with everyone who is not a girl from his class.

To conclude, we don't want to create a semantics for *except* that would predict that the NPI in (40) is in the downward or Strawson downward entailing environment globally. The remaining option is that the NPI is licensed locally.

In the story I propose the contrast between (40) and (41) follows from the way the ellipsis is resolved in the two cases (shown in (48) and (49)).

(48) John danced with *everyone* except [~~John did **not** dance~~ with *any girl* from his class].

(49) *John danced with *no one* except [~~John danced~~ with *any girl* from his class].

In the conditional semantic theory of clausal exceptives that I propose the polarity of the clause is forced by the meaning. Nothing in syntax forces or blocks the presence of negation in the elided *except*-clause. Choosing a clause with a wrong polarity like in (50) and (51) leads to a meaning that is not well-formed.

(50) #Every girl came except Eva ~~came.~~

(51) #No girl came except Eva ~~did not come~~.

If we are dealing with a negative generalization, the *except*-clause will be positive even if it operates on *every* as illustrated in (52).

(52) Every girl did not come except Eva ~~came~~.

One question that I don't have much to say about is how a positive sentence can be a valid antecedent for ellipsis that contains negation like in (33) (repeated below as (53)). Normally ellipsis resists those kinds of mismatches. One example reported in the literature where such a mismatch exists in sluicing is given in (54).

(53) Every girl came except Eva.

(54) Do this or explain why ~~you did not do this~~. (Kroll 2016)

As Rudin (2019) points out, not all English speakers find this example completely acceptable. It certainly does not feel as natural as (53).

I think that what is going on in (53) is more similar to the Russian case in (55). In (55) there is a polarity mismatch between the positive antecedent and the negative elided clause.

The remnant of ellipsis in (55) contains an n-word. N-words in Russian require the presence of negation, as the contrast between (56) and (57) shows. There is no pronounced negation in (55), but the n-word is licensed. Somehow the presence of an n-word licenses ellipsis of a constituent containing negation. Possibly, it is the presence of *except* that licenses ellipsis of a constituent containing negation in exceptive deletion.

(55)	Vanya	pročital	tri	knigi,	a	ja	ni	odnoj.
	Vanya	read	three	books	and	I	n-word	one

‘Vanya read 3 books and I did not read any’.

(56)	Ja **ne**	pročital	ni	odnoj	knigi.
	I **NEG**	read	n-word	one	book

‘I did not read any books’.

(57)	*Ja	pročital	ni	odnoj	knigi.
	I	read	n-word	one	book

Intended: ‘I did not read any books’.

3.3 The Proposal

In this section I propose a semantic analysis for clausal exceptives. The analysis I develop is conditional in a sense that there is quantification over possible situations and *except*-clauses restrict this quantification. I show how this analysis captures the facts that the classic analysis for exceptives captures, such as the inferences that the exceptives come with and the restrictions on their usage. The semantic theory I develop also explains why an *except*-clause providing an exception for a universal claim has to have negation in it and an *except*-clause providing an exception to a negative claim cannot have negation in it.

In (58) *except* needs to relate the two clauses in (59) and (60) in such a way that the inferences except contributes in (58) (the domain subtraction, the containment and the negative entailment) are derived.

(58) Every girl came except Eva ~~did not come~~.

(59) **Quantificational claim:** Every girl came.

(60) ***Except*-clause:** Eva did not cime.

Speaking informally, I propose that the *except*-clause in (58) contributes three things. It states that what follows *except* is true (61). This captures the negative inference. It also establishes a law-like relationship between the clause following *except* and the main clause: it is not just two random propositions thrown together: because Eva was not there, it is not true that every girl was there (62). This captures the containment. Its third contribution is that nothing else stands in a way of the quantificational claim being true (63) (this captures the domain subtraction inference).

(61) Eva did not come.

(62) In every situation where Eva did not come, the quantificational claim is not true.

(63) Had Eva come, it would have been true that every girl came.

In what follows I show how to implement those three contributions of *except* formally. I start by expressing (63) (the claim responsible for the domain subtraction inference) in formal terms in Section 3.3.1. In Section 3.3.2 I discuss (61) and (62).

3.3.1 Modeling Domain Subtraction

3.3.1.1 What Kind of Conditional?

It is standardly assumed that conditionals are interpreted as restrictors of covert or overt quantifiers over possible worlds or situations (Lewis 1975, Kratzer 1978, 1986). The standard analysis also assumes that the quantification over possible words or situations is restricted to those words or situations that minimally differ from the actual word (Stalnaker 1968, Lewis 1973a,b, 1981, Kratzer 1977, 1979, 1981a,b, 1989). The conditional in (64) roughly gets the meaning given in (65).

(64) If it were not true that Eva did not come, it would have been true that every girl came.

(65) In all of the possible worlds that are most similar to the actual world among those where Eva came, it holds that every girl came.

When we try to give the conditional semantics to exceptives one problem we face is the notion of the most similar world or situation. Specifically, the sentence in (64) can be true if no girl in the actual world came at all. Let's consider a scenario where the actual world is such that Eva is the leader of all girls and they do whatever she does. In this case in the worlds where Eva came that are the most similar to the actual world, Eva's coming would make every girl come, because this is what they usually do in the actual world. Thus, if the actual world is such that changing Eva's behavior can guarantee that other girls change their behavior, the sentence in (64) can be true even if in real life it is not true that not counting Eva, every girl came.

Our intuitions are different for the sentence with an exceptive in (66). This sentence cannot be true in the scenario described above: (66) can only be true if in the actual world every girl other than Eva came.

(66) Every girl came except Eva ~~did not come~~.

Exceptive constructions are less flexible than their conditional paraphrases with respect to the notion of the similarity between the worlds (or situations). When we interpret (66), we only look at possible worlds (situations) where the facts about other people coming are exactly the same as in the actual world. The difference with the example with a counterfactual is that in that case we could also look at worlds where facts about other girls coming are allowed to change. Any analysis of clausal exceptives should take this difference into consideration.

3.3.1.2 Finding the Right Similarity Relation Between Situations

I want to model the domain subtraction inference as a claim that in all situations where the exceptive clause is false and the rest of the relevant facts are the same, every girl came. The question is what are 'the relevant facts'. One thing we concluded from the last section is that we want to look at situations where facts about other people coming remain the same as in the situation we are interested in.

The question is how we get access to the information about other individuals given that the reduced exceptive clause that is supposed to characterize the restriction on the possible situations we are looking at is simply *Eva did not come*. One fact we could use here is that according to the standard assumptions about ellipsis, a remnant of an elided clause is marked with focus (see Rooth 1992b, Merchant 2001, Wier 2014 among others). Thus, in (66) we have access not only to the proposition denoted by *Eva did not come*, but also to its focus alternatives formed by substituting the element marked with focus (namely, *Eva*) by other possible elements of the same semantic type. The focus value of the sentence *Eva*$_F$ *did not come* is given in (67).

(67) $[[\text{Eva}_F \text{ did not come}]]^{gF} = \lambda p.\exists x[p=[\lambda s'.x \text{ did not come in } s']]=$
$\{\lambda s.\text{Eva did not come in s}, \lambda s.\text{Sveta did not come in s}, \lambda s.\text{Maria did not come in s}, \lambda s.\text{Anna did not come in s}, \lambda s.\text{ Bill did not come in s}, \lambda s.\text{John did not come in s, etc}\ldots\}$

Given that ellipsis provides us with access to focus alternatives, the situations where facts about Eva are different than in the actual topic situation s_0 and the facts about other people are the same can be described by the function in (68).

(68) λs. Eva came in s
$\quad$ & $\forall p[p \neq [\lambda s'.\neg \text{Eva came in s'}]$ & $p \in [[\text{Eva}_F \text{ did not come}]]^{gF} \rightarrow p(s)=p(s_0)]$

This is a set of situations where Eva came but the propositions describing facts about other people coming retain the same value as in s_0. If Maria did not come in s_0, then the situations we are looking at in (68) are the situations where Maria did not come. If Maria came in s_0, then the situations were looking at are the situations where Maria came.

It is worth noting that in the situations described by the function in (68), the facts related to coming remain the same as in the topic situation not only for girls, but also for all the remaining individuals. This is because the focus alternatives to *Eva* include *John*, *Bill*, etc. One advantage of using this strategy is that we do not need to know in advance who is a girl in order to restrict the quantification over situations in the relevant way.

There is still some work that has to be done in order to capture the right notion of similarity between the possible situations where we will evaluate the truthfulness of the quantificational claim *every girl came* and the actual topic situation.

What we have in (68) will not be enough. As the first approximation, we could try to express the meaning of our example as (69): in all situations that are picked by (68) every girl came. This formula, however, does not reflect the truth conditions of the sentence with an exceptive that was given in (66).

(69) $\forall s[(\text{Eva came in } s \;\&\; \forall p[p \neq [\lambda s'. \neg\text{Eva came in } s'] \;\&\; p \in [[\text{Eva}_F \text{ did not come}]]^{gF} \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a girl in } s \rightarrow x \text{ came in } s]]$

The truth conditions given in (69) are too strong. Let's consider a scenario where all girls other than Eva came in s_0, but John and Bill did not come. This is totally compatible with the sentence of English in (66) we are considering here. There is a possible situation where John and Bill are girls, because of that (69) is false: it is not true that in all possible situations where facts regarding people (other than Eva) coming are the same as in s_0 all girls came, because there is a situation where John and Bill are girls and did not come. We are only interested in people who are girls in the actual topic situation. In order to capture this, we can use the fact that a predicate inside a DP can be evaluated with respect to a different situation than the situation with respect to which the main predicate of the sentence is evaluated. In other words, we want to fix the extension of the predicate denoted by *girl*.

This is what (70) does: it says that in all possible situations, where the facts about every person's (other than Eva's) not coming are the same as in the actual situation and where Eva came, it holds that all girls from the actual situation were there. The relevant difference between the first attempt in (69) and this improved version of it in (70) is boxed in (70): it is the situation variable.

(70) $\forall s[(\text{Eva came in } s \;\&\; \forall p[p \neq [\lambda s'. \neg\text{Eva came in } s'] \;\&\; p \in [[\text{Eva}_F \text{ did not come}]]^{gF} \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a girl in } \boxed{s_0} \rightarrow x \text{ came in } s]]$

The extension of the predicate denoted by *girl* is fixed: it is evaluated with respect to the actual topic situation and does not vary across possible situations. With (70) we have achieved what we wanted: we are saying that if that one fact about the actual situation were changed (specifically, the fact that Eva did not come), it would be true that all girls came.

This claim in (70) can be true only if every girl other than Eva came in s_0. This is because we are only looking at situations where facts about other people coming remained the same as in s_0. We have only changed one fact – a fact about Eva. What we have discovered about those situations is that everyone who is a girl in s_0 came in each of them.

Note that (70) does not entail that Eva is a girl or that she did not come. Let's consider the formula in (71) that is just like (70), but a clearly female name *Eva* is substituted by a clearly male name *John*. If all girls in the topic situation came, (71) is true. We keep all the facts about the actual situation constant across the possible situations in the domain of the universal quantifier over situations and we are looking at the situation where John came. But since he is not in the actual extension of the predicate 'girl' it does not matter if he came or not in the actual topic situation s_0. His coming or not coming cannot have any effect on the truthfulness of the quantificational claim.

(71) $\forall s[(\text{John came in } s \;\&\; \forall p[p \neq [\lambda s'.\neg \text{John came in } s'] \;\&\; p \in [[\text{John did not came}]]^{gF} \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

With (70) we have captured the domain subtraction inference: the quantificational claim is true if we are not looking at Eva. I will call this Conditional Domain Subtraction. We still need to figure out how to capture the containment inference (the inference that Eva is a girl).

In the next subsection I explain my assumptions about situations and about how the intensional independence of DPs is captured.

3.3.1.3 Intensional Independence of DPs

It is a well-established fact that a DP can be evaluated with respect to a world and a time that is not identical to the world and time with respect to which the main predicate of the sentence is evaluated (Fodor 1970; Enc 1986; Cresswell 1990, Percus 2000, Kratzer 2007, Keshet 2008, Schwarz 2009, Schwarz 2012, von Fintel & Heim 2011). This can be illustrated by the example in (72) from Keshet's work (Keshet 2008).

(72) If everyone in this room were outside, the room would be empty.

If 'everyone in this room' in (72) were evaluated with respect to the same world and time (or the same situation) as the predicate 'were outside', then the meaning of the antecedent would be contradictory. Given the well-motivated assumption that the entire sentence is interpreted as a universal quantifier over possible worlds with the *if*-clause serving as its restrictor (following Lewis 1975, Kratzer 1978, 1986), the sentence would be predicted to be vacuously true, since there are no worlds where the contradictory statement is true. However, the sentence in (72) has a contentful reading where the *if*-clause is not interpreted as a contradiction. It means that if everyone who is actually present in the room were to leave the room, the room would become empty.

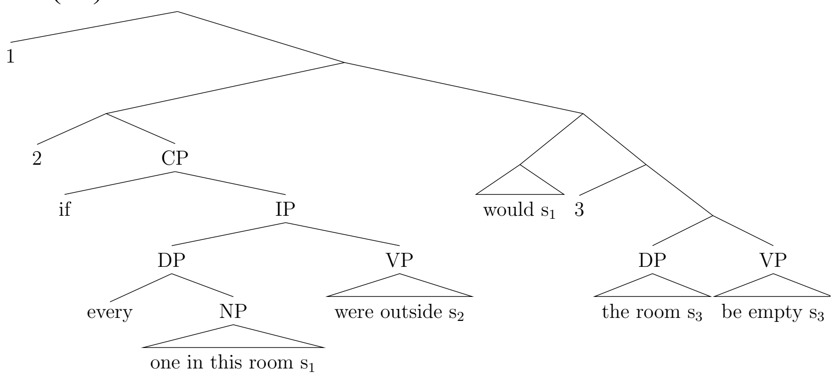
The same point is made by (73) (Keshet 2008). Let's consider a scenario where this sentence is said in a room full of people. It is perceived as false, because, of course, one person leaving would not guarantee that the room would become empty. Again, no one can be in the room and outside of the room at the same time, thus if the predicate inside the DP and the main predicate of the antecedent are evaluated in the same world the antecedent of the conditional sentence is contradictory and it does not pick any set of words. Under the assumption that the sentence is interpreted as a universal quantification over possible worlds described by the antecedent, the quantification domain would be empty. This means that this sentence would have to be vacuously true, contrary to our intuitions.

(73) If someone in this room were outside, the room would be empty.

These facts about (72) and (73) can be accounted for via the mechanism of indexed world variables introduced in syntax (Keshet 2008, Schwarz 2009, Schwarz 2012). Situations, being parts of possible worlds, can also do this job (Kratzer 2007, Schwarz 2009, Schwarz 2012). In this work I will use situations rather than possible worlds because situations can also be relevant restrictors for the domain of quantification (Kratzer 2007, Schwarz 2009, Schwarz 2012). I will assume a possibilistic situation semantics, where situations are viewed as parts of possible worlds (Kratzer 1989). Nothing I do here requires the use of situations as opposed to possible worlds. The ideas expressed here can be implemented in a system where possible worlds are used instead of situations.

The idea that I will adopt here is that each predicate including the ones that are inside a DP comes with its own unpronounced situation variable. Those variables are bound in syntax by lambda abstractors that are represented here as numerical indices at LF. My assumption is that a syntactic structure consisting of an abstractor and its sister is interpreted via the rule of predicate abstraction. Schematically the LF for (72) is given in (74). The variable inside the DP 'one in this room' carries an index different than the index on the variable of the main predicate and it is bound by the matrix lambda abstractor. Thus, the predicate will be evaluated with respect to the actual topic situation and not with respect to the situations that are quantified over by *would*.

(74)



For simplicity I will assume that *would* is looking for its scopal argument before it is looking for its restrictor, as shown in (75). The overall predicted meaning for (74) is as shown in (76). This captures the intuitive meaning this sentence has.

(75) $[[\text{would}]]^g = \lambda s'.\lambda p_{<st>}.\ \lambda q_{<st>}.\ \forall s[\text{s is similar to s' \& q(s)=1}\rightarrow\text{p(s)=1}]$

(76) $[[(74)]]^g=\lambda s'.\ \forall s[$s is similar to s' & every person in this room in s' is outside in s$\rightarrow$the room in s is empty in s$]$

I assume that the predicates, such as *girl* and *came* denote functions of type <s<et>>, they combine with a situation variable first. This is shown below. In this system the result of interpretation of an LF for an assertive sentence is always a proposition due to the fact that all situation variable have to be bound. We do not need to parameterize [[]] to a situation of evaluation. Situation variables are interpreted as traces and pronouns are.

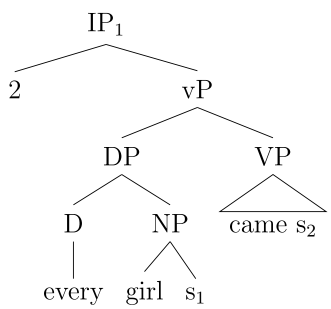
(77) $[[\text{girl}]]^g=\lambda s.\ \lambda x.$ x is a girl in s

(78) $[[\text{came}]]^g=\lambda s.\ \lambda z.$ z came in s

The assumption I will make about a simple quantificational sentence like the one in (79) is that it has an LF shown in (80), where both situation variables are bound by the matrix lambda abstractor.

(79) Every girl came.

(80)



3.3.2 Modeling Negative Entailment and Containment

We are now ready to explain the two remaining aspects of the meaning of exceptives that we need to capture: the negative entailment (the fact that Eva did not come) and the containment (the fact that Eva is a girl).

Given the assumptions about the underlying syntactic structure of the elided *except*-clause that I made here, we do not need to do any work to capture the inference that Eva did not come. This information is provided directly by the clause following *except*.

In von Fintel's system the negative entailment and containment were results of negating the quantificational claim if the set introduced by an exceptive was not subtracted from its domain (the Leastness Condition). In order to capture the containment inference, we can implement a similar idea in the conditional system. We can say that if the fact about Eva coming remains the same and the extension of the predicate 'girl' remains the same, the quantificational claim cannot be not true. The formula in (81) captures this idea (in (81) and everywhere else s_0 is the topic situation). As the reader can verify, (81) is equivalent to (82).

(81) $\forall s[\neg \text{Eva came in } s \rightarrow \neg \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

(82) $\forall s[\neg \text{Eva came in } s \rightarrow \exists x[x \text{ is a girl in } s_0 \; \& \; \neg x \text{ came in } s]]$

What (82) is saying is that in every situation where 'Eva came' is true, there is a girl from the topic situation who did not come. This can only be true if Eva is a girl in the topic situation. This is because there is only one way in which Eva's not coming can guarantee that there is a girl from the actual situation who did not come in all possible situations – Eva is that girl who did not come.

Let's consider a situation where Eva is not a girl in s_0. The formula in (82) cannot be true in this scenario. This is because there is a possible situation where everyone who is a girl from the topic situation s_0 came. It is not the true that there is a girl from the topic situation that did not come in that situation.

It is worth pointing out that the quantification over situations in (82) is not restricted to the situations that are most similar to the actual topic situation – the quantification is simply over every possible situation where Eva did not come. This means that (82) cannot be true in a scenario where Eva is not a girl but has a girlfriend that follows her everywhere in s_0. If the quantification over situations was restricted to the most similar situations, the claim in (82) would be true in this scenario.

I will call this claim Conditional Leastness. Conditional Leastness is a part of the meaning contributed by an exceptive that is responsible for the containment inference. As

I will show later, this is also the part of the meaning that provides the solution for the distribution puzzle. I will take Conditional Leastness to be the presuppositional component of the sentence in (66) (repeated here as (83)).

(83) Every girl came except Eva ~~did not come~~.

Applying the classic negation test shows that this is on the right track: (84) still requires that Eva is a girl.

(84) It is not true every girl came except Eva.

The question is whether the negative inference (that Eva did not come) has to be a part of the presuppositional content or not. I will assume here that it has to be mainly because if the negative claim were contributed as a conjunct to domain subtraction, we would not expect that (85) would be a well-formed discourse. We would expect it to be like (86), which is not well-formed.

(85) Eva did not come. Every girl except Eva came.

(86) #Eva did not come. Every girl other than Eva came and Eva did not come.

So far I have shown how the meaning of a specific sentence (83) with an exceptive clause can be expressed via three claims: Conditional Domain Subtraction, the Negative claim (it has to be a Positive claim in case the exceptive is operating on a negative quantifier), and Conditional Leastness. In what follows I will show how this result can be achieved in a compositional manner.

3.3.3 Compositional Semantics

A possible LF our example in (83) is shown in (87). In (87) the exceptive phrase moves from its connected position and leaves a trace s_1 of type s. In (87) it is shown as rightward movement because in English exceptive phrases introduced by *except* can only move rightwards[45]. Following the standard assumptions, a binder for this trace 1 is merged in syntax. This binder is merged above the binder 2 that binds the situation variable inside the vP – the variable with respect to which the main predicate of the quantificational sentence is evaluated. There is another situation variable s_3 inside the exceptive phrase – it is bound by the matrix lambda abstractor. The exceptive marker *except* is a sister of an IP *Eva did not come*. Following the standard assumptions, the remnant of ellipsis is marked with focus[46].

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[45] In this respect English except behaves like a typical connected exceptive by Hoeksema's (1987, 1995) criteria. It can only appear in the position directly adjacent to a quantificational DP or at the end of a sentence. This was discussed in Chapter 1.

(i) Every girl except Eva came.

(ii) Every girl came except Eva.

(iii) * Except Eva every girl came.

Compare this with a free exceptive 'except for', which is fine in all three positions.

(iv) Every girl except for Eva came.

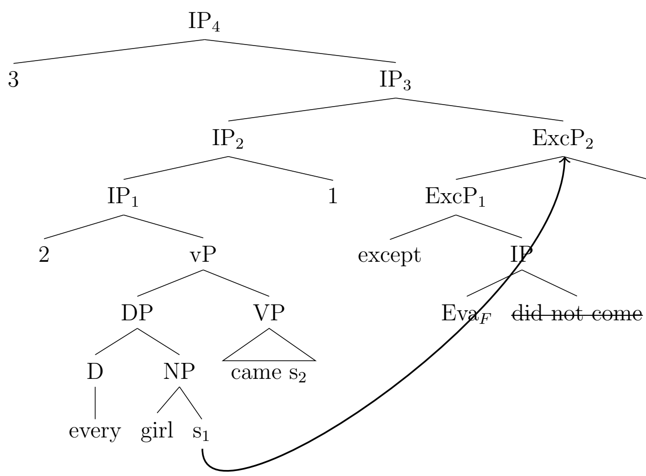
(v) Every girl came except for Eva.

(vii) Except for Eva every girl came.

[46] One clarification is due here: earlier in this work I used ~ to interpret focus. I did not do this here to keep the LFs simple. So instead of using ~ I made *except* to make reference to focus values of the clause following it. Using ~ would have been the proper way of doing things.

It is important to note here that this structure does not have to be derived by the movement of the exceptive phrase. Another option is the exceptive phrase it is based-generated in that position. In that case the insertion of the two lambda abstractors over situation variables in the sister of the exceptive phrase if forced by the semantic type of the exceptive phrase. Clausal exceptives that originate in a connected position (if there are any) have to move to be interpreted.

(87)



The denotation of the sister of the Exceptive Phrase$_2$ is shown in (88).

(88) $\lambda s'.\lambda s''. \forall x[x \text{ is a girl in } s' \rightarrow x \text{ came in } s'']$

The denotation for the node named Exceptive Phrase$_1$ is given in (89): this is a function that is looking for a possible situation, then an argument of type <s<st>> - the type of the sister of the exceptive phrase$_2$ and outputs a truth-value. Note that no independent semantics is given to the word *except*. The denotation is assigned to the constituent consisting of *except* and a sentence (φ). This is done because we need to make reference to focus alternatives of φ.

(89) $[[\text{except } \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}: \forall s[\ [[\varphi]]^g(s)=1 \rightarrow \neg M(s')(s)=1] \ \&\ [[\varphi]]^g(s')=1.$
$\forall s[(\neg[[\varphi]]^g(s)=1 \ \&\ \forall p[(p \neq [[\varphi]]^g \ \&\ p \in [[\varphi]]^{gF}) \rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

The exceptive phrase introduces a condition of definedness (Conditional Leastness and the claim following *except*): it is modeled as a restriction on the domain of this function. It also introduces the assertive component (Conditional Domain Subtraction).

Under these assumptions the predicted interpretation for the LF in (87) is shown in (90).

(90) $[[(87)]]^g\ (s_0) = 1$ iff $\forall s[(\text{Eva came in } s \ \&\ \forall p[(p \neq [\lambda s'.\ \neg\text{Eva came in } s'] \ \&\ p \in [[\text{Eva}_F \text{ did not come}]]^{gF}) \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

$[[(87)]]^g\ (s_0)$ is defined only if $\forall s[\neg\text{Eva came in } s \rightarrow \neg\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]] \ \&\ \neg\text{Eva came in } s_0$

As the reader can verify the presupposition in (90) is Conditional Leastness conjoined with the Negative claim and the at-issue content is Conditional Domain Subtraction.

I said earlier in this Chapter that the presence of negation in the *except*-clause has to be forced by the meaning because it has to be there if the quantifier is universal (and the generalization is positive) and not be there if the quantifier is negative. In the semantic theory I proposed this is forced by Conditional Leastness. Let me illustrate this on a specific example. Consider what happens if the ellipsis site does not contain negation as shown in (91).

(91) Every girl came except Eva ~~came~~.

In this case the presupposition generated by the system is as shown in (92), which is equivalent to (93). This presupposition will not be satisfied because of the first conjunct. Consequently, the sentence will not be defined. This is because there is no way to guarantee that in every situation where Eva came there is a girl who did not come. The only restriction on the universal quantification over situations in (93) is that those are the situations where Eva came. Regardless of whether Eva is a girl or not, there is a possible situation where every individual who is a girl in s_0 came. In that possible situation, it is not going to be the case that there is a girl from s_0 who did not come. Since the presupposition is not satisfied, the sentence is predicted to be undefined.

(92) $[[(91)]]^g$ (s_0) is defined only if
$\forall s[\text{Eva came in } s \rightarrow \neg\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$ & Eva came in s_0

(93) (92)= $\forall s[\text{Eva came in } s \rightarrow \exists x[x \text{ is a girl in } s_0 \;\&\; \neg x \text{ came in } s]]$ &
Eva came in s_0

The last point that I would like to address here concerns the idea that the structure shown in (87) can be base generated and not derived by the movement of the exceptive phrase. I suggested that the sister of the exceptive phrase has to have two lambda binders over situation variables and this is forced by the type of the exceptive phrase (it is looking for an argument of type <s<st>>). The worry I would like to address here is as follows: if the structure is based generated, how do we ensure that the lambda abstractors over situations in the sister of the exceptive phrase appear in the right order; what happens if the order of the relative positions of 1 and 2 is flipped in (87). The answer to this worry is that in this case the presupposition is going to be generated that cannot be satisfied. The presupposition that will be generated in that scenario is shown below in (94). It cannot be satisfied because of the first conjunct: it is simply not true that in every situation where Eva came there is a girl (who did not come in s_0). The predicate 'girl' can change its extension from a situation to a situation. Thus, there is a possible situation where Eva came and no girl at all. Because of that the presupposition is not going to be satisfied. Since there is another LF available that does not generate this presupposition that cannot be satisfied, this LF with the wrong order of lambda binders over the situation variables is ruled out.

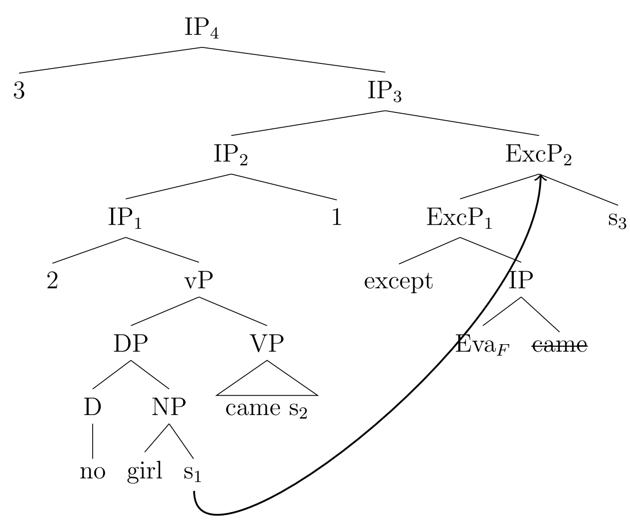
(94) $\forall$s[Eva came in s $\rightarrow \neg\forall$x[x is a girl in s$\rightarrow$ x came in s_0]] & Eva came in s_0 =
$\forall$s[Eva came in s $\rightarrow \exists$x[x is a girl in s & $\neg$x came in s_0]] & Eva came in s_0

3.3.4 Negative Quantifiers

This proposal makes the correct prediction about the interaction of *except* with a negative quantificational claim. The assumed LF for the sentence with a negative quantifier in (95) is given in (96). Again, the remnant of ellipsis (*Eva*) is focused.

(95) No girl came except Eva_F ~~came~~.

(96)



The denotation of the sister of the exceptive phrase$_2$ is shown in (97).

(97) $\lambda s'\lambda s''. \neg\exists x[x \text{ is a girl in } s' \ \& \ x \text{ came in } s'']$

Given the denotation for the *except*-clause in (89), the predicted interpretation for the entire sentence (95) is in (98). It again has a presuppositional component (Conditional Leastness and the Positive claim) and an at-issue component - Conditional Domain Subtraction.

(98) $[[(95)]]^g(s_0) = 1$ iff $\forall s[\neg \text{Eva came in } s \ \& \ \forall p[(p \neq [\lambda s'. \text{ Eva came in } s'] \ \& \ p \in [[\text{Eva}_F \text{ came}]]^{gF}) \rightarrow p(s)=p(s_0)]) \rightarrow \neg\exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ came in } s]]$

$[[(95)]]^g(s_0)$ is defined only if
$\forall s[\text{Eva came in } s \rightarrow \exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ came in } s]] \ \& \ \text{Eva came in } s_0$

From the first conjunct in the presuppositional component we know that every possible situation in which Eva came has a girl from the topic situation who came in that possible situation. This can only be the case if Eva is a girl in the actual topic situation. Thus, the containment entailment comes as a result of Conditional Leastness. The second conjunct states that Eva came in s_0.

From the assertive component we learn that if we change one thing – namely the fact about Eva coming – and kept all the other facts about other people coming the same, it would be the case that no girl from the actual topic situation came. This correctly captures the domain subtraction inference.

Conditional Leastness is also responsible for the fact that there is only one way to resolve the ellipsis. Let's look at what happens if the ellipsis is resolved in the wrong way as shown in (99).

(99) *No girl came except Eva$_F$ ~~did not come~~.

The predicted presupposition in that case cannot be satisfied. This is shown in (100): there is no way the first conjunct can be true because Eva not coming cannot guarantee that some girl came in every possible situation.

(100) $[[(99)]]^g (s_0)$ is defined only if
$\forall s[\neg \text{Eva came in } s \rightarrow \exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ came in } s]] \ \& \ \neg \text{Eva came in } s_0$

3.3.5 The Distribution Puzzle

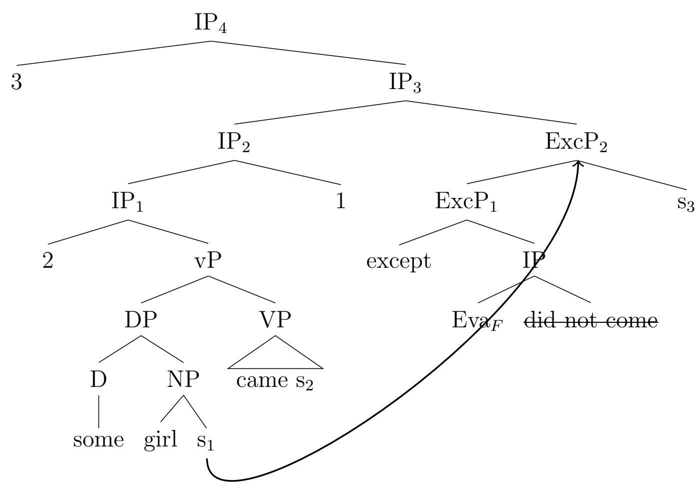
3.3.5.1 Existentials

The conditional analysis proposed here has a solution to the distribution puzzle. However, unlike von Fintel's original proposal, it does not derive in a straightforward way a contradiction if the denotation given in (89) is applied to a constituent containing an existential quantifier instead of a universal. An additional assumption is required in order to derive the incompatibility of exceptives with existential quantifiers. This assumption is that an existential cannot be used when it is known that the restrictor denotes a singleton set, in other words, when it is known that the conditions for the usage of a definite are met.

Let's consider the ungrammatical example in (101). The LF analogous to the LFs for sentences with a universal quantifier and a negative quantifier is shown in (102).

(101) *Some girl came except Eva$_F$ ~~did not come.~~

(102)



The denotation of the sister of the exceptive phrase_2 is given in (103).

(103) $\lambda s'\lambda s''.\ \exists x[x \text{ is a girl in } s' \ \&\ x \text{ came in } s'']$

The interpretation that is predicted for this sentence is shown in (104) (the presupposition) and (105) (the assertive part).

(104) Presupposition: $[[(101)]]^g\ (s_0)$ is defined only if
$\forall s[\neg \text{Eva came in } s \rightarrow \neg\exists x[x \text{ is a girl in } s_0 \ \&\ x \text{ came in } s]] \ \&\ \neg \text{ Eva came in } s_0$

(105) Assertion: $[[(101)]]^g\ (s_0) = 1$ iff
$\forall s[(\text{Eva came in } s \ \&\ \forall p[(p \neq [\lambda s'.\ \neg\text{Eva came in } s'] \ \&\ p \in [[\text{Eva}_F \text{ did not come}]]^{g^F}) \rightarrow$
$p(s)=p(s_0)]) \rightarrow \exists x[x \text{ is a girl in } s_0 \ \&\ x \text{ came in } s]]$

What we learn from the presupposition given in (104) is that it is either the case that Eva is the only girl in s_0 or that there are no girls in s_0. The two possible outcomes come from two possible scenarios: one where Eva is a girl and the other one where she is not a girl.

Let's first consider the scenario where Eva is not a girl in s_0. In this case, her presence or absence does not have anything effect on the truth-value of the quantificational claim 'all girls from s_0 came in s' in a possible situation s. How can the presupposition be true under this assumption? Only if there are no girls at all in s_0 can it be the case that in all situations where a non-girl Eva did not come, no girl from the actual topic situation came. Imagine there is a girl, say Sveta in s_0. Then there is a possible situation where Eva (non-girl) did not come and where Sveta came. Thus the simple existence of a girl in s_0 would make the presupposition in (104) impossible to satisfy under the assumption that Eva is not a girl.

This possibility – that there are no girls in the actual topic situation – is, however, not compatible with the assertion in (105) that states that in all situations where Eva came and the facts about other people are the same, there is some girl from s_0 who came. This can only be true if there are girls in s_0.

Now let's consider a scenario where Eva is a girl and there are other girls in s_0, say Sveta and Olga. It cannot be true that in all situations where she did not come, there are no girls from s_0 who came. So let's look at situations where Eva did not come. Among them, there are possible situations, where Olga or Sveta – other girls from s_0 came, so (104) cannot be true. There is only one way Eva's not coming can absolutely guarantee that no girl from s_0 came: specifically, it can be the case only if she is the only girl in s_0.

The assertion does not rule out the possibility that Eva is the only girl in s_0. If she is the only girl and she did not come, no girls came, but if we changed this one fact about her coming, there would be a girl who came. Thus, the presupposition in (104) and the assertion in (105) can be true together. This requires Eva being the only girl in the actual topic situation.

Because there is a scenario under which the sentence containing an existential and an exceptive is predicted to be defined and true, the conditional semantics for clausal exceptives, unlike von Fintel's semantics for phrasal exceptives, requires some additional assumption in order to rule out (101).

However, the assumption required here has an independent motivation. The ungrammatical sentence in (101) is only predicted to be coherent if Eva is the only girl in s_0. There is a well-established restriction against the use of an indefinite article (such as 'a' and 'some') in a situation where the conditions for the use of a definite article are met, i.e. there is a unique individual that is in the extension of the predicate denoted by the NP inside the DP.

The observation that indefinites come with an anti-uniqueness inference goes back to the work of Hawkins (1978, 1991) and Heim (1991). The sentence in (106) cannot be felicitously uttered if it is known that a person can only have one wife. In the same way, the sentence in (107) comes with an inference that the victim has more than one father. The sentence in (108) is infelicitous because there is only one number in the extension of the predicate denoted by *weight of our tent*.

(106) # Yesterday, I talked to a wife of John's (Alonso-Ovalle, Menéndez-Benito, Schwarz 2011)

(107) # I interviewed a father of the victim. (Hawkins 1991)

(108) # A weight of our tent is under 4 lbs. (Heim 1991)

Heim (1991) proposed to derive this anti-uniqueness inference via the principle known as Maximize Presuppositions.

(109) Maximize Presuppositions: Among a set of alternatives, use the felicitous sentence with the strongest presupposition. (Chemla 2008, as cited in Alonso-Ovalle, Menéndez-Benito, Schwarz 2011)

The idea is that in a situation where an indefinite competes with another expression that presupposes that there is only one individual that satisfies the predicate in the restrictor of the determiner, namely a definite, and it is in fact known that there is only one such individual, an expression with the maximal presupposition, namely the definite, has to be used.

I propose that the sentence in (101) is ungrammatical because the presupposition of this sentence can only be satisfied and compatible with the assertion only if there is just one girl in the topic situation - Eva -, and in this case the use of an indefinite is blocked.

There is also another principle on top of the anti-uniqueness condition imposed by indefinites that blocks the use of (101) in case Eva is the only girl in the topic situation. This principle is the anti-familiarity condition. Let's consider the discourse in (110). This discourse is not coherent if Eva is the girl who came into the room.

(110) #Some girl$_1$ came into the room. Eva$_1$ was wearing red.

It can be the case that there are many girls in the topic situation; this girl who entered need not be the only one. But we cannot use the proper name *Eva* to refer back to her, because if we initially knew that this was Eva we could not have used *some girl*. There is a family of approaches to the semantics of definite descriptions where familiarity is considered to be the major part of their meaning (Heim 1982, Groenendijk and Stokhof 1990, Chierchia 1995, Kamp 1981, Kamp and Reyle 1993, Schwarz 2009). It is possible that anti-familiarity also comes as a result of competition with definite descriptions and applying Maximize Presuppositions. I will not speculate on this point here, as this is not important for the purposes of this project. What is important is that there is a principle that prohibits the use of an indefinite in a sentence where the identity of a referent is known[47].

I propose that the reason why sentences where an exceptive operates on an existential like the one in (101) are perceived as ungrammatical is that the meaning they get is ill-formed. The use of an existential signals that the speaker does not believe that there is only one object that satisfies the restrictor of the existential. The only other way the presupposition generated by an exceptive can be satisfied is if the restrictor is empty. However, in that case whenever the sentence is defined, it is false. There is no way for it to be true. This problem cannot be fixed by substituting all non-functional elements of a sentence by different lexical items: this problem is predicted to arise whenever a clausal exceptive is put together with an existential. Following Gajewski (2002), who proposed that contradictions that cannot be repaired by changing all non-functional elements are perceived as ungrammatical, I propose that (101) is ungrammatical because of its meaning.

We run into the same issue with numeral indefinites as well. Let's consider the ungrammatical sentence in (111). The analysis suggested here predicts no conflict between the presupposition and the assertion if there are exactly five girls overall in the situation. To put it informally, the analysis predicts that this sentence carries the presupposition that if the value of the proposition denoted by 'Eva came' is not changed, there is no way to

[47] One exception to this generalization is sentences with namely: some girl, namely Eva, came.

make ‘5 girls came’ true. The predicted meaning is that if we change only this fact, it is going to be true that 5 girls came.

(111) *Five girls came except Eva ~~came.~~

If there are more than five girls in the topic situation, however, the semantics developed here predicts a conflict between the presupposition and the assertion. The presupposition requires that in every situation where facts about Eva coming are the same as in the actual topic situation it is not true that five girls came. Let’s imagine that there are six girls. Then there is one situation where all of the girls other than Eva came, and thus there are five girls who came and the presupposition is false. Therefore, the presupposition can be satisfied only if there are exactly five girls in the topic situation or less than five girls overall. The latter possibility is ruled out because it is not compatible with the assertion.

Again, since the meaning proposed here is well-formed under this unique scenario where an existential is true when the universal is true, we would have to appeal to some principle external to the theory to rule (111) out. Specifically, we would have to appeal to Maximize Presupposition again and say that the sentence is ruled out because an indefinite cannot be used in a situation where it is known that there are exactly five girls.

We can construct an example similar to the ones in (106)-(108) illustrating that the same restriction exists for bare numerals. For example, (112) cannot be said in the scenario where it is known that that the victim only has two parents.

(112) #I interviewed two parents of the victim.

3.3.5.2 Definite Descriptions

I proposed that the reason why exceptives are not compatible with existential quantifiers was that the presupposition introduced by an exceptive can only be satisfied and compatible with the assertion if the individual introduced by an exceptive was the only individual satisfying the restrictor of the indefinite in the topic situation. However, in this case the usage of an existential is blocked by an independent principle prohibiting using existentials when a definite can be used. One naturally can ask at this point: what about definites? Why is (113) ungrammatical?

(113) *The girl came except Eva_F ~~did not come~~.

The components of the meaning predicted by the proposed system for (113) is given in (114) and (115).

(114) Presupposition: $[[(113)]]^g(s_0)$ is defined only if
$\forall s[\neg\text{Eva came in } s \rightarrow \neg(\iota x[x \text{ is a girl in } s_0]) \text{ came in } s] \;\&\; \neg\text{Eva came in } s_0$

(115) Assertion: $[[(113)]]^g(s_0) = 1$ iff
$\forall s[(\text{Eva came in } s \;\&\; \forall p[(p \neq [\lambda s'.\ \neg\text{Eva came in } s'] \;\&\; p \in [[\text{Eva}_F \text{ did not come}]]^{gF}) \rightarrow p(s) = p(s_0)]) \rightarrow (\iota x[x \text{ is a girl in } s_0]) \text{ came in } s]$

The presupposition and the assertion are consistent with each other. From the presupposition we learn that Eva is the girl and that she did not come in s_0. Obviously, if the fact about Eva coming was different, the fact about the girl coming would be different as well, given that Eva is the girl.

There are two problems with (113). The first is that there is the presupposition requires that Eva is the girl. However, there is a general prohibition against referring to one and the same individual with a definite description and with a name in the same sentence even if there is no c-command (shown in (116)). (116) is improved if *the girl* is used instead of *Eva* (as shown in (117)[48]) and becomes grammatical if *she* is used instead of *Eva* (as shown in (118))[49].

(116) *Because [the girl]$_1$ was late, Eva$_1$ was fired.

(117) *Because [the girl]$_1$ was late, [the girl]$_1$ was fired.

(118) *Because [the girl]$_1$ was late, she$_1$ was fired.

However, (113) does not improve in the same way. Thus, the restriction observed in (116) cannot be general solution to the puzzle posed by (113).

(119) *[The girl]$_1$ came except [the girl]$_{1F}$ ~~did not come~~.

(120) *[The girl]$_1$ came except her$_F$ ~~did not come~~.

The second problem with (113) is that whenever the presupposition is defined, the at-issue content is true: from the presupposition we learn that [λs. $\neg$Eva came in s] and [λs. $\neg$ (ιx[x is a girl in s_0]) came in s] are equivalent. We do not need to assert that whenever the first one is false, the second one is false too, that is not novel information; this is just an analytical fact that follows from the presupposition. In other words, if Eva is the girl in s_0 (as required by the presupposition), there is no way the assertion given in (115) can be

[48] This was pointed out to me by Kyle Johnson.

[49] This was pointed out to me by Keny Chatain.

false: of course in every situation where the girl from s_0 came, it holds that the girl from s_0 came.

Thus, the meaning (113) produces is ill-formed. This sentence is predicted to be a tautology in a sense that whenever it is defined, it is true, there is no way for it to be false. Again, this problem cannot be fixed by changing the non-functional elements of the sentence. I adopt Gajewski's idea (2002) that tautologies with this property are perceived as ungrammatical and propose that this explains the badness of (113).

It is also the case that plural definite descriptions are not compatible with *except* (as shown in (121))[50]. Adding *all* before *the girls* makes the sentence grammatical (122).

(121) *The girls came except Eva_F ~~did not come~~.

(122) All the girls came except Eva ~~did not come~~.

I propose that the problem with (121) is in the presupposition generated by the system. One of the contributions of *except* is that there is a law-like relationship between the two clauses. In (121) it would be the claim that in every situation where Eva did not come, it is not true that the girls of s_0 came. Now we need to consider what happens when negation is applied to a claim containing a plural definite. One observation that was made in the literature is that plurals come a homogeneity presupposition (Schwarzschild 1994, Löbner 1987, 2000,

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[50] As shown by Hoeksema (1987) free exceptives, like except for, are compatible with definite plurals. Brisson (2003) points out that this depends on the predicate:

i.The students built a raft, except for Maggie and Josh.

ii. * The students elected Mike, except for the sophomores.

I don't know what makes free exceptives are compatible with definite plurals.

Gajewski 2005, Breheny 2005, Büring & Križ 2013, Spector 2013, Magri 2014, Križ 2015a,b): applying negation to the claim 'the girls came' gives us 'the girls (all of them) did not come'. The claim that that in every situation where Eva did not come, the girls of s_0 (all of them) did not come can be true only if Eva is the only girl in s_0. Then (121) is predicted to be ill-formed due to the conflict between the plural marking on the noun and the requirement that Eva is the only girl in s_0 introduced by the presupposition. My tentative explanation for the fact that adding *all* makes the sentence grammatical is that *all* removes the homogeneity presupposition from the plural (Löbner 2000, Križ 2015b) and essentially makes the plural definite behave like a universal quantifier with respect to negation.

3.4 The Advantages of the Proposed Analysis

3.4.1 A General Overview

In the previous section I proposed a novel semantic analysis for *except*. This analysis differs from the existing analyses in that it is based on the assumption that an exceptive marker introduces a clause and not just a DP. I have shown how this analysis captures the facts that are captured by the classic analysis. So far I have shown how the analysis developed here captures the inferences *except* comes with in cases it applies to a universal and a negative quantifier and how the distribution fact (the observation that like all other exceptives *except* cannot be applied to an existential quantifier) is explained in the conditional system. The goal of this section is to show how this new analysis captures the cases that are not captured in the classic von Fintel's system.

I will apply my analysis to the three crucial types of cases here that were introduced in Section 3.2. The first two are built on the observation that *except*-phrases in English can host PPs. The first one is given in (123). The exceptive phrase here contains a PP with a meaningful preposition.

(123) I met a student from every city in Spain except from Barcelona.

Based on the discussion in Section 3.2, I suggest that the underlying syntactic structure of (123) is as shown in (124). This structure is derived from (125) by moving the PP *from Barcelona* and eliding the rest of the clause.

(124) I met a student from every city in Spain except [from Barcelona$_F$] ~~I did not meet a student.~~

(125) I met a student from every city in Spain except I did not meet [a student from Barcelona].

The second case I will consider is the one where an exceptive phrase contains a prepositional phrase that has no correlate (a corresponding antecedent) in the main clause (126) (the sprouting). I will show how the contrast between (126) and (127) follows from the analysis I have proposed in a natural way.

(126) I got no presents except from my mom.

(127) #I got no presents except my mom.

I propose that (126) is derived from (128) via movement of the PP and deleting the rest of the structure, as shown in (129).

(128) I got no presents except I got [a present from my mom].

(129) I got no presents except from [my mom]$_F$ ~~I got a present.~~

I will call this case *sprouting* because a similar phenomenon exists in sluicing and it bears this name in the literature describing that phenomenon (Chung et al. 1995). A parallel example with sluicing is given in (130).

(130) I got a present but I don't remember from whom.

The ellipsis site in this case contains an existential quantificational expression *a present*, whereas its corresponding antecedent in the main clause is a negative quantifier *no presents*. There is independent evidence that such a mismatch is possible in ellipsis. One example of such a mismatch involving VP-ellipsis is given in (131).

(131) I got no presents. But John did ~~get a present.~~

The third case I will consider is a case where an exceptive contains multiple syntactic constituents, like the one in (132). The classic analysis does not have anything to say about how the meaning of those sentences is constructed. For those sentences an elliptical syntactic analysis seems like the only possible option.

(132) Every girl danced with every boy everywhere except Eva with Bill in the kitchen.

I suggest that the source for (132) is (133). It is derived by moving the three phrases to the edge of the clause and eliding the rest of the material in the clause as shown in (134).

(133) Every girl danced with every boy everywhere except Eva did not dance with Bill in the kitchen.

(134) Every girl danced with every boy everywhere except Eva$_F$ with Bill$_F$ in the kitchen$_F$ ~~did not dance.~~

It is worth reminding the reader of the generalization we came to regarding these cases: if an exceptive contains multiple elements, each of those elements has to have a corresponding universal quantifier in the main clause. This is the restriction that we observe in (135) and (136).

(135) *Every girl danced with some boy except Eva with Bill.

(136) *Some girl danced with every boy except Eva with Bill.

Another fact that we want to derive is that this is not a general prohibition on the presence of existential quantifiers in sentences with multiple remnants as is shown by the well-formed example (137), which contains an existential *somewhere.*

(137) Every girl danced with every boy somewhere except Eva with Bill.

One important clarification is due here. All correlates have to be universal quantifiers in the context of the entire sentence. For example, the sentence in (138) is grammatical, even though given the standard assumption an NPI *any* is interpreted as an existential. However, in the context of the entire sentence under the scope of the negative quantifier it gets an interpretation where it is equivalent to a universal quantifier. In (139) and (140) we observe the opposite situation. In the ungrammatical example (139) both quantifiers *no girl* and *every boy* taken in isolation are universal, however, when *every boy* appears under the scope of a negative quantifier its interpretation is equivalent to an existential quantifier. The same problem makes (140) ungrammatical: the lower negative quantifier *no boy* under the scope of another negative quantifier gets the interpretation that is equivalent to an existential quantifier.

(138) No girl danced with any boy except Eva with Bill.

(139) *No girl danced with every boy except Eva with Bill.

(140) *No girl danced with no boy except Eva with Bill.

Those are the facts that a theory of clausal exceptives has to capture. In what follows I will show how the theory developed in the previous sections does that in a natural way.

3.4.2 Meaningful Prepositions

In this section I will provide a derivation for the sentence with the PP *from Barcelona* in the exceptive phrase repeated below in (141).

(141) I met a student from every city in Spain except ~~I did not meet a student~~ from Barcelona_F.

This sentence comes with the following aspects of meaning:

(142) Domain subtraction: I met a student from every city in Spain that is not Barcelona.

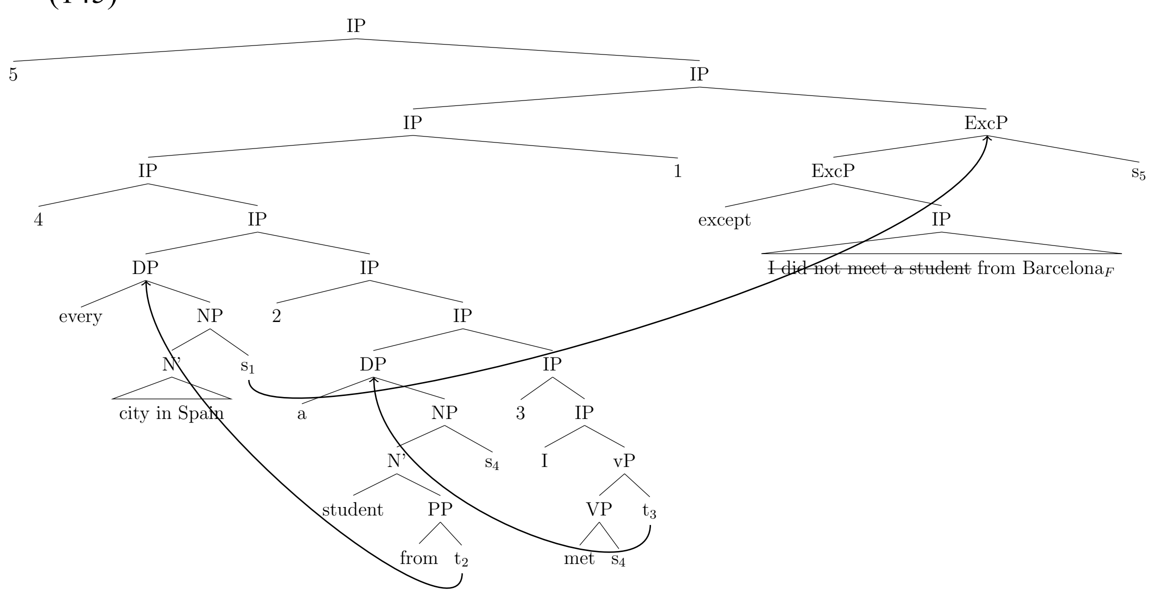
(143) Containment: Barcelona is a city in Spain.

(144) Negative entailment: I met no student from Barcelona.

These are the inferences that the analysis captures. The LF for this sentence is given in (145). Following the standard assumption, the quantificational object of the main clause (*a student from every city in Spain except from Barcelona*) is raised. A trace of type e (t_3) bound by the lambda abstractor (3) is left on its original place. Further, the quantificational phrase inside this object (*every city in Spain except from Barcelona*) undergoes QR, leaving a trace of type e (t_2) that is bound by the abstractor 2. This is done in order to get the right scope for *every city in Spain*: it has to be interpreted in the position higher than the existential *a student from…* because a reasonable interpretation for this sentence requires there to be different students for each city. Again, I follow the standard practice in assuming that the situation variable (s_4) of the main predicate *met* is bound by the lambda abstractor (4) at LF. The same abstractor binds the situation variable inside the restrictor of an indefinite.

Following the assumptions I made here about exceptives, the exceptive phrase starts as a sister to NP (*city in Spain*). It undergoes QR, leaves a trace of type s (s_1). It is bound by the lambda abstractor (1). I reconstructed the PP inside the *except*-clause.

(145)



With those assumptions about the structure of the main clause, the sister of Exceptive Phrase$_2$ gets the interpretation given in (146).

(146) $\lambda s.\lambda s'.\forall x[\text{x is a city in Spain in s} \rightarrow \exists y[\text{y is a student from x s' \& I met y in s'}]]$

The remnant of ellipsis inside the clause following except is focused (*Barcelona*). The denotation for the *except*-clause is given in (147). It combines with a situation with respect to which the entire sentence is evaluated and with the sister of the Exceptive Phrase$_2$ given above. In its presupposition it says that I did not meet a student from Barcelona and in every situation where that happened the quantificational phrase is false (thus, there is a city in Spain such that met no student from that city). In its assertive part it says that if we change the value for the *I did not meet a student from Barcelona* while keeping the truth-value for all of its focus alternatives (i.e. the propositions denoted by *I did not meet a student from Madrid*, *I did not meet a student from Valencia*, *I did not meet a student from Moscow*, *I did not meet a student from New York*) the same, the quantificational phrase will be true (every city in Spain is such that I met a student from it).

(147) $[[\text{except I did not meet a student from Barcelona}_F]]^g=$
$\lambda s'.\lambda M_{<s<st>>}\mathbf{:}\ \forall s[[[\text{I did not meet a student from Barcelona}_F]]^g(s) \rightarrow \neg M(s')(s)=1]$
$\&\ [[\text{I did not meet a student from Barcelona}_F]]^g\ (s')=1\ \mathbf{.}$
$\forall s[(\neg[[\text{I did not meet a student from Barcelona}]]^g\ (s)=1$
$\&\ \forall p[(p\neq[[\text{I did not meet a student from Barcelona}]]^g\ \&\ p\in[[\text{ I did not meet a student from Barcelona}_F]]^{gF})\rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

The predicted resulting interpretation for the sentence (141) is given in (148) and (149). The formulas in (148) and (149) are rather long, but the intuition behind them is simple. The first conjunct in the presupposition says that in every situation where I did not meet a student from Barcelona there is a thing that is a city in Spain in s_0 such that I met no student from that city. This can only be the case if Barcelona is a city in Spain. This captures the containment inference. The second conjunct states that I met no student from Barcelona (this is what gives us the negative inference).

(148) Presupposition: $[[(141)]]^g(s_0)$ is defined only if
$\forall s[\neg\exists z[z \text{ is a student from Barcelona in } s \;\&\; \text{I met } z \text{ in } s] \rightarrow \exists x[x \text{ is a city in Spain in } s_0 \;\&\neg\exists y[y \text{ is a student from } x \text{ in } s \;\&\; \text{I met } y \text{ in } s]]] \;\&\; \neg\exists b[b \text{ is a student from Barcelona } s_0 \;\&\; \text{I met } b \text{ in } s_0]$

The assertion says that if we look at the situations where I did meet a student from Barcelona and the facts about me meeting a student from all other cities are the same, we will discover that in all of them I met a student from every city in Spain. This captures the intuition that meeting a student from Barcelona is the only thing that stands in a way of 'I met a student from every city' being true.

(149) Assertion: $[[(141)]]]^g(s_0) = 1$ iff
$\forall s[(\exists z[z \text{ is a student from Barcelona in } s \;\&\; \text{I met } z \text{ in } s] \;\&\; \forall p[(p\neq[\lambda s'.\, \neg\exists a[a \text{ is a student from Barcelona } s' \;\&\; \text{I met } a \text{ in } s']] \;\&\; p\in[[\text{I did not meet a student from Barcelona}_F]]^{gF}) \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a city in Spain in } s_0 \rightarrow \exists y[y \text{ is a student from } x \text{ } s \;\&\; \text{I met } y \text{ in } s]]$

To sum up the key findings here, the presupposition predicted by this analysis captures the containment (Barcelona is a city in Spain) and the negative entailment (I met no student from Barcelona). The assertion captures the domain subtraction inference: the sentence is true if I met a student from every city in Spain other than Barcelona.

3.4.3 Sprouting

In this section I will discuss the case in (126) (repeated here as (150)) where an exceptive clause contains a PP that does not have a correlate in the main clause. I suggested that the underlying syntactic structure of (150) is as shown in (151).

(150) I got no presents except from my mom.

(151) I got no presents except from my mom ~~I got a present.~~

Before going to the details of the analysis of this case, let me list the meaning components of this sentence. (151) comes with the set of inferences in (152)-(154). The containment entailment is somewhat uninformative. And given that the quantifier is negative, there is a positive entailment contributed by the exceptive.

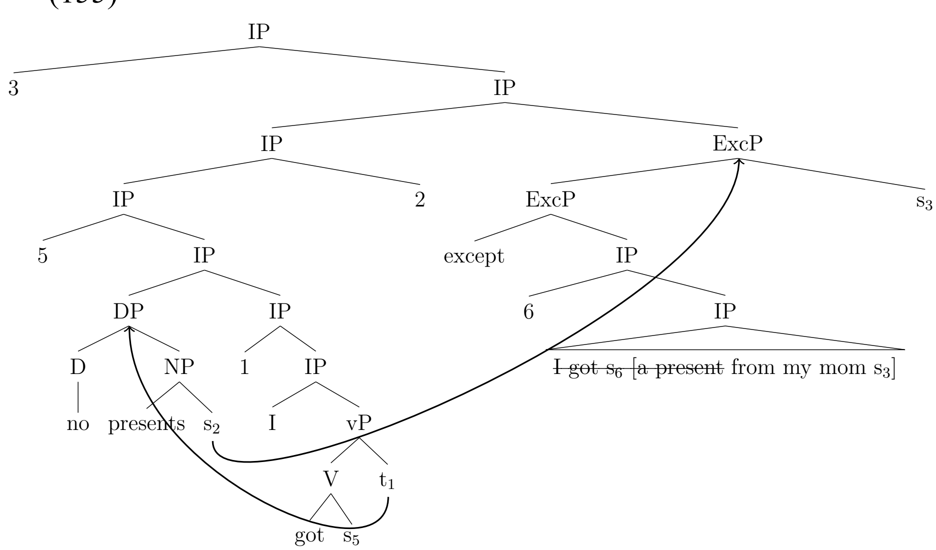
(152) Domain subtraction: I got no presents from people other than my mom.

(153) Containment: A present from my mom is a present.

(154) Positive entailment: I got a present from my mom.

The LF for (151) is shown in (155). The assumptions about the structure of the main clause are pretty standard. *No presents* undergoes QR, leaves a trace of type e (t_1) that is bound by the lambda abstractor 1. The situation variable of the main predicate *got* (s_5) is bound by the lambda abstractor (5). The Exceptive Phrase starts as a sister of the predicate inside the DP (*present*), undergoes extraposition, leaving a trace of type s (s_2), this trace is bound by the lambda abstractor (2). I reconstructed the PP inside the DP inside the *except*-clause.

(155)



Under these assumption the meaning of the sister of the exceptive-clause is as shown in (156).

(156) $\lambda s'.\lambda s.\neg\exists x$[x is a present in s' & I got x in s]

In the LF in (155) I have shown the structure of the *except*-clause in more detail than in the LFs shown before. This is done because we need to pay attention to the situation variables inside the *except*-clause in this specific case. This is an IP that contains two predicates: NP *present from my mom* and the main predicate *got*. Potentially, there are two possible options for the situation variable inside the NP: it can be bound by the lambda abstractor inside its own clause (6) or it can be bound by the highest abstractor (3) (in this case the predicate will get the transparent evaluation – will be always evaluated with respect to the topic situation s_0, it will not be bound by the quantifier over situations). In the LF in (155) I have chosen the latter option and I will explain the reasoning behind that choice after I provide the truth-conditions for this sentence.

The predicted presupposition of this sentence is shown in (157). The first conjunct is kind of uninformative here: it says that if we look at situations where I got a present from my mom we will find that in all of them there is a present that I have gotten. From the second conjunct we learn that I did get a present from my mom.

(157) Presupposition: $[[(151)]]^g$ (s_0) is defined only if
$\forall s[\exists x$[x is a present in s_0 & I got x from my mom in s] $\rightarrow \exists y$[y is a present in s_0 & I got y in s]] & $\exists z$[z is a present s_0 & I got z from my mom in s_0]

The predicted assertion is in (158). This is the claim that if we look at situations where all focus alternatives for *I got a present from [my mom]*$_F$ (i.e. propositions denoted by *I got a* *present from John, I got a present from Mary, I got a present from Ann etc*) have the same truth value as in s_0 and the value for the proposition denoted by *I got a present from my mom* is the opposite (if we look at situations where I did not get a present from my mom) we will find that I got no presents in those situations.

(158) Assertion: $[[(151)]]^g (s_0) = 1$ iff
$\forall s[(\neg\exists x[x \text{ is a present in } s_0 \ \& \text{ I got x from my mom in } s] \ \& \ \forall p[(p \neq [\lambda s'. \exists y[y \text{ is a present in } s_0 \ \& \text{ I got y from my mom in } s'] \ \& \ p \in [[\text{I got a present from [my mom]}_F]]^{g,F}) \rightarrow p(s)=p(s_0)]) \rightarrow \neg\exists z[z \text{ is a present in } s_0 \ \& \text{ I got z in } s]]$

Those two aspects of meaning (the presupposition and the assertion) capture the inferences the sentence comes with. The presupposition can only be satisfied if I got a present from my mom in s_0. This captures the positive entailment. The containment, as I said, is vacuous here. This is because the ellipsis site of the *except*-clause contains the predicate *present* – the same predicate that is in the restrictor of the quantifier *no present*. The assertion gives us the domain subtraction inference: this is the claim that I got no presents from anyone who is not my mom.

Now, let's go back to the question of why we cared about the situation variables inside the *except*-clause. If both of them (the one on the predicate *get* and the one on the NP *present from my mom*) were bound by λs_6, then the first conjunct of the presupposition generated given our assumptions about the meaning of the *except*-clause is as shown in (159), where the variable that has changed is boxed.

(159) $\forall s[\exists x[x \text{ is a present in } \boxed{s} \ \& \text{ I got x from my mom in } s] \rightarrow \exists y[y \text{ is a present in } s_0 \ \& \text{ I got y in } s]]$

This presupposition is very hard to satisfy. The reason for this is that something can be a present in one situation and not be a present in another. According to (159) every situation that has a thing that is a present in that situation is such that it has a thing that it is a present in s_0. This condition can only be met by a predicate that does not change it extension from situation to situation. It does not seem likely that the predicate denoted by *presents* is has this property. However, we do not need to worry about the derivation that leads to this very strong presupposition that is hard to satisfy. Nothing in the system forces the two situation variables to be the same. What is important is that there is an LF – the one shown in (155) – that leads to the correct interpretation.

The remaining issue I would like to discuss here is why (160) is infelicitous. The explanation for this fact naturally follows from what is independently known about ellipsis.

(160) #I got no presents except my mom.

The way of ellipsis resolution that could lead to the LF equivalent to the one in (155) is shown in (161). In (161) the DP *my mom* moves from a PP inside the ellipsis site and the rest of the structure together with the preposition is deleted. This structure is not possible because it violates a well-established constraint on ellipsis given in (162).

(161) *I got no presents except my mom 1 ~~[I got a present from t_1]~~

(162) Chung's generalization: A preposition can be stranded in an ellipsis site only if it has an overt correlate in the antecedent. (Chung 1995)

This constraint can be illustrated by the following pair of examples containing sluicing: the well-formed one in (163) where the ellipsis site contains a preposition that has a correlate in the antecedent and the infelicitous one in (164) where the ellipsis site contains a preposition that has no correlate in the antecedent.

(163) I got a present from someone but I don't remember who ~~I got a present from.~~

(164) #I got a present but I don't remember who ~~I got a present from.~~

The idea that Chung's generalization plays a role in ruling out (161) finds further support in the fact that (165) where the PP is present in the antecedent is a grammatical sentence.

(165) I got no presents from anyone except my mom 1 ~~[I got a present from t_1]~~

Now, given that the possibility of the derivation in (161) is ruled out by the Chung's constraint, the two remaining options for ellipsis resolution are given in (166) and (167).

(166) I got no present except ~~I got~~ my mom.

(167) I got no present except my mom ~~got a present.~~

Interpreting (166) will generate the presupposition that is responsible for the funny inference that the sentence comes with – that my mom is a present that I got. It is given in (168): the first conjunct here states that every situation where I got my mom has a thing that is a present in s_0 that I got. That can only be true if my mom is a present in s_0.

(168) $\forall$s[I got my mom in s $\rightarrow$ $\exists$x[x is a present in s_0 & I got x in s]] & I got my mom in s_0

Interpreting (167) will generate the presupposition that is impossible to satisfy. It is given in (169). This claim can only be true if I am my mom. This is because it states that in every situation my mom got a present, I got a present. It can be true that in every situation where my mom gets a present, I get a present only if me and my mom are the same individual.

(169) $\forall s[\exists x[x \text{ is a present in } s_0 \ \& \text{ my mom got } x \text{ in } s] \rightarrow \exists y[y \text{ is a present in } s_0 \ \& \text{ I got } y \text{ in } s]] \ \& \ \exists z[z \text{ is a present in } s_0 \ \& \text{ my mom got } z \text{ in } s_0]$

We have exhausted all possible ways of deriving the meaning of (160) and we have found no way of generating the same meaning as the one the sentence in (150) (repeated below as (170)) has. This explains the contrast between those two sentences.

(170) I got no presents except from my mom.

3.4.4 Exceptives with Multiple Remnants

3.4.4.1 *Every-every*

In this Section I will show how the conditional system developed here can account for the multiple remnants cases initially observed by Moltmann (1995) like the one in (171).

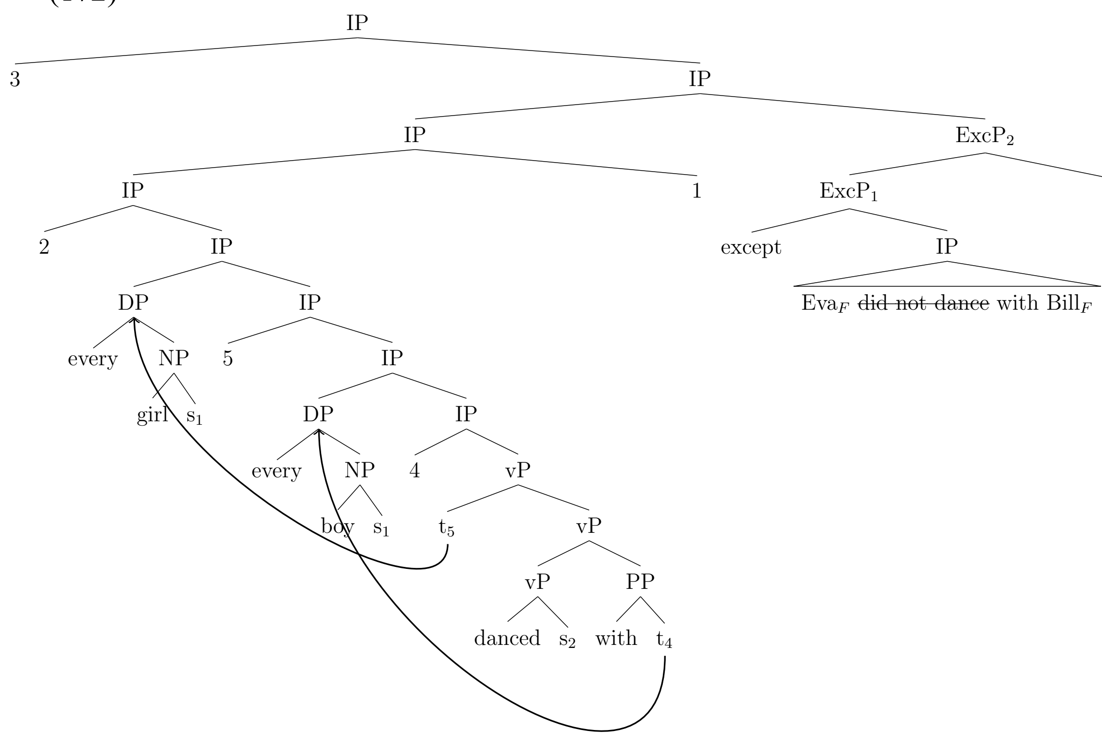
(171) Every girl danced with every boy except Eva with Bill ~~did not dance~~.

This system derives the right meaning for the sentence in (171) in a very straightforward way. Intuitively, this sentence means that ‘Eva not dancing with Bill’ is the exception to the generalization ‘every girl danced with every boy’. This requires Eva being a girl and Bill being a boy.

The analysis I developed specifies what counts as being an exception. Being an exception in this case means that Eva did not dance with Bill; in every situation where that happen the generalization is not true; had that not happen, the generalization would have been true. Below I show how this result is derived in a compositional way.

I propose that the sentence in (171) has the LF shown in (172).

(172)



Let's focus on the sister of the exceptive phrase. Following standard assumptions, I QRed both of the DPs *every girl* and *every boy*, left traces and bound them by the lambda abstractors (the numerical indices 4 and 5). The situation variable s_2 that comes with the verb *dance* is bound by the lambda abstractor as well.

There is a separate lambda abstractor that binds situation variables inside DPs. It is crucial here that those two variables are co-indexed and are bound by the same abstractor. If a situation variable in one of the DPs is bound by the same abstractor that binds the main predicate of the sentence, we will derive a presupposition that cannot be satisfied. I will ignore this option for now and go over it in the end of this section. Note that this only holds for situation variables that are inside DPs that are correlates of remnants in an *except*-

clause. The system makes no commitments about situation variables inside any other DPs that may be present in a sentence.

I will remain agnostic here about how the *except*-clause gets to the sentence final position. One option is that here like in all previous cases the *except*-clause originates inside a DP. It may be the case that the exceptive clause moves simultaneously from both DPs in the across the board manner. Another possibility is that it moves from one of the DPs (and it has to be the higher one to avoid a weak crossover violation). Another option is that the *except*-clause in (172) is base-generated.

What is crucial for the proposed analysis is that the *except*-clause is placed above both of the correlates in the main clause. For now, I will simply assume that in cases where an elided exceptive clause contains multiple remnants it has to move high enough to c-command both of the correlates. There is an empirical evidence for this. I will discuss it in detail in the next subsection.

All of the remnants of the ellipsis inside the clause following *except* are focused (*Eva, Bill*). For simplicity I reconstructed the DPs inside the *except*-clause to their base-positions in (172).

No additional assumptions are required. The predicted denotation for the sister of the exceptive phrase is in (173).

(173) $\lambda s'. \lambda s''. \forall x[x \text{ is a girl in } s' \rightarrow \forall y[y \text{ is a boy in } s' \rightarrow x \text{ danced with } y \text{ in } s'']]$

Given the denotation for the exceptive clause proposed here in (89), the predicted meaning of this sentence is shown in (174).

(174)

At issue content:

$[[(171)]]^g(s_0) = 1$ iff $\forall s$[Eva danced with Bill in s &
$\forall p[(p \neq [\lambda s'. \neg$Eva danced with Bill in s'] & $p \in [[\text{Eva}_F$ did not dance with $\text{Bill}_F]]^{gF}) \rightarrow$
$p(s)=p(s_0)]) \rightarrow \forall x$[x is a girl in $s_0 \rightarrow \forall y$[y is a boy in $s_0 \rightarrow$ x danced with y in s]]]

Presupposition:

$[[(171)]]^g(s_0)$ is defined only if
$\forall s[\neg$Eva danced with Bill in s$\rightarrow \exists x$[x is a girl in s_0 & $\exists y$[y is a boy in s_0 & $\neg$ x danced with y in s]]] & $\neg$Eva danced with Bill in s_0

The presupposition requires that every situation where Eva did not dance with Bill, there is a girl from a topic situation and a boy from a topic situation such that the girl did not dance with the boy. This is only possible if Eva is a girl and Bill is a boy in the topic situation[51]. We also learn from the presupposition that Eva did not dance with Bill.

The predicted at-issue content requires that in every situation where facts about dancing are the same as in the actual topic situation for every pair of individuals other than Eva-Bill and for Eva-Bill the dancing facts are different than in the actual topic situation (thus where the dancing has occurred), every girl from the topic situation danced with every boy from the topic situation. This means that if we change one fact - the fact regarding Eva dancing with Bill, it would be true that all girls danced with all boys.

To conclude, the account I developed in this paper captures the meaning of this sentence in a very straightforward way.

[51] Following Moltmann (1995), I assume that *dance with* is not a symmetric predicate. The assumption is that there is a possible situation where Eva danced with Bill, but Bill did not dance with Eva (say, he was unconscious, and she just carried him during the dance).

Now let me answer the question about what is going to happen if it is not the case that the situation variables inside all correlates of the remnants in the *except*-clause are bound by the same lambda abstractor. I said earlier that this structure is ruled out because it will generate a presupposition that cannot be satisfied. The situation I have in mind is the one where the sister of the exceptive phrase has the structure shown (175), where the situation variable that comes with the predicate *girl* is bound by a different lambda abstractor than the one binding the variable that comes with *boy*. The exceptive phrase would combine with the constituent with the denotation given in (176). The presupposition generated by the system for such a structure will be as the one shown in (177).

(175) [**4** [**3**[every girl $\mathbf{s_3}$ [2 [every boy $\mathbf{s_4}$ [1 [t_2 danced $\mathbf{s_3}$ with t_1]]]]]]]

(176) $\lambda s'. \lambda s''. \forall x[x \text{ is a girl in } s'' \rightarrow \forall y[y \text{ is a boy in } s' \rightarrow x \text{ danced with } y \text{ in } s'']]$

(177) $\forall \mathbf{s}[\neg \text{Eva danced with Bill in } \mathbf{s} \rightarrow \exists x[x \text{ is a girl in } \mathbf{s} \ \& \ \exists y[y \text{ is a boy in } s_0 \ \& \ \neg x \text{ danced with } y \text{ in } s]]] \ \& \ \neg \text{Eva danced with Bill in } s_0$

This presupposition is impossible to satisfy because it requires that Eva is a girl in every situation. Otherwise there is no way it can be true that in every situation where Eva did not dance with Bill there is an individual who is a girl in that situation who did not dance with a boy from the topic situation s_0. Since it is known that the predicate denoted by 'girl' can change its extension from a situation to a situation, the first conjunct in (177) is not true. Since the first conjunct of the presupposition is not true, the sentence is predicted to not be undefined. However, we do not need to worry about this, because there is another LF, namely the one discussed above, that does not lead to this very strong presupposition that Eva is a girl in every possible situation.

3.4.4.2 The Syntactic Position of an Exceptive Clause in Cases with Multiple Remnants

In the analysis of the case where an exceptive clause contains multiple remnants I proposed in the previous section I made an assumption that an exceptive clause has to c-command all correlates of all remnants. In this section I provide empirical support for this claim (178).

(178) **Generalization about the Height of an Exceptive with Multiple Remnants:** If an elided exceptive clause contains multiple elements, then this exceptive clause has to be higher than all of the correlates in the main clause.

I will illustrate this generalization by using the example in (179).

(179) Every girl danced with every boy except Eva with Bill.

Normally, the subject c-commands the *except*-phrase associated with the object and can bind into it, as shown in (180).

(180) Every $girl_1$ danced with every boy except her_1 brother.

As the next step, let me point out that (181) with multiple remnants, where [in Jack's kitchen] is extraposed (so it should not be construed as a part of the exceptive), is a grammatical sentence.

(181) Every girl danced with every boy except Eva with Bill [in Jack's kitchen].

Another fact that we need to establish for this argument is that (182), where [except Eva with Bill] is extraposed is grammatical under the reading where *her* in [in her_1 kitchen] is a variable bound by *every girl*.

(182) Every $girl_1$ danced with every boy in her_1 kitchen except Eva with Bill.

Now, let's construct an example that minimally differs from (181), where [in Jack's kitchen] is substituted by [in her_1 kitchen]. The native speakers of English I have consulted with report that the resulting sentence given in (183) is unacceptable under the intended interpretation, where *every girl* binds the pronoun *her*. Given that the extraposition of the PP is by itself acceptable as was shown in (181) and given that normally the subject can bind into the locative PP as was shown in in (182), the absence of binding in (183) is surprising.

(183) * Every $girl_1$ danced with every boy except Eva with Bill [in her_1 kitchen].

Moreover, if an exceptive does not contain multiple remnants and contains only one element as in (184) where it simply operates on the object DP, the subject can bind into an extraposed PP.

(184) Every $girl_1$ danced with every boy except Bill [in her_1 kitchen].

What I take this to mean is that in (183) the exceptive clause has to be situated high in the structure. Under the hypothesis that it is higher than the subject, the unavailability of binding in (183) finds a natural explanation. If an exceptive with multiple remnants has to c-command both of the correlates (the subject and the object of the main clause in this case), then the extraposed PP [in her_1 kitchen] in (183) has to be even higher than that. This means that the subject will not c-command this PP and the absence of the bound reading is predicted.

In other words, in (183) the *except*-clause either has moved rightwards to the position higher than the position of the subject or was merged in that position. Interestingly, the extraposition of *except*-clauses in English is obligatory if an *except*-clause contains multiple remnants. This observation goes back to the work by Moltmann (1995). This is shown by the contrast between (185) and (186). The ungrammaticality of (185) follows from the generalization in (178): in (185) an exceptive does not c-command all of its remnants.

(185) *Every girl except Eva with Bill danced with every boy.

(186) Every girl danced with every boy except Eva with Bill.

The example that shows that the restriction that we observe in (185) is about multiple remnants is given in (187). This grammatical example minimally differs from the one in (185): the exceptive phrase only has one element in it.

(187) Every girl except Eva danced with every boy.

At this point I cannot offer any good explanation for the fact that an exceptive clause with multiple remnants has to move to c-command both of its correlates. Most likely, it has something to do with ellipsis resolution. My preliminary hypothesis is that an exceptive clause with multiple remnants has to c-command all of the correlates in order to establish scope-parallelism between the DPs in the *except*-clause that contains ellipsis and the DPs in the main clause.

Another option is that if we adopt an idea that an exceptive with multiple remnants does move from both of the DPs in the across the board manner – the idea expressed in the previous section, then this fact about the height of an exceptive with multiple remnants finds a natural explanation[52]. If it moves from both positions, it must be higher than both of those positions.

3.4.4.3 **_*Some-Every_**

One of the facts that any account of clausal exceptives has to capture is that if an elided exceptive clause contains multiple remnants each remnant has to have a universal quantifier as its associate. There is a contrast between the ungrammatical example in (188) and the grammatical one in (189). This shows that in general, there is no prohibition against existential quantifiers in sentences with exceptive clauses. Note that in the grammatical example (189) what comes after the exceptive marker is a prepositional phrase, which shows that it is a clausal exceptive – so the restriction we observe in (188) does not have anything to do with the fact that the exceptive is clausal, the issue is with the multiple remnants. The contrast we observe here is predicted by the proposed analysis.

(188) *Some girl danced with every boy except Eva with Bill.

(189) Some girl danced with every boy except with Bill[53].

Let's assume that (188) is derived from (190).

(190) *Some girl danced with every boy except Eva with Bill ~~did not dance~~.

[52] Thanks to Kyle Johnson who made this point to me.

[53] Not all speakers of English find this sentence grammatical. For many speakers the phrasal version of the sentence is preferred. I do not know why this is the case.

Given our assumptions about the meaning of an exceptive clause, the predicted presupposition of the sentence in (188) is shown in (191) and the at-issue content in (192).

(191) Presupposition: $[[(188)]]^{g}(s_0)$ is defined only if:
$\forall s[\neg \text{Eva danced with Bill in } s \rightarrow \neg\exists x[x \text{ is a girl in } s_0 \ \& \ \forall y[y \text{ is a boy in } s_0 \rightarrow x \text{ danced with } y \text{ in } s\ ]]] \ \& \ \neg\text{Eva danced with Bill in } s_0$

(192) At issue content: $[[(188)]]^{g}(s_0) = 1$ iff
$\forall s[(\text{Eva danced with Bill in } s \ \& \ \forall p[p\neq[\lambda s'.\neg\text{Eva danced with Bill in } s'] \ \& p\in[[\text{Eva}_F \text{ did not dance with Bill}_F]]^{gF} \rightarrow p(s)=p(s_0)]) \rightarrow$
$\exists x[x \text{ is a girl in } s_0 \ \& \ \forall y[y \text{ is a boy in } s_0 \rightarrow x \text{ danced with } y \text{ in } s\ ]\ ]\ ]$

The presupposition requires that every situation where Eva did not dance with Bill there is no girl from the topic situation such that she danced with every boy from the topic situation. That can only be true if Eva is the only girl in the topic situation or there are no girls (and Eva is not a girl).

Let me first discuss the possibility that Eva is a girl in s_0. Here is why the presupposition cannot be satisfied if there are some girls in the topic situation other than Eva. Let's consider a scenario where there is another girl in the topic situation, say Masha. There is a possible situation where Eva did not dance with Bill, but another girl from the topic situation, namely Masha, danced with every boy from the topic situation, thus the presupposition is not satisfied. The requirements (191) imposes cannot be met if the number of girls in the actual topic situation is more than one. If, however, there is exactly one girl, then the presupposition given in (191) and the at issue content given in (192) are consistent with each other (in the sense that they can be true together). Since Eva is the only girl it is entirely possible that in every situation where she did not dance with Bill for every girl there is a boy she did not dance with and in every situation where Eva did dance with Bill and the rest of the facts regarding dancing are the same, there is a girl who danced with every boy from the topic situation. We have already faced this problem earlier, and I suggest that we use the same solution in this case: this interpretation is ruled out by a general semantic constraint against using an existential DP when it is known that the head noun denotes a singleton set.

The only option left is that there are no girls in the topic situation. The presupposition will be satisfied in that case, however, it will contradict the assertion. This is because the assertion says that if we change the fact about Eva dancing at Bill, we will find that there is a girl who danced with every boy. This meaning is not well-formed. Whenever the sentence is defined, it is false. There is no way for it to be true. I propose that this is the reason the sentence is perceived as ungrammatical.

Things are different with the sentence in (189), where the existential does not have a corresponding remnant in the *except*-clause, and no such prediction is made by the theory for this example. This is because the ellipsis is resolved differently in (189).

Ellipsis can only be resolved if the quantificational phrase headed by *every* moves from the object position to avoid antecedent containment. After that there are two ways the ellipsis can be resolved in this case. The two possibilities come from the two possible positions of the second quantifier *some girl*. It can be below *every boy* and then the ellipsis site includes *some girl*, which is shown in (193). It can also be above *every boy* and then the ellipsis includes its trace which is shown in (194).

(193) [5[[except [7 with Bill ~~not a girl s_5 danced s_7~~] s_5]
[2[3 [every boy s_2 [1 some girl s_2 [4 [t_4 danced s_3 with t_1]]]]]]]] [54]

[54] For simplicity of perception I represent the movement of the *except*-clause as a leftward movement in this LF.

(194) $[5\ [\text{some girl } s_5\ [4\ [[7 \text{ except with Bill } \cancel{t_4 \text{ did not dance }} s_7]\ s_5]$
$[2[3\ [\text{every boy } s_2\ [1[\ t_4 \text{ danced } s_3 \text{ with } t_1\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]\ ]$

The predicted presupposition resulting from interpreting the LF in (193), where the ellipsis site contains *a girl*, is in (195) (here, I made the assumption that one and the same lambda abstractor binds situation variable inside both DPs. This is not necessary in this case. It is only important that the situation argument inside every boy is bound by a lambda abstractor different than the lambda abstractor binding the main predicate).

(195) Presupposition: $[[(193)]]^g(s_0)$ is defined only if:
$\forall s[\neg\exists x[x \text{ is a girl in } s_0\ \&\ x \text{ danced with Bill in } s] \rightarrow \neg\forall y[y \text{ is a boy in } s_0 \rightarrow \exists z[z \text{ is a girl in } s_0\ \&\ z \text{ danced with } y \text{ in } s\ ]]]\ \&\ \neg\exists a[a \text{ is a girl in } s_0\ \&\ a \text{ danced with Bill in } s_0]$

This is equivalent to (196), from which we learn that no girl danced with Bill in the actual topic situation and he is a boy.

(196) Presupposition: $[[(193)]]^g(s_0)$ is defined only if:
$\forall s[\neg\exists x[x \text{ is a girl in } s_0\ \&\ x \text{ danced with Bill in } s] \rightarrow \exists y[y \text{ is a boy in } s_0\ \&\ \neg\exists z[z \text{ is a girl in } s_0\ \&\ z \text{ danced with } y \text{ in } s\ ]]]\ \&\ \neg\exists a[a \text{ is a girl in } s_0\ \&\ a \text{ dance with Bill in } s_0]$

The at issue content given in (197) says that if we change the facts about some girl dancing with Bill and keep all other facts of the form [not a girl danced with x] (where x varies over people) the same, it would be true that for every boy there is some girl that danced with him. To sum up, the sentence (189) is predicted to mean that no girl danced with Bill and he is the only such boy, because for every other boy it is true that some girl danced with him. This is one of the readings the sentence in (189) has.

(197) At issue content: $[[(193)]]^g(s_0) = 1$ iff:
$\forall s[(\exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ danced with Bill in } s] \ \&$
$\forall p[p \neq [\lambda s'. \neg\exists z[z \text{ is a girl in } s_0 \ \& \ z \text{ danced with Bill in } s']] \ \& \ p \in [[\text{not a girl danced with Bill}_F]]^{g,F} \rightarrow p(s) = p(s_0)]]) \rightarrow \forall y[y \text{ is a boy in } s_0 \rightarrow \exists a[a \text{ is a girl in } s_0 \ \& \ a \text{ danced with } y \text{ in } s]]]$

The second LF given in (194) is predicted to get the meaning where *some girl* scopes above *every boy* and its exceptive phrase. The predicted meaning is shown in (198). The sentence is predicted to be defined only if there is a girl such that she did not dance with Bill and in every situation where she did not dance with Bill, there is a boy from the actual topic situation who she did not dance with. Thus, Bill has to be a boy in the actual topic situation. The at-issue content says that this same girl has to be such that if we change the facts about her dancing with Bill and keep the rest of the dancing facts the same, it would be true that she danced with every boy.

(198) $[[(194)]]^g(s_0) = 1$ iff
$\exists x[x \text{ is a girl in } s \ \&$
$\mathbf{[\lambda z:} \ \forall s[\neg z \text{ danced with Bill in } s \rightarrow \exists y[y \text{ is a boy in } s_0 \ \& \ \neg \ z \text{ danced with } y \text{ in } s]] \ \& \ \neg z \text{ danced with Bill in } s_0\mathbf{.}$
$\forall s[(z \text{ danced with Bill in } s \ \& \forall p[(p \neq [\lambda s. \neg z \text{ danced with Bill in } s] \& \ p \in [[z \text{ did not dance with Bill}_F]]^{gF}) \rightarrow p(s) = p(s_0)]]) \rightarrow \forall a[a \text{ is a boy in } s_0 \rightarrow z \text{ danced with } a \text{ in } s \ ] \ ]$
$\mathbf{(x)]} \ ]$

This is another meaning that the sentence (189) gets.

I have proposed that the ungrammatical *some-every* combinations in cases when ellipsis contains multiple remnants are ruled out because the meaning resulting from interpreting such constructions is ill-formed. The problem is that the presupposition and the assertion generated by the system for a sentence of this type can be true together only if the existential is used to refer to the only individual satisfying the restrictor of this existential. I suggested that this option is ruled out because there is a general principle prohibiting the usage of existentials in such situations. One natural question that I would like to address here is why (199), where *the* is used instead of *some*, is not a well-formed example.

(199) *The girl danced with every boy except Eva with Bill ~~did not dance~~.

The meaning generated by the system is well-formed. The presupposition is given in (200). It is equivalent to (201). From it we learn that Eva is the girl and Bill is a boy and that Eva did not dance with Bill. From the at-issue content given in (202) we learn that had she danced with him (while the rest of the dancing facts remained the same), it would have been true that the girl (Eva) danced with every boy from s_0. The presupposition and the at-issue content are consistent with each other.

(200) Presupposition: $[[(199)]]^g(s_0)$ is defined only if:
$\forall s[\neg$Eva danced with Bill in $s \rightarrow \neg\forall y[y$ is a boy in $s_0 \rightarrow (\iota x[x$ is a girl in $s_0])$ danced with y in s]] & $\neg$Eva danced with Bill in s_0

(201) $\forall s[\neg$Eva danced with Bill in $s \rightarrow \exists y[y$ is a boy in s_0 & $\neg$ $(\iota x[x$ is a girl in $s_0])$ danced with y in s]] & $\neg$Eva danced with Bill in s_0

(202) At issue content: $[[(199)]]^g(s_0) = 1$ iff
$\forall s[($Eva danced with Bill in s &
$\forall p[p \neq [\lambda s'. \neg$Eva danced with Bill in s'] & $p \in [[$Eva$_F$ did not dance with Bill$_F]]^{gF}$
$\rightarrow p(s)=p(s_0)])\rightarrow$
$\forall y[y$ is a boy in $s_0 \rightarrow (\iota x[x$ is a girl in $s_0])$ danced with y in s]]

Moreover, the presupposition and the at-issue content are independent of each other: the presupposition can be satisfied when the at-issue content is false. The at-issue content is false if the girl (Eva) did not dance with a boy who is not Bill in s_0. This is entirely compatible with Bill being a boy and Eva not dancing with him in in s_0 – the requirements introduced by the presupposition. Thus, the situation here is different than the situation in cases where an exceptive has a definite description as its correlate and contains only one element that was discussed in Section 3.3.5.2. (Definite Descriptions). I remind the reader that sentences like *the girl came except Eva* are ruled out because they are predicted to be always true when they are defined.

The sentence in (199) can be ruled out because it *the girl* and *Eva* are used to refer to one and the same individual in the same sentence and this is in general is not allowed. However, even if we modify this example in such a way that it does not suffer from this problem (as shown in (203) and (204)), a definite description is still not an acceptable correlate of a remnant of exceptive deletion.

(203) *The girl danced with every boy except [the girl]$_1$ with Bill ~~did not dance~~.

(204) *The girl danced with every boy except she$_1$ with Bill ~~did not dance~~.

One idea we can consider here is that what rules (199) out is the constraint on this type of ellipsis that requires that there is a contrast between the remnants of ellipsis and the correlates in the antecedent. This is illustrated by the contrast between the grammatical construction in (205) and the ungrammatical constructions in (206),(207) and (208). I propose that the sentences in (203) and (204) are ungrammatical for the same reason the sentences in (206), (207) and (208). What separates (205) from the rest of the examples below is the fact that Mary and Eva do not refer to one and the same individual. I propose that the restriction on ellipsis that we observe in (206), (207) and (208) is the one that also rules out (203) and (204).

(205) Mary danced with John and Eva with Bill.

(206) *Mary danced with John and Mary with Bill.

(207) *[The girl]$_1$ danced with John and Mary$_1$ with Bill.

(208) *[The girl]$_1$ danced with John and she$_1$ with Bill.

3.4.4.4 **Every-Some*

The system developed here explains the ungrammaticality of *every-some* (the example is shown in (209)) case in exactly the same way as the ungrammaticality of *some-every* example considered above. To preview, in case of the ungrammatical sentence (209), where the exceptive clause contains multiple remnants and one of the remnants does not have a universal associate, the prediction is that the presupposition can only be satisfied if Bill is the only boy in the actual topic situation, like it was in case of *some-every* combination we considered earlier. Again, there is no general prohibition against existential quantifiers in a sentence with exceptives (210) and this is also predicted by the analysis for clausal exceptives developed here.

(209) *Every girl danced with some boy except Eva with Bill.

(210) Every girl danced with some boy except Eva.

Under the assumption that (209) is derived from (211) by ellipsis, the presupposition predicted by the analysis proposed here for (209) is given in (212), which is equivalent to (213).

(211) *Every girl danced with some boy except Eva with Bill ~~did not dance~~.

(212) Presupposition: $[[(209)]]^g(s_0)$ is defined only if:
$\forall s[\neg$Eva danced with Bill in s $\rightarrow$
$\neg\forall x$[x is a girl in $s_0 \rightarrow \exists y$[y is a boy in s_0 & x danced with y in s]]]
& $\neg$Eva danced with Bill in s_0

(213) $\forall s[\neg$Eva danced with Bill in s$\rightarrow$
$\exists x$[x is a girl in s_0 & $\neg\exists y$[y is a boy in s_0 & x danced with y in s]]]
& $\neg$Eva danced with Bill in s_0

This presupposition can only be satisfied if Bill is the only boy in the actual topic situation or if there are no boys in the topic situation. Again, the latter option is ruled out by the at issue content in (213), so I will ignore this option. If there is more than one boy in the topic situation there is no way to guarantee that every situation where Eva danced with Bill has a girl from the actual topic situation such that she danced with no boy from the actual topic situation. If he is the only boy in s_0, her not dancing with him would guarantee that. If the topic situation included at least one other boy, say John, there would be a possible situation where Eva did not dance with Bill, just like in the topic situation, but she danced with John. Because of that (213) would not be true. The only way a fact about one person can guarantee something about every boy in all possible situations is if that one person is the only boy.

The at-issue content that is predicted for this sentence is shown in (214): if we change the fact about Eva dancing with Bill while keeping all the other dancing facts the same, it would be true that every girl danced with some boy from the topic situation. The ungrammaticality of (209) is derived again via the restriction on the use of *some* (and other existentials) when it is known that there is only one individual or entity that satisfies the predicate denoted by the head noun inside the determiner.

(214) At issue content: $[[(209)]]^g(s_0)=1$ iff
$\forall s[(\text{Eva dance with Bill in } s \;\&\; \forall p[(p\neq[\lambda s'.\ \neg\text{Eva danced with Bill in } s'] \;\&\; p\in[[\text{Eva}_F \text{ did not dance with Bill}_F]]^{gF}) \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow \exists y[y \text{ is a boy in } s_0 \;\&\; x \text{ danced with } y \text{ in } s\ ]\ ]\ ]$

No such issue is predicted to arise in case where the exceptive clause has only one remnant like the one in (210). There are two possible interpretations due to the fact that there are two possible scopal configurations between *every* and *some*. The two options are shown in (215), where *every girl* outscores *some boy* the ellipsis site contains the DP *some boy*, and in (216), where *some boy* scopes high, the ellipsis site only contains its trace.

(215) [4 [[except [7 Eva ~~did not dance s_7 with a boy~~ s_4]]s_4]
[1[2[every girl s_1 [3 some boy s_1 [5 [t_3 danced s_2 with t_5]]]]]]]

(216) [4 [some boy s_4 [5 [[except [7 Eva ~~did not dance s_7 with t_5~~] s_4]
[1[2 [every girl s_1 [3[t_3 danced s_2 with t_5]]]]]]]]]

Here I will only illustrate the derivation in (215). In (215) the claim *Eva did not dance with a boy* is construed as an exception to the generalization *every girl danced with some boy*. This is exactly what is predicted as shown by the presupposition in (217) and the at-issue content in (219).

(217) Presupposition: $[[(215)]]^g(s_0)$ is defined only if:
$\forall s[\neg\exists x[x \text{ is a boy in } s_0 \;\&\; \text{Eva danced with } x \text{ in } s]\rightarrow \neg\forall y[y \text{ is a girl in } s_0 \rightarrow \exists x[a \text{ is a boy in } s_0 \;\&\; a \text{ dance with } y \text{ in } s\ ]]] \;\&\; \neg\exists z[z \text{ is a boy in } s_0 \;\&\; \text{Eva danced with } z \text{ in } s_0]$

The presupposition given in (217) is equivalent to (218): it gives us that Eva is a girl and that she did not dance with any boy. The containment follows from the first conjunct. It says that every situation Eva did not dance with any boy has a girl from the topic situation that did not dance with any boy.

(218) $\forall s[\neg\exists x[x \text{ is a boy in } s_0 \text{ \& Eva danced with } x \text{ in } s] \rightarrow \exists y[y \text{ is a girl in } s_0 \text{ \& } \neg\exists a[a \text{ is a boy in } s_0 \text{ \& } a \text{ dance with } y \text{ in } s\ ]]] \text{ \& } \neg\exists z[z \text{ is a boy in } s_0 \text{ \& Eva danced with } z \text{ in } s_0]$

(219) At issue content: $[[(215)]]^g(s_0)=1$ iff

$$\forall s[\ (\exists x[x \text{ is a boy in } s_0 \text{ \& Eva danced with } x \text{ in } s]\ \ \&$$
$$\forall p[(p\neq[\lambda s'.\ \neg\exists z[z \text{ is a boy in } s_0 \text{ \& Eva danced with } z \text{ in } s']]\&p\in[[\text{Eva}_F \text{ did not dance with a boy}]]^{gF} \rightarrow p(s)=p(s_0)])\rightarrow$$
$$\forall y[y \text{ is a girl in } s_0 \rightarrow\exists a[a \text{ is a boy in } s_0 \text{ \& } a \text{ danced with } y \text{ in } s\ ]\ ]\ ]$$

The at-issue content in (219) says that in all situations where facts about other people dancing with some boy are the same as in s_0 and where Eva did dance with a boy it is true that every girl danced with some boy.

3.4.4.5 *No –Any*, **No-Every*

I said in the introduction to Section 3.4.4 that the restriction on the possible quantifiers observed in cases where an exceptive clause contains multiple remnants is not about the form of the individual quantifiers, but is about the interpretation – in the context of the sentence each correlate of each remnant should contribute a quantifier equivalent to a universal quantifier. This is predicted by the analysis suggested here.

The explanation for this fact lies in the presupposition generated by the system. The presupposition always looks at situations that match the actual topic situation with respect to the fact described by an elided *except*-clause and states that the quantificational claim is not true in those situations. In other words, it negates the quantificational claim. If a quantifier corresponding to a remnant is existential, this negation will turn it into a universal. As a consequence of this, we will always find ourselves in a configuration where a fact about one individual (the remnant) has to guarantee something for all individuals in all situations. This is only possible if this one individual is the only element in the restrictor of the quantifier (or if the restrictor is empty). As was mentioned in the discussion of existentials, it is not possible to use an existential if it is known that there is only one element that satisfies the restrictor of the existential. A similar restriction exists for such natural language quantifiers as *every* and *no*. Pragmatically they cannot be used if it is known that there is only one individual that satisfies the restrictor.

I will illustrate these points by using the examples involving the grammatical combination *no-any* and the ungrammatical combinations *no-every*.

Let's start from the grammatical *no-any* combination shown in (220).

(220) No girl danced with any boy except Eva with Bill ~~danced~~.

The presupposition generated by the system for this sentence is shown in (221), and after we simplify it by getting rid of the double negation, it is as shown in (222). The first conjunct says that every situation in which Eva danced with Bill has a girl from s_0 and a boy from s_0 and a girl danced with boy. It can only be true if Eva is a girl in s_0 and Bill is a boy in s_0. The second conjunct simply states that Eva danced with Bill in s_0.

(221) Presupposition: $[[(220)]]^g(s_0)$ is defined only if:
$\forall s$[Eva danced with Bill in s$\rightarrow$
$\neg\neg\exists x$[x is a girl in s_0 & $\exists y$[y is a boy in s_0 & x danced with y in s]]]
& Eva danced with Bill in s_0

(222) (221)= $\forall s$[Eva danced with Bill in s$\rightarrow$
$\exists x$[x is a girl in s_0 & $\exists y$[y is a boy in s_0 & x danced with y in s]]]
& Eva danced with Bill in s_0

The at-issue value is given in (223). It says that in all situations where Eva did not dance with Bill and the rest of the dancing facts are the same as in s_0 no girl danced with any boy.

This captures the intuition that Eva dancing with Bill is the only exception to the generalization 'No boy danced with any girl'.

(223) At issue content: $[[(220)]]^g(s_0) = 1$ iff
$\forall s[(\neg \text{Eva danced with Bill in s } \&$
$\forall p[(p \neq [\lambda s'. \text{ Eva danced with Bill in s'}] \& p \in [[\text{Eva}_F \text{ danced with Bill}_F]]^{gF}) \rightarrow p(s)=p(s_0)])$
$\rightarrow \neg\exists x[\text{x is a girl in } s_0 \ \& \ \exists y[\text{y is a boy in } s_0 \ \& \ \text{ x danced with y in s }]]]$

As the reader can verify, the predicted truth conditions and the presupposition capture the meaning this sentence has.

Now, let's look at the ungrammatical combination *no-every* shown in (224). The presupposition generated for this case is shown in (225) and it is equivalent to (226).

(224) *No girl danced with every boy except Eva with Bill ~~danced~~.

(225) Presupposition: $[[(224)]]^g(s_0)$ is defined only if:
$\forall s[\text{Eva danced with Bill in s} \rightarrow$
$\neg\neg\exists x[\text{x is a girl in } s_0 \ \& \ \forall y[\text{y is a boy in } s_0 \rightarrow \text{x danced with y in s }]]]$
$\& \text{ Eva danced with Bill in } s_0$

(226) (225) =
$\forall s[\text{Eva danced with Bill in s} \rightarrow$
$\exists x[\text{x is a girl in } s_0 \ \& \ \forall y[\text{y is a boy in } s_0 \rightarrow \text{x danced with y in s }]]]$
$\& \text{ Eva danced with Bill in } s_0$

The first conjunct in (226) says that every situation in which Eva danced with Bill has a girl from s_0 that danced with all boys in s_0. This can only be true if Eva is a girl in s_0 and Bill is the only boy or there are no boys in s_0 (in that case the universal quantification in (226) is vacuous). This is the only way a fact about Bill can guarantee something for all boys in all possible situations.

The option of there being no boy is ruled out by the at-issue content. It is shown in (227), which is equivalent to (228). It says that if we change the fact about Eva dancing with Bill while keeping all other dancing facts the same, it will be true that for every girl there is a boy she did not dance with[55].

(227) At issue content: $[[(224)]]^g(s_0) = 1$ iff
$\forall s[(\neg \text{Eva danced with Bill in } s \ \&$
$\forall p[(p \neq [\lambda s'.\ \text{Eva danced with Bill in } s'] \& p \in [[\text{Eva}_F \text{ danced with Bill}_F]]^{gF}) \rightarrow p(s)=p(s_0)])$
$\rightarrow \neg\exists x[x \text{ is a girl in } s_0 \ \& \ \forall y[y \text{ is a boy in } s_0 \rightarrow x \text{ danced with } y \text{ in } s\ ]\ ]\ ]$

(228) (227)=
$\forall s[(\neg \text{Eva danced with Bill in } s \ \&$
$\forall p[(p \neq [\lambda s'.\ \text{Eva danced with Bill in } s'] \& p \in [[\text{Eva}_F \text{ danced with Bill}_F]]^{gF}) \rightarrow p(s)=p(s_0)])$
$\rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow \exists y[y \text{ is a boy in } s_0 \ \& \ \neg x \text{ danced with } y \text{ in } s\ ]\ ]\ ]$

Now, what about the possibility of Bill being the only boy in s_0? In order to rule this option out we need to appeal to a principle that does not allow the use of *every boy* when it is known that there is only one boy and his name is Bill. Saying that such a principle exists would not be novel. Partee (Partee 1986 p.371) appeals to this principle in her explanation of the fact that *every boy* cannot be type-shifted to type e. This type shifting is predicted to be possible in case there is only one boy. However, she points out in that case the usage of *every boy* is blocked pragmatically. This is supported by the facts. The sentence in (229) implies that there is more than one satellite of Earth.

(229) #Every satellite of the Earth is yellow.

[55] (228) would be compatible with there being no boy in s_0 if there were no girls in s_0. This is because the universal quantification is true if its restrictor is empty. However, the presupposition in (226) is not compatible with this scenario.

3.5 Necessary Truths

The conditional analysis of clausal exceptives I have proposed here involves looking at situations where the facts about the event described by the exceptive clause are different than in the actual topic situation. One question arising at this point is what is going to happen if the exceptive clause expresses a necessary truth and there are no situations where the facts described by the exceptive clause are different than in s_0. Let me illustrate the issue with the example in (231).

(230) 2, 4, 5, 7

(231) All numbers in (230) are odd except 4 ~~is not odd~~.

According to the conditional analysis I have developed here, the at-issue meaning of the sentence (231) is the universal quantificational claim over possible situations where the proposition denoted by *4 is not odd* is false while other facts about oddness remain the same as in s_0. This claim is given in (233). Given that mathematical truths are necessary truths, there cannot be a situation where *4 is odd*. The prediction of the analysis for such a case is that the sentence is vacuously true because the domain of quantification over situations is empty. This is clearly not a welcomed prediction given that there is another even number in (230), namely 2, and because of this the sentence (231) is not perceived as true.

(232) Presupposition: $[[(231)]]^g (s_0)$ is defined only if
$\forall s[\neg 4 \text{ is odd in } s \rightarrow \exists x[x \text{ is number in (230) in } s_0 \;\&\; \neg x \text{ is odd in } s]] \;\&\; \neg 4 \text{ is odd in } s_0$

(233) Assertion: $[[(231)]]^g (s_0) = 1$ iff
$\forall s[(4 \text{ is odd in } s \;\&\; \forall p[(p \neq [\lambda s'.\, \neg 4 \text{ is odd in } s'] \;\&\; p \in [[4_F \text{ is not odd}]]^{gF}) \rightarrow p(s)=p(s_0)])$
$\rightarrow \forall x[x \text{ is number in (230) in } s_0 \rightarrow x \text{ is odd in } s]]$

A similar problem arises with the interpretation of indefinites. Let's consider the ungrammatical sentence in (235), where a clausal exceptive operates on an existential claim. The predicted presupposition in (236) is satisfied, due to the fact that there are no even numbers in (234). The assertion in (237) is vacuously true, simply because there is no possible situation where the value for '3 is even' is true. Of course, this is not the right result, because the sentence in (235) is not true, but is ungrammatical.

(234) 3, 5, 7

(235) *Some numbers in (234) are even except 3 ~~is not even~~.

(236) Presupposition: $[[(235)]]^g$ (s_0) is defined only if
$\forall s[\neg 3$ is even in s $\rightarrow \neg\exists x[x$ is number in (234) in s_0 & x is even in s]] & $\neg 3$ is even in s_0

(237) Assertion: $[[(235)]]^g$ (s_0) = 1 iff
$\forall s[(3$ is even in s & $\forall p[(p\neq[\lambda s'.\ \neg 3$ is even in s'] & $p\in[[3_F$ is not even$]]^{gF}) \rightarrow$ $p(s)=p(s_0)]]) \rightarrow \exists x[x$ is number in (234) in s_0 & x is even in s]]

In order to solve this problem, we can slightly modify the analysis proposed here. The idea is that we could keep the presupposition introduced by *except* the same, but in the at issue content instead of universally quantifying over situations where the proposition following *except* is false and all of its focus alternatives (excluding the original) have the same value as they do in s_0, we could simply existentially quantify over situations where focus alternatives of the proposition following *except* (excluding the original) have the same value as in s_0. What this gives us is that we do not say that we are looking at situations where the truth value of the proposition in the exceptive clause changes, we are simply looking at situations where the truth values of the focus alternatives other than the original remain the same. The modified at-issue content for the problematic sentence (231) is in

(238). It says that there is a situation where all facts about non-oddness of numbers other than 4 remain the same and where all numbers in (230) are odd. This quantification cannot be vacuous, because there is at least one situation, namely s_0, that satisfies the restrictor. (238) is clearly false, because 2 is not odd.

(238) Assertion: $[[(231)]]^g (s_0) = 1$ iff
$\exists s[\forall p[(p \neq [\lambda s'. \neg 4 \text{ is odd in } s'] \ \&\ p \in [[4_F \text{ is not odd}]]^{gF}) \rightarrow p(s)=p(s_0)]$
$\&\ \forall x[x \text{ is number in (230) in } s_0 \rightarrow x \text{ is odd in } s]]$

The same goes for the problematic (235): if we give it the at-issue content in (239), the quantification is not going to be vacuous and in fact this assertion is going to be false because there are no even numbers in (234). Trying to introduce an even number into (234) will result in the presupposition that cannot be satisfied. There is no way to make both the presupposition and the at-issue content true together.

(239) Assertion: $[[(235)]]^g (s_0) = 1$ iff
$\exists s[\forall p[(p \neq [\lambda s'. \neg 3 \text{ is even in } s'] \ \&\ p \in [[3_F \text{ is not even}]]^{gF}) \rightarrow p(s)=p(s_0)]) \ \&$
$\exists x[x \text{ is number in (234) in } s_0 \ \&\ x \text{ is even in } s]]$

Unfortunately, this modification does not help with the intuitively true sentence in (241). The problem here is that the assertion generated by the system (shown in (242)) can be true only if there is a possible situation where everything that is a number in the actual example (240) is odd. If 4 is even in every possible situation, then such possibility does not exist.

(240) 4, 5, 7, 9
(241) All numbers in (240) are odd except 4 ~~is not odd~~.

(242) Assertion: $[[(241)]]^g (s_0) = 1$ iff
$\exists s[\forall p[(p \neq [\lambda s'. \neg 4 \text{ is odd in } s'] \ \&\ p \in [[4_F \text{ is not odd}]]^{gF}) \rightarrow p(s)=p(s_0)]$
$\&\ \forall x[x \text{ is number in (240) in } s_0 \rightarrow x \text{ is odd in } s]]$

What I think is going on in this example is that our language does not behave as if '4 is not an odd number' is a necessary truth. Evidence for this comes from the conditional paraphrase of (241) given in (243). It is also perceived as true in the situation presented in (240). Under the assumption that mathematical facts are the same in all possible situations, we will run into the same problem with interpretation of conditional sentences. Whatever strategy we use to explain what is going on in (243), we could use it also to explain (241).

(243) If 4 were an odd number, all numbers in (240) would have been odd.

After all, the switch from the universal quantification over situations to the existential quantification does not give us much in terms of the solution to the puzzle posed by necessary truths. We still need to make it possible for a number to change its properties from a situation to a situation.

If we adopt the assumption that mathematical truths like the ones considered here are not necessary, then the facts considered in this section are captured by the approach suggested here without the switch to the existential quantification over possible situations. The sentence in (231) (*All numbers in '2,4,5,7' are odd, except 4*) is correctly predicted to be false because even if we change the fact about oddness of 4, there is still another number in *2,4,5,7* that is not odd, namely 2.

Sentences where an exceptive operates on an existential are still predicted to be problematic. The sentence in (235) (*Some numbers in '3,5,7' are even except 3)* considered above is not going to be defined. This is because the presupposition (repeated below for the ease of reference) generated by the system is not going to be satisfied.

(244) Presupposition: $[[(235)]]^g$ (s_0) is defined only if
$\forall s[\neg 3$ is even in s $\rightarrow \neg\exists x[$x is number in '3,5,7' in s_0 & x is even in s]] & $\neg 3$ is even in s_0

The problem is with the first conjunct: in some situations where 3 is not even, there is a number among 3, 5, 7 that is even. This is because there is a possible situation where 5 and 7 are even.

3.6 Plural Remnants in Exceptive Clauses

In this discussion I made a simplifying assumption, namely, I pretended that all remnants inside the exceptive clauses are proper names. This is, of course, is not right. In (245) the elided clause must be 'Eva and Mary came'.

(245) No girl came except Eva and Mary.

Given the assumptions that we made about the meaning of *except*, the predicted interpretation for this sentence is as shown in (246).

(246) $[[(245)]]^g(s_0)$ is defined if $\forall s[$Eva and Mary came in s$\rightarrow \exists x[$x is a girl in s_0 & x came in s]] & Eva and Mary came in s_0

$[[(245)]]^g(s_0)=1$ iff
$\forall s[($Eva did not come in s or Mary did not come in s $\&\forall p[(p\neq[\lambda s'''.$Eva and Mary came in s''']]^g & $p\in[[$ [Eva and Mary]$_F$ came]]^{gF})$\rightarrow$ p(s)=p(s')])$\rightarrow \neg\exists x[$x is a girl in s_0 & x came in s]]

What we have in (246) is too weak. From the presupposition we learn that it is either Eva or Mary who is a girl. One of them being a girl is enough to guarantee that in every situation where this person came, there is a girl from s_0 who came. The denotation we were working with so far successfully accounted for examples we looked at because we have only looked at cases where the remnant in an exceptive clause was an individual denoting expression.

The strategy I will suggest here is to find a way of going from (247) to (248) – the set of propositions where each proposition has an individual denoting expression in the position of the remnant. Then, we could go through those individual propositions and state that it holds for all of them that in every situation where one of them is true the quantificational claim is not true (shown in (249)). The reader can verify that (249) requires that Eva is a girl and that Mary is a girl.

(247) λs'. Eva and Mary came in s'

(248) {λs'. Eva came in s', λs'. Mary came in s'}

(249) $\forall$p[p$\in${λs'. Eva came in s', λs'. Mary came in s'}$\rightarrow\forall$s[p(s)$\rightarrow\neg\neg\exists$x[x is a girl in s_0 & x came in s]]]=
$\forall$p[p$\in${λs'. Eva came in s', λs'. Mary came in s'}$\rightarrow\forall$s[p(s)$\rightarrow\exists$x[x is a girl in s_0 & x came in s]]]

The question is how to get from (247) to (248). I propose that we appeal here to the idea that we have already used elsewhere: the remnant of ellipsis is focused. The list of focus alternatives for the clause following *except* in our example are as shown in (250). We need to narrow it down to the set given in (248) and there is a property that the two proposition in (248) have that no other proposition in (250) has, this is the property of being entailed by the original: the original [λs. Eva and Mary came] does not entail that John came, but it does entail that Eva came and that Mary came. So, the relevant set of propositions is picked by the function shown in (251).

(250) [[[Eva and Mary]$_F$ came]]$^{g^F}$={λs'. Eva came in s', λs'. Mary came in s', λs'. John came in s', λs'. Anna came in s', etc}

(251) $\lambda p.\ p \in [[\ [\text{Eva and Mary}]_F \text{ came}]]^{gF}\ \&\ [\lambda s'.\ \text{Eva and Mary came in } s'] \subseteq p =$
$\{\lambda s'.\ \text{Eva danced came in } s',\ \lambda s'.\ \text{Mary came in } s'\}$

The way to capture the meaning of this specific sentence (245) is shown in (252) (the presupposition) and (253) (the at-issue content). The at-issue content had to be modified as well. Now we are saying that in all situations where the propositions in (251) get the opposite value compared to in s_0, and the rest of the propositions retain the same value, the quantificational claim holds.

(252) $[[(245)]]^g(s_0)$ is defined if
$\forall p[p \in [[\ [\text{Eva and Mary}]_F \text{ came}]]^{gf}\ \&\ [\lambda s.\ \text{Eva and Mary came in } s] \subseteq p$
$\rightarrow \forall s[p(s) \rightarrow \exists x[x \text{ is a girl in } s_0\ \&\ x \text{ came in } s\ ]]]\ \&\ \text{Eva and Mary came in } s_0$

(253) $[[(245)]]^g(s_0)=1$ iff
$\forall s[(\forall p[p \in [[\ [\text{Eva and Mary}]_F \text{ came}]]^{gF}\ \&\ [\lambda s.\ \text{Eva and Mary came in } s] \subseteq p \rightarrow p(s) \neq p(s_0)]$
$\&\forall q[q \in [[\ [\text{Eva and Mary}]_F \text{ came}]]^{gF}\ \&\ [\lambda s.\ \text{Eva and Mary came in } s] \not\subseteq q \rightarrow q(s)=q(s_0)]) \rightarrow$
$\neg\exists x[x \text{ is a girl in } s_0\ \&\ x \text{ came in } s\ ]\ ]$

The updated version of *except φ* is given in (254).

(254) $[[\text{except } \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}$:
$\forall p[(p \in [[\varphi]]^{gF} \& [[\varphi]]^g \subseteq p) \rightarrow \forall s[p(s) \rightarrow \neg M(s')(s)=1]]\ \&[[\varphi]]^g\ (s)=1.$
$\forall s[(\forall q[q \in [[\varphi]]^{gF}\ \&\ [[\varphi]]^g \subseteq q \rightarrow q(s) \neq q(s')]\ \&\ \forall p[(p \in [[\varphi]]^{gF}\ \&\ [[\varphi]]^g \not\subseteq p) \rightarrow p(s)=p(s')])$
$\rightarrow M(s')(s)=1]$

3.7 Extending the Analysis to Other Languages

3.7.1 The Challenge Posed by Persian, Bulgarian and Spanish

In the previous sections of this Chapter I have proposed a novel analysis for English *except*. I suggested that (255) can be derived from (256) by ellipsis. Based on the NPI licensing facts I have argued that there is negation in the ellipsis site in (256).

(255) Every girl came except Eva.

(256) Every girl came except Eva did not come.

In the introduction I have argued that there are other languages that have clausal exceptives or exceptive-additive constructions. Spanish exceptive *excepto* can be clausal. Bulgarian *osven* and Persian *bejoz* are exceptive-additive constructions that can be clausal as well. One property that English *except* has and all those items in other languages do not have is the ability to host a fully pronounced clause after the exceptive markers (as in (256)). In those languages exceptive deletion is mandatory. The relevant data-points are repeated below from Chapter 1.

Spanish:
(257) *Todos los niños bailaron con todas las niñas en todas
all the boys danced with all the girls in all
partes, excepto Juan (no) bailo con Eva en la cocina.
places, except Juan (NEG) danced with Eva in the kitchen
Intended: 'All the boys danced with all the girls everywhere, except Juan did not dance/danced with Eva in the kitchen'.

Bulgarian:
(258) *Vsjako momče govori s vsjako momiče, osven Ivan
Every boy talks with every girl osven Ivan
(ne) govori s Iva.
(not) talks with Iva
Intended: 'Every boy talks with every girl osven Ivan does not talk/talks with Iva'.

Persian:
(259) *Man ba har pesari raghsidam bejoz man ba John
I with every boy danced bejoz I with John
(na-)raghsidam.
(NEG-)danced
Intended: 'I danced with every boy except I did not dance/danced with John'.

The only way of knowing the polarity of the exceptive or exceptive-additive clauses in those languages is to look at NPI facts. All those languages have n-words that are only licensed by a clause-mate negation.

If an elided exceptive (or exceptive-additive) clause operating on a universal quantifier has negation in it in those languages, the prediction is that n-words would be licensed after, *bejoz*, *excepto* and *osven* in those contexts. This prediction is not borne out for Persian, Spanish and Bulgarian. The relevant data are given below.

In Persian both (260) and (261) are well-formed, however (262) is ungrammatical.

(260) John ba hich doxtari az kelas-esh na-raghsid.
John with N girl-indf from class-his neg-danced
'John did not dance with any girl from his class'.

(261) John ba hame raghsid bejoz ba Zahra.
John with all danced bejoz with Zahra
'John danced with everyone except with Zahra'.

(262) *John ba hame raghsid bejoz ba hich doxtari az
John with all danced bejoz with N girl-indf from
kelas-esh.
class-his
Indented: 'John danced with everyone except with any girl from his class'.

N-words in Persian can survive ellipsis in general. For example, the fragment in (263) can be an answer to a question 'Who did John dance with?' (although it is a slightly strange answer pragmatically, it is well-formed syntactically).

(263) ba hich doxtari az kelas-esh.
with N girl-indf from class-his
'with no girl from his class'

The situation in Spanish is similar both (264) and (265) are well-formed, but (266) is ungrammatical.

(264) John no bailaba con ninguna chica de su clase.
John NEG danced with n girl of his class
'John did not dance with any girl from his class'.

(265) John bailaba con todos excepto con Eva.
John danced with all except with Eva
'John did not dance with any girl from his class'.

(266) *John bailaba con todos excepto con ninguna chica de
John danced with all except with n-which girl of
su clase.
his class
Indented: 'John danced with everyone except with any girl from his class'.

Again, in Spanish n-words can be remnants of ellipsis. (267) can be an answer to 'Who did John dance with?'.

(267) con ninguna chica de su clase.
with n girl of his class
'with no girl from his class'

The situation is similar in Bulgarian: an n-word cannot appear in the clause following *osven*, as shown in (269).

(268) Vanya ne tančuvaše s nikoe momiče ot klasa mu.
Vanya not danced with n-which girl from class self
'Vanya did not dance with any girls from his class'

(269) *Vanya tančuvaše s vsički osven s nikoe momiče
Vanya danced with all osven with n-which girl
ot klasa mu.
from class self
Intended: 'Vanya danced with everyone except any girls from his class'.

In those languages there is no evidence that there is negation in the elided exceptive or exceptive-additive clause operating on a universal quantifier. In the next section I show that a small modification in the semantics of an exceptive clause allows us to derive the right meaning for exceptive clauses with the assumption that the clause is always positive.

3.7.2 A General Description of the Solution

Given that we have found no evidence that the clause introduced by Spanish *excepto* in cases when it operates on a positive universal claim has negation in it, it seems to be the case that reduced exceptive clauses always have positive clauses as their sources. This is shown in (270) and (271).

(270)	Todas	las	chicas	vinieron	excepto	Eva	~~vino~~.
	All	the	girls	came	except	Eva	~~came~~
	'All girls came except Eva'.						

(271)	Ninguna	las	chicas	vinieron	excepto	Eva	~~vino.~~
	No	the	girls	came	except	Eva	~~came~~
	'No girls came except Eva'.						

Since the exceptive in (270) does not contribute the negative claim directly, I propose that both the negative inference and the containment are inferences follow from presupposition that the exceptive introduces. I propose that in (270) the exceptive introduces the presupposition given in (272).

(272) $\forall s[\text{Eva came in } s = \text{Eva came in } s_0 \rightarrow \neg\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]] =$
$\forall s[\text{Eva came in } s = \text{ Eva came in } s_0 \rightarrow \exists x[x \text{ is a girl in } s_0 \ \& \ \neg x \text{ came in } s]]$

The claim in (272) captures both the negative inference and the containment inference. It says that in every situation where the truth-value of the proposition [λs. Eva came in s] is the same as in the topic situation s_0, the quantificational claim (with the restrictor evaluated at the actual topic situation) is not true. Thus, it says that in every situation where the truth-value for *Eva came* is the same as in the actual topic situation, there is a girl from the topic situation who did not come. This can only be true if Eva is a girl and she did not come in the topic situation. This is because there is only one way in which Eva's coming or not coming can guarantee that there is a girl from the actual situation who did not come in all possible situations – Eva is that girl who did not come. The idea to use [λs'. Eva came in s'=Eva came in s_0] to restrict the domain of the quantifier over situation in case where we do not know in advance what the polarity of [λs. Eva came in s] in s_0 is is inspired by Groenendijk and Stokhof's (1984) treatment of polar questions.

Let's break it down and consider all possible scenarios. Let's imagine that Eva came in the topic situation s_0. The formula in (272) cannot be true in this scenario. This is because (272) states something about every possible situation and there is a possible situation that is the same with regards to Eva's coming where every other person in the world also came. It does not matter if Eva is a girl or not in s_0, in this possible situation there will be no girl from the actual situation that did not come.

Now let's also consider a situation where Eva is not a girl in s_0. Again, the formula in (272) cannot be true in this scenario. This is because there is a possible situation where everyone who is a girl from the topic situation s_0 came. It is not the true that there is a girl from the topic situation that did not come in that situation.

The only way it can be the case that every situation where facts about Eva being there are the same as in the topic situation has a girl from the actual situation that did not come in that possible situation is if Eva is that girl from the actual situation that did not come. I will call the claim in (272) Conditional Leastness.

Conditional Domain Subtraction can be expressed by looking at situations where the facts about Eva coming are different and the rest of the facts of the form 'x came' remain the same as in the actual topic situation s_0 and evaluating the quantificational claim in those situations.

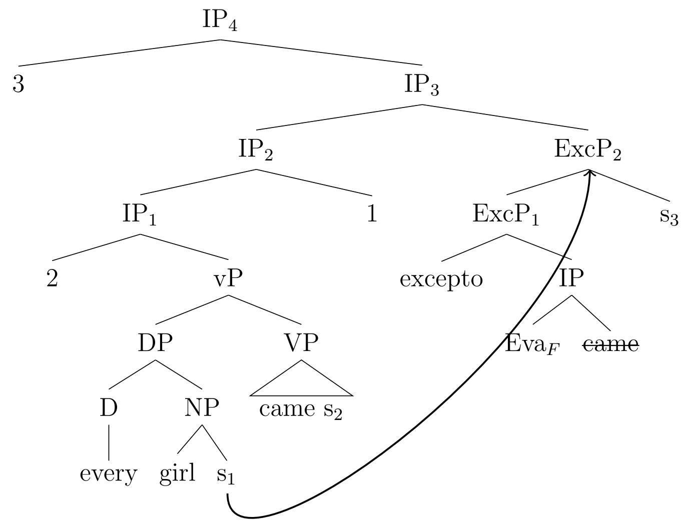
(273) $\forall s[(\text{Eva came in } s \neq \text{Eva came in } s_0\ \&\ \forall p[p \neq [\lambda s'. \text{ Eva came in } s']\ \&\ p \in [[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

3.7.3 Compositional Analysis

In this section I will show how the result discussed in the previous section can be achieved in a compositional manner.

A possible LF for the sentence in (270) is shown in (274). My assumptions about this structure remain the same as in the first part of this Chapter. In (274) the exceptive phrase moves from its connected position and leaves a trace s_1 of type s. Following the standard assumptions, a binder for this trace 1 is merged in syntax. This binder is merged above the binder 2 that binds the situation variable inside the VP – the variable with respect to which the main predicate of the quantificational sentence is evaluated. There is another situation variable s_3 inside the exceptive phrase – it is bound by the matrix lambda abstractor. The exceptive marker *excepto* is a sister of an IP *Eva came*.

(274)



The denotation of the sister of the Exceptive Phrase_2 is shown in (275).

(275) $\lambda s'.\lambda s''. \forall x[x \text{ is a girl in } s' \rightarrow x \text{ came in } s'']$

The denotation for the node named Exceptive Phrase_1 is given in (276): this is a function that is looking for a possible situation, then an argument of type <s<st>> - the type of the sister of the exceptive phrase_2 and outputs a truth-value. Note that no independent semantics is given to the word *excepto*. The denotation is assigned to the constituent consisting of *excepto* and a sentence (φ). This is done because we need to make reference to focus alternatives of φ.

(276) $[[\text{excepto } \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}: \forall s[\ [[\varphi]]^g(s) = [[\varphi]]^g(s') \rightarrow \neg M(s')(s)=1].$
$\forall s[([[\varphi]]^g(s) \neq [[\varphi]]^g(s')\ \&\ \forall p[(p \neq [[\varphi]]^g\ \&\ p \in [[\varphi]]^{gF}) \rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

The exceptive phrase introduces a condition of definedness (Conditional Leastness) that is modeled as a restriction on the domain of this function and the assertive component (the Conditional Domain Subtraction). Under these assumptions the predicted interpretation for the LF in (274) of the sentence (270) is shown in (277).

(277) $[[(274)]]^g$ (s_0) = 1 iff $\forall s[(\text{Eva came in } s \neq \text{Eva came in } s_0 \ \& \ \forall p[(p \neq [\lambda s'. \text{ Eva came in } s'] \ \& \ p \in [[\text{Eva}_F \text{ came}]]^{gF}) \rightarrow p(s)=p(s_0)]) \rightarrow \ \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

$[[(274)]]^g$ (s_0) is defined only if $\forall s[\text{Eva came in } s=\text{Eva came in } s_0 \rightarrow \ \neg\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

As the reader can verify the presupposition in (277) is Conditional Leastness and the at-issue content is Conditional Domain Subtraction, discussed above.

3.7.4 Negative Quantifiers

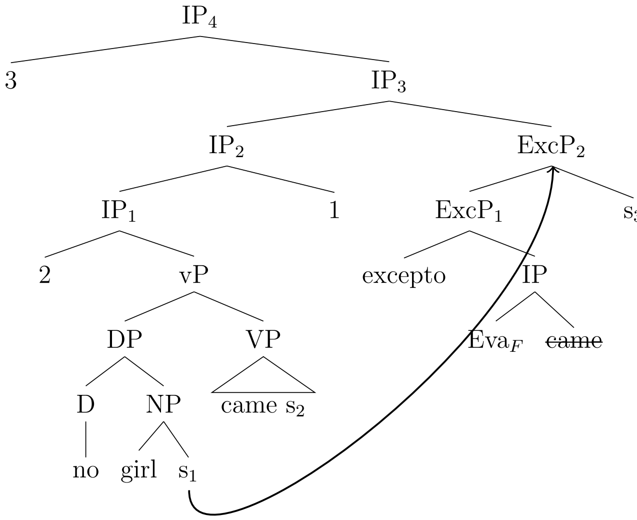
For the completeness of the discussion, I will walk the reader trough the derivation involving a negative quantifier in (278).

(278)	Ninguna	las	chicas	vinieron	excepto	Eva ~~vino.~~
	No	the	girls	came	except	Eva ~~came~~
	'No girls came except Eva'.					

Under the account proposed here, the polarity of the *excepto*-clause is always positive. This is because instead of directly restricting the quantification over possible situations by a positive proposition 'Eva came' or by a negative proposition 'Eva did not come' depending on the meaning of the quantifier, we are restricting it with situations where the truth value of the proposition denoted by 'Eva came' is equal or not-equal to its value in the actual world.

This proposal makes the correct prediction about the interaction of *except* with a negative quantificational claim. The assumed LF for the sentence with a negative quantifier in (278) is given in (279).

(279)



The denotation of the sister of the exceptive phrase$_2$ is shown in (280).

(280) $\lambda s' \lambda s''. \neg \exists x$[x is a girl in s' & x came in s'']

Given the denotation for the *excepto*-clause in (276), the predicted interpretation for the entire sentence is as shown in (281). It again has a presuppositional component (Conditional Leastness) and an at-issue component - Conditional Domain Subtraction.

(281) $[[(279)]]^g (s_0) = 1$ iff $\forall s$[(Eva came in s$\neq$Eva came in s_0 & $\forall p[(p \neq [\lambda s'$. Eva came in s'] & $p \in [[\text{ Eva}_F \text{ came}]]^{gF}) \rightarrow p(s)=p(s_0)]) \rightarrow \neg \exists x$[x is a girl in s_0 & x came in s]]

$[[(279)]]^g (s_0)$ is defined only if
$\forall s$[Eva came in s= Eva came in s_0 $\rightarrow$ $\exists x$[x is a girl in s_0 & x came in s]]

From the assertive component we learn that if we change one thing – namely the fact about Eva coming – and kept all the other facts about other people coming the same, it would be the case that no girl from the actual topic situation came. This correctly captures the domain subtraction inference.

From the presuppositional component we know that every possible situation that does not differ from the actual topic situation with respect to the fact about Eva's coming has a girl from the topic situation who came in that possible situation. This can only be the case if Eva is a girl in the actual topic situation s_0 and if she came in s_0. Thus, the containment entailment and the negative entailment come as a result of Conditional Leastness.

3.7.5 The Analysis of Exceptive Cases with Multiple Remnants for Languages Where the Clause is Always Positive

One assumption that played an important role in explaining the multiple remnant cases (especially the restriction on the force of the correlates in the main clause) that I made in Section 3.4.4 of this Chapter was that an exceptive clause containing multiple remnants has to c-command all of the correlate in the main clause. I have presented empirical data from English supporting this assumption. In this section I will present empirical data from Bulgarian – another language where multiple remnants in exceptive-additive clauses are possible – supporting the same generalization[56].

Extraposition of a locative PP to the position following an exceptive with multiple remnants is possible (282). Normally, the subject can bind into a locative PP preceding an exceptive with multiple remnants (283). It can also bind into a locative PP that follows an exceptive as long as this exceptive only contains one remnant (284). However, if an exceptive clause contains two remnants, the possibility of binding is lost.

[56] I am grateful to Romyana Pancheva for these data-points and for the discussion of this issue.

(282) Vsjako momiče tancuvaše s vsjako momče, osven Eva
Every girl danced with every boy osven Eva
s Ivan v kuhnjata na Roumi.
with Ivan in the-kitchen of Roumi
'Every girl danced with every boy except Eva with Ivan in Roumi's kitchen'.

(283) [Vsjako momiče]$_1$ tancuvaše s vsjako momče v kuhnjata
Every girl danced with every boy in the-kitchen
si$_1$ osven Eva s Ivan.
self osven Eva with Ivan
'[Every girl]$_1$ danced with every boy in her$_1$ kitchen except Eva with Ivan'.

(284) [Vsjako momiče]$_1$ tancuvaše s vsjako momče osven s
Every girl danced with every boy osven with
Ivan v kuhnjata si$_1$.
Ivan in the-kitchen self
'[Every girl]$_1$ danced with every boy except with[57] Ivan in her$_1$ kitchen'.

(285) *[Vsjako momiče]$_1$ tancuvaše s vsjako momče, osven Eva
Every girl danced with every boy Exc-Add Eva
s Ivan v kuhnjata si$_1$.
with Ivan in the-kitchen self
Intended: '[Every girl]$_1$ danced with every boy except Eva with Ivan in her$_1$ kitchen'.

We can conclude from this that in Bulgarian, like in English, an exceptive clause containing multiple phrases has to undergo movement in order to c-command all of the correlates in the main clause. This means that [in her$_2$ kitchen] in (285) has to be even higher than the exceptive clause. Because of this, the subject cannot bind the pronoun 'her' inside this PP. Below I will briefly sketch the analysis for a case with multiple remnants in (286) in Bulgarian under the assumption that the clause is always positive.

[57] For the reasons that are not entirely clear to me not all speakers of English allow *with* in this translation of the Bulgarian example.

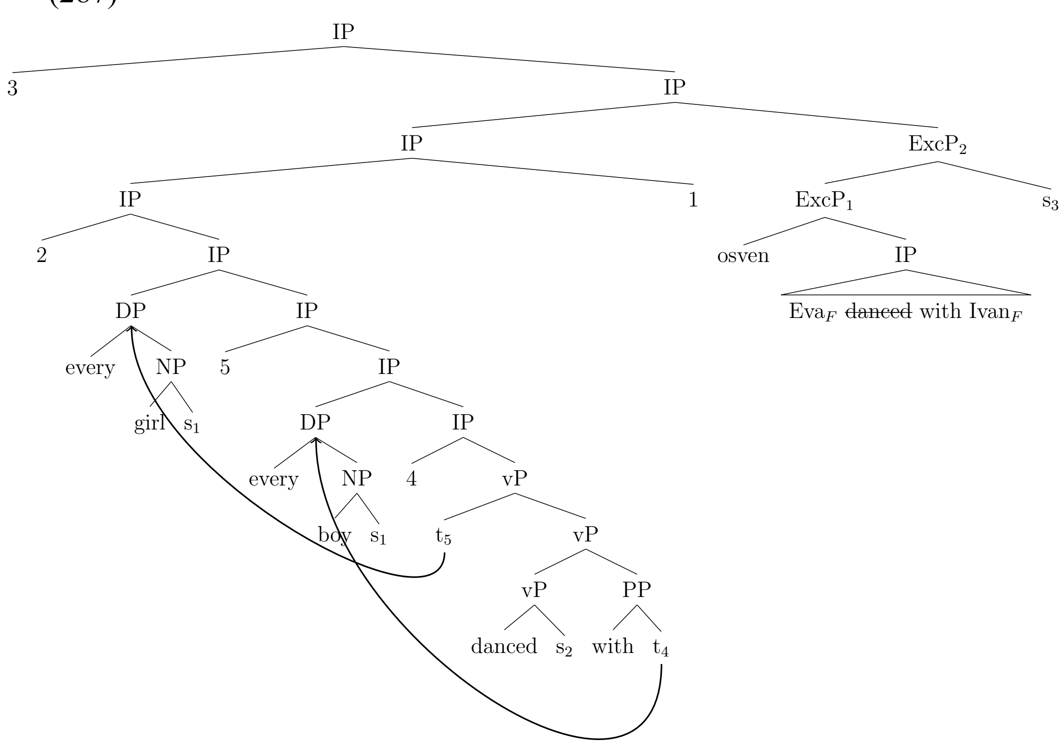
(286) Vsjako momiče tancuvaše s vsjako momče, osven Eva_F s Ivan ~~tancuvaše.~~

Every girl danced with every boy osven Eva with Ivan ~~danced~~

'Every girl danced with every boy except Eva with Ivan'.

The LF for this sentence is shown in (287). The situation variable s_2 that comes with the verb *dance* is bound by the lambda abstractor. There is a separate lambda abstractor that binds situation variables inside DPs. It is crucial here that those two variables are co-indexed and are bound by the same abstractor. If a situation variable in one of the DPs is bound by the same abstractor that binds the main predicate of the sentence the meaning we will generate will be too strong with the presupposition that cannot be satisfied. This was discussed in Section 3.4.4.1 (Every-every) of this Chapter. Both remnants of ellipsis are marked with focus.

(287)



The predicted denotation for the sister of the exceptive phrase is below.

(288) $\lambda s'. \lambda s''. \forall x[x \text{ is a girl in } s' \rightarrow \forall y[y \text{ is a boy in } s' \rightarrow x \text{ danced with } y \text{ in } s'']]$

Let's assume for now that an *osven*-clause has the same denotation as an *excepto*-clause: this is the denotation that was given in (276) (this is a simplification, because *osven* unlike *excepto* is an exceptive-additive item, not just an exceptive). In that case the predicted meaning of this sentence is shown in (289).

(289)

At issue content:

$[[(287)]]^g(s_0) = 1$ iff

$\forall s[($Eva danced with t Ivan in $s \neq$ Eva danced with Ivan in s_0 &

$\forall p[(p \neq [\lambda s'.$ Eva danced with Ivan in $s']$ & $p \in [[\text{Eva}_F \text{ danced with Ivan}_F]]^{gF}) \rightarrow p(s)=p(s_0)]) \rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow \forall y[y \text{ is a boy in } s_0 \rightarrow x \text{ danced with } y \text{ in } s]]]$

Presupposition:

$[[(287)]]^g(s_0)$ is defined only if

$\forall s[$Eva danced with Ivan in $s=$Eva danced with Ivan in $s_0 \rightarrow \exists x[x \text{ is a girl in } s_0 \,\&\, \exists y[y \text{ is a boy in } s_0 \,\&\, \neg\, x \text{ danced with } y \text{ in } s]]]$

The presupposition requires that every situation where facts about Eva dancing with Ivan are the same as in the actual topic situation, there is a girl from a topic situation and a boy from a topic situation such that the girl did not dance with the boy. This is only possible if Eva is a girl and Ivan is a boy in the topic situation and Eva did not dance with Ivan .

The predicted at-issue content requires that in every situation where facts about dancing are the same as in the actual topic situation for every pair of individuals other than Eva-Ivan and for Eva-Ivan the dancing facts are different than in the actual topic situation, every girl from the topic situation danced with every boy from the topic situation. This means that if we change one fact - the fact regarding Eva dancing Ivan, it would be true that all girls danced with all boys.

To conclude, this account captures the meaning of this sentence in a very straightforward way.

3.7.6 Plural Remnants

For simplicity of exposition I again made a simplifying assumption that remnants of reduced exceptive and exceptive-additive clauses are always expressions denoting singular individuals. The denotation for an exceptive clause given in (276) has to be modified along the likes suggested in Section 3.6 (Plural Remnants in Exceptive Clauses). The relevant modification is made below (I used the Spanish construction introduced by *excepto* again to illustrate the relevant modification).

(290) $[[\text{excepto } \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}$:
$\forall p[(p\in[[\varphi]]^{gF} \& [[\varphi]]^g \subseteq p) \rightarrow \forall s[p(s)=p(s_0) \rightarrow \neg M(s')(s)=1]]$.
$\forall s[(\forall q[(q\in[[\varphi]]^{gF} \& [[\varphi]]^g \subseteq q) \rightarrow q(s)\neq q(s')] \& \forall p[(p\in[[\varphi]]^{gF} \& [[\varphi]]^g \not\subseteq p) \rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

3.8 Conclusions

In the first part of this Chapter I have discussed the syntax and semantics of English exceptive construction introduced by *except*. I have argued that exceptive deletion exists as a type of ellipsis. I have empirically established some of the properties of exceptive deletion in English. Based on the NPI facts, I argued that this kind of ellipsis allows for polarity mismatch between the antecedent and the ellipsis site: a reduced *except*-clause can contain negation absent in the antecedent.

I have proposed a novel conditional semantic analysis for clausal exceptives. The analysis is conditional in the sense that there is quantification over possible situations and exceptive clauses restrict the domain of this quantification. I have shown how this analysis derives the inferences exceptives come with as well as their distribution. I have shown how the analysis proposed here explains the cases that the phrasal analysis cannot capture such as the cases where a remnant is a PP with a meaningful preposition, sprouting cases and multiple remnant cases. I proposed that an exceptive claim introduces an exception to a claim expressing a generalization. I suggested a specific way of thinking about what 'being an exception' means. It has 3 components. A claim X is an exception to a generalization Y if (i) X happened; (ii) in every situation where X happened Y is not true; (iii) had X not happened, Y would have been true.

In Section 3.7 of this Chapter I have shown that there are languages where NPI facts do not support the idea that an exceptive reduced clause can contain negation absent in the antecedent. Accidentally or not those are also the languages where the full structure cannot be pronounced after an exceptive marker even though exceptives can host remnants of clausal structures such as PPs and multiple elements. I have proposed a way of thinking about clausal exceptives where the clause introduced by an exceptive is always positive and instead of getting the negation from the clause directly we control the polarity in semantics indirectly by looking at situations where the truth value of the proposition denoted by this clause equals or not equals (depending on what we are trying to capture) to its value in the situation of evaluation.

CHAPTER 4

ADDITIVE READINGS AND THE EXCEPTIVE-ADDITIVE AMBIGUITY IN THE CONDITIONAL SYSTEM

4.1 Introduction

The goal of this chapter is twofold: I extend the conditional analysis developed in the previous chapter to the additive cases and I propose an account of the exceptive-additive ambiguity in the conditional system.

The account of the ambiguity I offer essentially uses the same line of thought as the one developed in Chapter 2 for phrasal exceptive-additive constructions. In Chapter 2 I extended von Fintel's (1994) analysis of exceptives to account for the exceptive-additive ambiguity. I proposed that there are two operators in the exceptive-additive phrase – OP and NEG. Depending on the relative scope of the two operators, the resulting operator is the additive or the exceptive one. I modeled the scopal interaction of the two operators by adopting the assumption that NEG can have different semantic types and the assumption that function composition exists as a rule of interpretation along with functional application. In principle, in all cases both the additive and the exceptive readings are generated. However, depending on the other functional elements in the sentence one of the readings is guaranteed to be ill-formed.

Because the analysis developed in Chapter 2 is based on von Fintel's (1994) analysis, it only works with the assumption that an exceptive-additive marker introduces a DP that is interpreted as a set. This set can be used to restrict the domain of a quantifier quantifying over individuals in a direct manner. Von Fintel's approach to the semantics of exceptives is challenged by the fact that in some languages such as Spanish and English exceptive constructions introduce elements that appear to be reduced clauses rather than DPs.

Consequently, one of the challenges that the account developed in Chapter 2 faces is the fact that in some languages the markers that are ambiguous between the exceptive and the additive meaning introduce reduced clauses and not just DPs. This fact was established in Chapter1 and the elements of this type were found in Bulgarian and Persian. In Chapter 3, in order to account for the fact that at least some exceptives clearly have a clausal syntactic structure I proposed a novel conditional semantic analysis that is faithful to their clausal syntax.

In this chapter I put together the ideas developed in Chapter 2 (the analysis of the ambiguity for phrasal cases) and in Chapter 3 (the conditional analysis for clausal exceptives) to account for the fact that in some languages markers that are ambiguous between the exceptive and the additive meaning can introduce reduced clauses. I show how essentially the same ideas can be used in the conditional system to capture the exceptive-additive ambiguity: the exceptive and the additive conditional operators can be viewed as a result of scopal interaction between negation and another operator. In this Chapter I address the following issues:

- How the additive meaning with existentials can be captured under the assumption that additive and exceptive-additive markers introduce quantification over possible situations;
- How the exceptive-additive ambiguity in simple quantificational constructions involving an existential or a universal quantifier can be accounted for in the conditional system in terms of the scopal interaction between negation and OP that introduces quantification over situations;

- How the fact that the exceptive reading is not available for existentials is derived in the conditional system;
- How the fact that the additive reading is not available for universal quantifiers is derived in the conditional system;
- How the additive reading is derived for *wh*-questions in the conditional system;
- How the additive reading with focus associates is derived in the conditional system under the assumption that in those cases an additive phrase modifies a silent question under discussion;
- How one and the same denotation for an additive marker can apply to regular quantificational propositions and questions under the assumption that the type-shifting principle existing in the domain of individuals (Partee 1986) can apply in the domain of propositions;
- How the exceptive-additive ambiguity is captured in a general system where both readings are generated for quantificational sentences, questions and focus constructions, but one of them is ruled out because it violates some constraints on meanings in natural languages.

4.2 Exceptive-Additive Ambiguity with Existentials and Universals

In this section I develop an analysis for the exceptive-additive ambiguity in terms of quantification over possible situations for simple quantificational sentences. The purpose of this section is to illustrate the idea behind the proposed analysis of the ambiguity by looking at two very basic cases. The benefit of this system is its simplicity, but the shortcoming of it is that the denotation for the exceptive-additive phrase developed here cannot be used with questions and, as a consequence, for focus constructions either. The system developed here would have to be replaced by a more complex system to account for more complex cases. This will be done in Section 4.4.

4.2.1 Additive Readings with Existentials under the Conditional Analysis

As a first step toward the goal of deriving the exceptive-additive ambiguity, I will illustrate how the additive reading with existentials can in principle be expressed in terms of quantification over possible situations. Let's consider the example from Persian given in (1) [58]. We want to account for the fact that it comes with the inference that Zahra is a girl (in (2)) and that she was there (in (3)). The sentence also means that some girl who is not Zahra was there too (in (4)).

Persian:

(1)	Chand-ta	doxtar	bejoz	Zahra	oonja	bood.
	Some-?	girl-	Exc-Add	Zahra	there	were-3pl

‘Some girls were there besides Zahra’.

(2) **Containment inference**: Zahra is a girl.

(3) **Positive inference**: Zahra was there.

(4) **Domain subtraction**: Some girls other than Zahra was there.

Before I provide the formal truth-conditions for this sentence, I want to express the intuition behind the conditional analysis by giving (1) a conditional paraphrase in (5). For now let's take it for granted that when the sentence in (1) is pronounced it is given that Zahra is a girl and that she was there. With this assumption, if we look at situations where Zahra did not come while all the facts about other people coming remain the same as in the situation we are concerned with and we discover that there still is a girl who was there, we know that there is a girl who is not Zahra who was there in the situation we are interested in.

[58] I am grateful to Zahra Mirrazi for this data-point.

(5) Had Zahra not come, it still would have been true that some girls were there.

Here is how the additive meaning with existentials can be expressed using essentially the same ingredients as the ones that we used to express the exceptive reading in the conditional system. The positive entailment and the containment inference of this sentence can be captured if we assume that the exceptive-additive marker introduces the presupposition given in (6): every situation that is the same with regards to facts about Zahra being there has a girl from the actual situation who was there.

(6) Conditional Additivity:
$\forall$s[Zahra was there in s=Zahra was there in $s_0 \rightarrow \exists$x[x is a girl in s_0 & x was there in s]]

If (6) is true, then Zahra is a girl in the actual topic situation s_0 and she was there in s_0. I will call this Conditional Additivity, because like Additivity in the system developed in Chapter 2 this claim is responsible for the inferences that Zahra is a girl and that Zahra was there. Given the results of the diagnostics for the presuppositional component from Chapter 2, I will treat Conditional Additivity as the presupposition of the sentence in (1).

Conditional Domain Subtraction (the inference that some girl other than Zahra was there) can be captured in terms of quantification over possible situations as shown in (7): in all situations where facts about all people other than Zahra being there are the same as they are in the actual topic situation and the facts about Zahra are the opposite, there is a girl from the actual topic situation who was there. Conditional Domain Subtraction is the truth conditional component of the meaning of (1).

(7) Conditional Domain Subtraction:
$\forall s[(\text{Zahra was there in } s \neq \text{Zahra was there in } s_0 \ \& \ \forall p[p \neq [\lambda s.\ \text{Zahra was there in } s] \ \& \ p \in [[\text{Zahra}_F \text{ was there}]]^{g^F} \rightarrow p(s)=p(s_0)]) \rightarrow \exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ was there in } s]\ ]$

I call this Conditional Domain Subtraction because taken together with Conditional Additivity it says 'someone who is a girl in s_0 who is not Zahra was there in s_0' - the claim that is responsible for the domain subtraction inference. Given that we already know from the presupposition in (6) that Zahra was there in the actual topic situation, (7) quantifies over situations where Zahra was not there – thus the girl who was there in those situations cannot be Zahra, it has to be someone else.

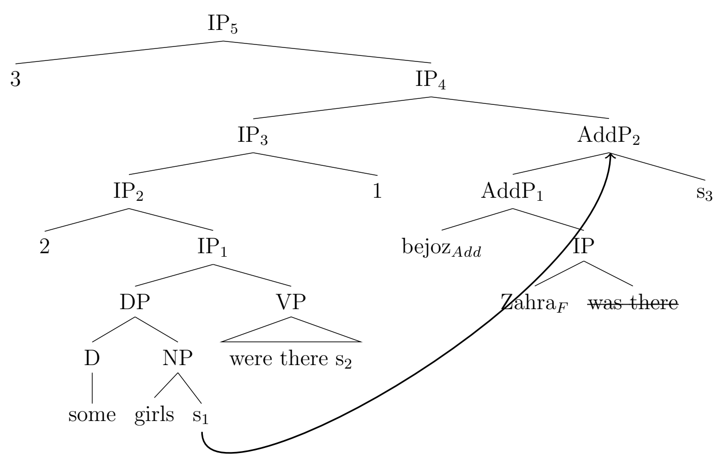
To conclude the additive reading with existentials (and to be more precise, all the inferences such reading comes with) can be easily captured in terms of quantification over possible situations.

In expressing the meaning of (1) via (6) and (7), we used the same ingredients as the ones that were used in expressing the meaning of exceptives with universal quantifiers in Chapter 3. In the presupposition we kept the facts about Zahra being there the same, while allowing all the rest of the facts about being there to vary across possible situations and made the predicate denoted by *girl* be evaluated with respect to the actual topic situation. In the assertive part we universally quantified over situations that are the same as s_0 with respect to all facts of the form 'x was there' (where x is a person) and the opposite with respect to Zahra being there and keep the extension of the predicate 'girl' fixed to the actual topic situation.

As was established in Chapter1, Persian *bejoz* depending on the context (depending on other functional elements in the sentence it occurs in) can get either the exceptive or the additive meaning. Here I will use the strategy adopted in Chapter 2 and first will give a compositional semantics for *bejoz* under the simplifying assumption that it is simply a lexically ambiguous between the exceptive and the additive operator. I will provide the semantics for *bejoz$_{ADD}$* and later will show how it can be related to *bejoz$_{EXC}$*.

Compositionally, the meaning of the sentence with *bejoz$_{ADD}$* given in (1) can be derived under the assumption that the sentence gets the LF in (8) that is already familiar from our discussion of exceptives. In this structure, the additive phrase moves from its connected position (the position of the sister to the head noun) and leaves a trace of type s. An abstractor binding this trace is merged above the abstractor over the situation variable of the main predicate.

(8)



The sister of the Additive Phrase$_2$ in (8) gets the denotation given in (9).

(9) λs'.λs.∃x[x is a girl in s' & x was there in s]

The semantics for the additive *bejoz$_{ADD}$* followed by the clause that would deliver the desired presupposition in (6) and the desired truth conditions given in (7) is provided in

(10). Again, no separate meaning is assigned to *bejoz$_{ADD}$*, the meaning is assigned to a constituent consisting of *bejoz* and the clause.

(10) $[[\text{bejoz}_{\text{ADD}}\ \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}: \forall s[\ [[\varphi]]^g(s)=[[\varphi]]^g(s') \rightarrow M(s')(s)=1].$
$\forall s[([[\varphi]]^g(s) \neq [[\varphi]]^g(s')\ \& \forall p[(p \neq [[\varphi]]^g\ \&\ p \in [[\varphi]]^{gF}) \rightarrow p(s)=p(s')]) \rightarrow\ M(s')(s)=1]$

As the reader can verify, with those assumptions, the entire sentence gets (6) as the presupposition and (7) as the at issue denotation.

4.2.2 Deriving the Additive Reading with Existentials and the Exceptive Reading with Universals from the Same Ingredients

If we compare the denotation for the additive clause given in (10) and repeated here in (11) (the one that we used to derive the additive reading with existential quantifiers) and the denotation of the exceptive clause that was given in the previous chapter and is repeated here as (12) (the one we used to generated the exceptive meaning with universal and negative quantifiers in Spanish that was discussed in Chapter 3 Section 3.7), we will observe that they differ only with respect to one negation in the presupposition.

(11) $[[\text{bejoz}_{\text{ADD}}\ \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}: \forall s[\ [[\varphi]]^g(s)=[[\varphi]]^g(s') \rightarrow M(s')(s)=1].$
$\forall s[([[\varphi]]^g(s) \neq [[\varphi]]^g(s')\ \& \forall p[(p \neq [[\varphi]]^g\ \&\ p \in [[\varphi]]^{gF}) \rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

(12) $[[\text{excepto}\ \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}: \forall s[\ [[\varphi]]^g(s)=[[\varphi]]^g(s') \rightarrow \neg M(s')(s)=1].$
$\forall s[([[\varphi]]^g(s) \neq [[\varphi]]^g(s')\ \& \forall p[(p \neq [[\varphi]]^g\ \&\ p \in [[\varphi]]^{gF}) \rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

Thus we can use the ideas developed in the Chapter 2 (Exceptive-additive Ambiguity for Phrasal Exceptives in von Fintel's System) to account for the fact that in some languages the markers that introduce additive readings with existential, question and in focus constructions, also get the exceptive reading with universals. One of such languages is Persian, the example where *bejoz* is used in the exceptive meaning is given in (13).

(13)

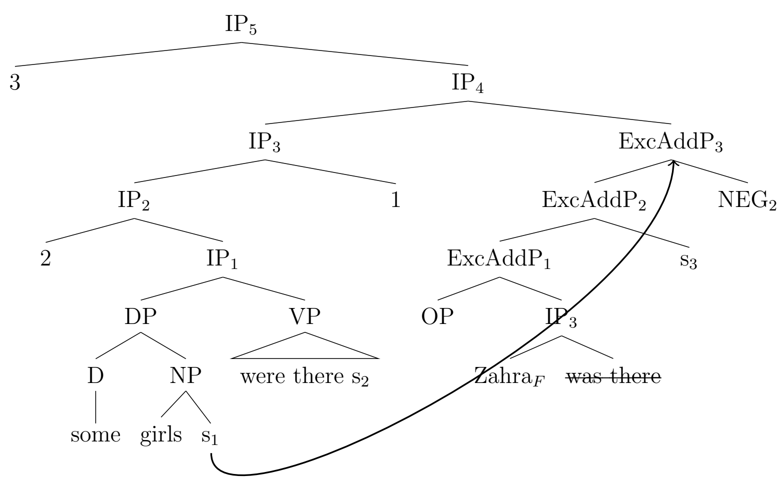
Har	doxtari	bejoz	Zahra	oonja	bood. (Persian)
All	girl-	Exc-Add	Zahra	there	were-3pl

'All girls were there except Zahra'.

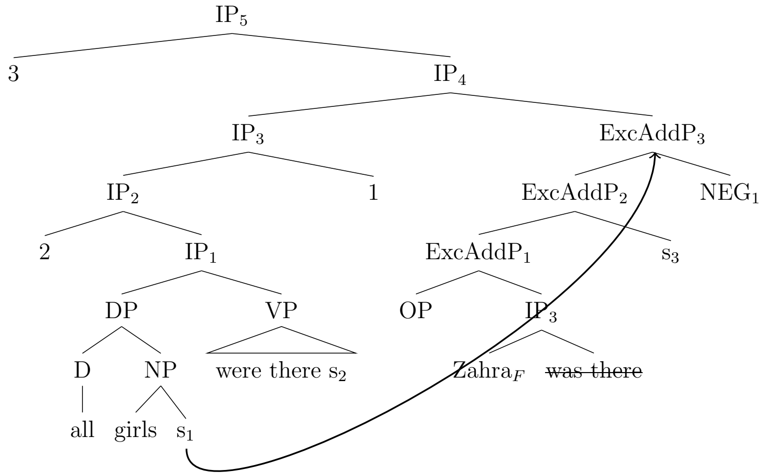
For now, I will only focus on the exceptive-additive ambiguity with existentials and universals.

Let's assume that (1) and (13) have very similar LFs that are shown below in (14) and (15) respectively. I will adopt the assumption here that OP and NEG are pronounced together as *bejoz* (Persian).

(14)



(15)



The denotation for the constituent consisting of OP and a clause is the same for both uses and it is shown in (16).

(16) $[[\text{OP } \varphi]]^{g}=\lambda s'.\lambda M_{<s<st>>}\text{: } \forall s[\ [[\varphi]]^{g}(s)=[[\varphi]]^{g}(s')\rightarrow M(s')(s)=1].$
$\neg\forall s[\forall p[p\neq[[\varphi]]^{g}\ \&\ p\in[[\varphi]]^{gF}\rightarrow p(s)=p(s')]\rightarrow M(s')(s)=1]$

The clause in our case is 'Zahra was there' and after ExcAddP_1 takes the situation variable we get the meaning for ExcAddP_2 given in (17).

(17) $[[\text{ExcAddP}_2]]^{g}=\lambda M_{<s<st>>}\text{:}\forall s[\text{Zahra was there in s=Zahra was there in}(g(3))\rightarrow M(g(3))(s)=1].$
$\neg\forall s[\forall p[(p\neq[\lambda s''.\text{Zahra was there in s''}]\ \&\ p\in[[\text{Zahra}_F\text{ was there}]]^{gF})\rightarrow p(s)=p(g(3))]\rightarrow M(g(3))(s)=1]$

The next step is to put together negation (NEG) and ExcAddP_2. Following the ideas developed in Chapter 2 of this dissertation, I propose that those two operators can interact scopally.

Negation can take scope over the operator resulting from interpreting $ExcAddP_2$. In this case, the presupposition will remain unaffected by negation, but the negation observed at the at issue dentation in (17) will be cancelled out as shown in (18). This is how the additive operator is composed. The exceptive operator comes as a result of interpreting negation as a function with a lower semantic type and putting it together with $ExcAddP_2$ via function composition. The details of the computation of both scopes are discussed in greater detail below. But to preview, under the second mode of composition, negation targets every occurrence of the M argument of the exceptive-additive phrase in (17). The result of this is shown in (19).

(18) the additive operator:

$[[ExcAddP_3]]^g = \lambda M_{<s<st>>}: \forall s[\text{Zahra was there in } s = \text{Zahra was there in}(g(3)) \rightarrow M(g(3))(s)=1].$

$\forall s[\forall p[p \neq [\lambda s''.\text{Zahra was there in } s''] \ \&\ p \in [[\text{Zahra}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow M(g(3))(s)=1]$

(19) the exceptive operator:

$[[ExcAddP_3]]^g = \lambda M_{<s<st>>}: \forall s[\text{Zahra was there in } s = \text{Zahra was there in}(g(3)) \rightarrow \neg M(g(3))(s)=1].$

$\neg \forall s[\forall p[p \neq [\lambda s''.\text{Zahra was there in } s''] \ \&\ p \in [[\text{Zahra}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow \neg M(g(3))(s)=1] =$

$[[ExcAddP_3]]^g = \lambda M_{<s<st>>}: \forall s[\text{Zahra was there in } s = \text{Zahra was there in } (g(3)) \rightarrow \neg M(g(3))(s)=1].$

$\exists s[\forall p[p \neq [\lambda s''.\text{Zahra was there in } s''] \ \&\ p \in [[\text{Zahra}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(g(3))] \ \&\ M(g(3))(s)=1]$

In what follows I provide a detailed computation of the two derivations and show how the resulting additive and exceptive operators when put together with the right quantificational phrase deliver the exceptive or the additive reading for the entire sentence.

Let's go over the derivation of **the additive reading with an existential quantifier**. As was said above, negation in this case takes scope over the operator denoted by ExcAddP_2. This result is achieved by interpreting negation as a function of the type $<<<s<st>>t><<s<st>>t>>$ and letting it take ExcAddP_2 as an argument. The negation with this type is shown in (20).

(20) $[[\text{NEG}_2]]^g = \lambda O_{<<s<st>>t>}.\ \lambda S_{<s<st>>}.\neg\ O(S)=1$

The result of putting together this negation and the ExcAddP_2 is shown in (21).

(21) Deriving the additive operator:

$[[\text{ExcAddP}_3]]^g$ = by functional application

$\mathbf{[[NEG_2]]^g}$ $([[\text{ExcAddP}_2]]^g)$ =

$\mathbf{[\lambda O_{<<s<st>>t>}.\ \lambda S_{<s<st>>}.\ \neg\ O(S)=1}$

$(\lambda M_{<s<st>>}$:∀s[Zahra was there in s=Zahra was there in(g(3))→ M(g(3))(s)=1].
¬∀s[∀p[p≠[λs''.Zahra was there in s''] & p∈[[Zahra$_F$ was there]]^{gF}→p(s)=p(g(3))]
→M(g(3))(s)=1]) **]** =

by lambda conversion

$\mathbf{\lambda S_{<s<st>>}.\ \neg\ [}\lambda M_{<s<st>>}$:
∀s[Zahra was there in s=Zahra was there in(g(3))→ M(g(3))(s)=1] .
¬∀s[∀p[p≠[λs''.Zahra was there in s'']& p∈[[Zahra$_F$ was there]]^{gF}→p(s)=p(g(3))]
→M(g(3))(s)]=1)**(S)]**=

by lambda conversion

$\mathbf{\lambda S_{<s<st>>}}$:∀s[Zahra was there in s=Zahra was there in(g(3))→ **S**(g(3))(s)=1].
¬¬∀s[∀p[p≠[λs''.Zahra was there in s''] & p∈[[Zahra$_F$ was there]]^{gF}→p(s)=p(g(3))]→
S(g(3))(s)=1]

What we see in (21) is that the negation that we see in the at-issue part of OP is neutralized by the negation introduced by NEG_2 and the presupposition remains unaffected. This is because NEG_2 states that the function it takes as it first argument (ExcAddP_2) when applied to its second argument does not output Truth. The function it takes as its first argument

($ExcAddP_2$) is defined only for arguments satisfying the condition specified in the presuppositional part. Thus, S argument NEG_2 feeds to it, has to satisfy that condition, otherwise the result is not going to be defined.

Since the goal here is to derive the additive meaning, I will consider the derivation where the sister of the exceptive-additive phrase contains an existential quantifier. Its denotation is given in (22) and it is put together with the exceptive-additive phrase via function application. The function in (21) is looking for an argument that has the type the function in (22) has.

(22) $\lambda s'.\lambda s.\exists x[x \text{ is a girl in } s' \ \& \ x \text{ was there in } s]$

The predicted denotation for the LF in (14) for the sentence with an existential in (1) is shown in (23).

(23) $[[(14)]]^g = \lambda s': \forall s[\text{Zahra was there in } s = \text{Zahra was there in } s' \rightarrow \exists x[x \text{ is a girl in } s' \ \& \ x \text{ was there in } s]]$.
$\forall s[\forall p[p \neq [\lambda s''.\text{Zahra was there in } s''] \ \& \ p \in [[\text{Zahra}_F \text{ was there}]]^{gF} \rightarrow p(s) = p(s')] \rightarrow \exists x[x \text{ is a girl in } s' \& \ x \text{ was there in } s]]$

The presupposition in (23) is familiar from the earlier discussion: this is Conditional Additivity. This is the claim responsible for the inferences that Zahra is a girl and that she was there.

The at issue content in (23) is Conditional Domain Subtraction, but there is a small difference between this version of it and what we have seen earlier. The difference is in the absence of one part of the restrictor of the quantification over possible situations, specifically, the part that says that we need to be looking at situations where the facts about Zahra coming are different than in in the situation of evaluation. We are simply looking at situations where all the facts of the form ‘x was there’ where x is an individual other than Zahra remain the same as in the situation of evaluation. Recall that we are trying to capture the fact that the sentence can only be true if there is a girl who is not Zahra who was there (the domain subtraction inference). This is what the at issue content in (23) does.

This is because the quantification over possible situations is universal. When we look at situations where all propositions in the set of focus alternatives for ‘Zahra$_F$ was there’ (other than the original) have the same truth-value as they do in the actual topic situation, we will find that in some of them Zahra was there too and in some of them Zahra was not. In those situations where Zahra was not there, according to the at issue content in (23), it still has to be true that some girl from s_0 was there.

Let us see what happens if Zahra is the only girl in s_0 who was there. In this scenario, there is a situation, where all facts of the form ‘x was there’ where x is an individual other than Zahra are the same as in s_0 where no girl came. This is a possible situation where Zahra did not come. Thus, the at issue content will not be true in this scenario. The universal quantifier over situations can be true only if a girl from the topic situation that was there was not Zahra. Thus, the at issue content in (23) does deliver the domain subtraction inference.

To conclude, if negation takes scope over the *OP*-clause, the additive meaning with existentials is predicted.

Now I will go over the details of the derivation of **the exceptive meaning with a universal quantifier.**

In order to get the exceptive reading of *bejoz* (or any other exceptive-additive marker hosting a clause), we will use the negation of a different semantic type and compose it with the exceptive clause via the interpretation rule named function composition. This interpretation rule is discussed in Chapter 2 and is repeated here in (24).

(24) The rule of function composition:
If X is a node whose daughters are Y and Z and if $[[Y]]^g$ is of type $<\alpha,\beta>$, and $[[Z]]^g$ is of type $<\gamma,\alpha>$, then $[[X]]^g$ is the following function of type $<\gamma,\beta>$: $\lambda f_{\gamma}. [[Y]]^g ([[Z]]^g(f))$

The negation that we need here is in (25): this is a function of type $<<s<st>><s<st>>>$. The reminder of the denotation of the $ExcAddP_2$ is given in (26).

(25) $[[NEG_1]]^g = \lambda P_{<s<st>>}.\lambda s.\lambda s'. \neg P(s)(s'')=1$

(26) $[[ExcAddP_2]]^g=$
$\lambda M_{<s<st>>}:\forall s[\text{Zahra was there in } s=\text{Zahra was there in}(g(3))\rightarrow M(g(3))(s)=1].$
$\neg\forall s[\forall p[p\neq[\lambda s''.\text{Zahra was there in } s''] \ \& \ p\in[[\text{Zahra}_F \text{ was there}]]^{gF}\rightarrow p(s)=p(g(3))] \rightarrow M(g(3))(s)=1]$

The result of putting this NEG_1 and $ExcAddP_2$ together via function composition is shown in (27). The idea is that when the $ExcAddP_2$ combines with NEG_1 via function composition NEG_1 targets the argument of the function in (26) (the M argument). As the result we get the function of the same type, but every occurrence of the $<s<st>>$ argument in (26) has a different polarity.

Deriving the exceptive operator:

(27) $[[\text{ExcAddP}_3]]^g$ = by function composition

$\lambda O_{<s<st>>}.\mathbf{[}\ [[\text{ExcAddP}_2]]^g\ (\ \mathbf{[[NEG_1]]}^g\,(O))\mathbf{]}$= by the lexical entry in (25)

$\lambda O_{<s<st>>}.\mathbf{[}\ [[\text{ExcAddP}_2\ ]]^g\ (\mathbf{[\lambda P_{<s,st>}.\lambda s.\lambda s'.\ \neg P(s)(s'')=1}\ (O)\mathbf{]})\mathbf{]}$=
by (26) & by lambda conversion

$\lambda O_{<s<st>>}.$
$\mathbf{[}\ \lambda M_{<s<st>>}$:$\forall$s[Zahra was there in s=Zahra was there in(g(3))$\rightarrow$ M(g(3))(s)=1].
$\neg\forall$s[$\forall$p[p$\neq$[λs''.Zahra was there in s''] & p$\in$[[Zahra$_F$ was there]]^{gF}$\rightarrow$p(s)=p(g(3))] $\rightarrow$ M(g(3))(s)=1] $(\boldsymbol{\lambda s.\lambda s'.\ \neg O(s)(s'')=1}\ )\ \mathbf{]}$ =
by 3 applications of lambda conversion

$\lambda O_{<s<st>>}$:$\forall$s[Zahra was there in s=Zahra was there in(g(3))$\rightarrow$ $\neg$O(g(3))(s)].
$\neg\forall$s[$\forall$p[p$\neq$[λs''.Zahra was there in s''] & p$\in$[[Zahra$_F$ was there]]^{gF}$\rightarrow$p(s)=p(g(3))] $\rightarrow$ $\neg$O(g(3))(s)=1]

The resulting function in (27) is equivalent to (28). This is the denotation of the exceptive operator.

(28) Exceptive Operator: $[[\text{ExcAddP}_3]]^g$=
$\lambda O_{<s<st>>}$:$\forall$s[Zahra was there in s=Zahra was there in(g(3))$\rightarrow$ $\neg$O(g(3))(s)=1].
$\exists$s[$\forall$p[p$\neq$[λs''.Zahra was there in s''] & p$\in$[[Zahra$_F$ was there]]^{gF}$\rightarrow$p(s)=p(g(3))] & O(g(3))(s)=1]

The reader can observe that there is an existential quantification over possible situations and not universal as in the denotation we developed earlier. Is this denotation in (28) too weak? Let me walk through the resulting truth conditions in order to show what the final result is and why this denotation is not too weak.

Since our goal here is to derive the exceptive reading with a universal quantifier, it's the LF in (15) that were are interested in and the sister of the exceptive-additive phrase has the denotation given in (29). This is the universal quantifier with abstraction over two situation variables: in the restrictor and in the main predicate.

(29) $\lambda s'.\lambda s.\forall x[x \text{ is a girl in } s' \rightarrow x \text{ was there in } s]$

$ExcAddP_3$ combines with (29) via functional application. The entire sentence gets the denotation shown in (30).

(30) $[[(15)]]^g(s_0)$ is defined only if
$\forall s[\text{Zahra was there in } s = \text{Zahra was there in } s_0 \rightarrow \exists x[x \text{ is a girl in } s_0 \;\&\; \neg\, x \text{ was there in } s]]$

$[[(15)]]^g(s_0) = 1$ iff
$\exists s[\forall p[p \neq [[\text{Zahra was there}]]^g \;\&\; p \in [[\text{Zahra}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(s_0)]$
$\&\; \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ was there in } s]\,]$

The presupposition in (30) is Conditional Leastness familiar from the earlier discussion, it can only be satisfied if Zahra is a girl in s_0 (the topic situation) and if she was not there in s_0.

The assertive component in (30) is Conditional Domain Subtraction, though it is not exactly what we had previously. One difference is that the quantifier is existential and another is that there is no restriction that we are looking at situations where the facts about Zahra are different than in s_0. Recall that the at issue content has to say: all girls from the topic situation who are not Zahra were there in the topic situation. This is exactly what the at issue content in (30) says.

Simply saying that there is a possibility that all facts described by sentences of the form ‘x was there’ where x is anyone other than Zahra are the same as in the topic situation and where every girl from the topic situation was there guarantees that everyone who is not Zahra is not standing on the way of making the proposition ‘every girl was there’ being true in the actual topic situation. This is domain subtraction.

Let me illustrate the point that the at issue content in (30) cannot be true if there is a girl (other than Zahra) who was not there with a specific example. Let's consider a scenario that there is a girl in s_0, Sveta, who was not there in s_0. In this case, the at issue content is going to be false. This is because if we look at situations where all propositions of the form 'x was there' have the same value as in s_0, we will not find among them a situation where everyone who is a girl in s_0 was there, because Sveta is not going to be there in all of them.

4.2.3 No Exceptive Readings with Existentials and no Additive Readings with Universal Quantifiers

I have already shown in Chapter 3 that in the conditional system the exceptive readings are predicted to not be available with existential quantifiers. Recall that this fact followed from the observation that the presupposition that is introduced by an exceptive clause for a sentence like (31) (this is an example repeated from the earlier discussion) requires that either there are no girls in the topic situation or Zahra is the only girl. This is because there is no other way that one fact about Zahra can guarantee something for all girls in all possible situations. This presupposition is given again in (32).

(31)	Chand-ta	doxtar	bejoz	Zahra	oonja	bood.
	Some-?	girl-	Exc-Add	Zahra	there	were-3pl

'Some girls were there besides Zahra'.

(32) Exceptive presupposition for an existential statement:
$[[(31)]]^g(s_0)$ is defined only if $\forall s$[Zahra was there in s=Zahra was there in $s_0 \rightarrow \neg\exists x$[x is a girl in s_0 & x was there in s]]

I suggested that the possibility that Zahra is the only girl in the topic situation is ruled out because of the restriction on the use of existentials in contexts where it is known that their restrictor is a singleton set (this was discuss in more detail in Chapter 2 and the relevant examples from the existing literature supporting this assumption were cited there). The possibility that there are no girls in s_0 is in a conflict with the predicted at issue content that is given in (33): it can only be true if there is a girl in s_0 who was there.

(33) Exceptive at issue for an existential statement:
$[[(31)]]^g(s_0) = 1$ iff $\exists s[\forall p[p \neq [[\text{Zahra was there}]]^g \ \& \ p \in [[\text{Zahra}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(s_0)] \ \& \ \exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ was there in } s]\ ]$

One last fact that I need to show here is that the additive reading is predicted not to be available with universal quantifiers (for example, it is not available in (13), repeated below as (34)).

(34) Har doxtari bejoz Zahra oonja bood.
All girl- Exc-Add Zahra there were-3pl
'All girls were there except Zahra '.

Let's consider what would happen if the additive denotation for the $ExcAddP_3$ (the entire ExcAdd Phrase) would apply to a universal quantifier. Let's again assume that s_0 is the actual topic situation. The predicted additive reading is given in (35).

(35) Additive presupposition for a universal statement:
$[[(34)]]^g(s_0)$ is defined only if $\forall s[\text{Zahra was there in } s = \text{Zahra was there in } s_0 \rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ was there in } s]\ ]$

Additive at issue content for a universal statement:
$[[(34)]]^g(s_0)=1$ iff $\forall s[\forall p[p \neq [\lambda s.\text{Zahra was there in } s] \ \& \ p \in [[\text{Zahra}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow \ \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ was there in } s]\ ]$

The presupposition can only be true in two cases: if Zahra is the only girl who was there and if there are no girls in s_0 so that the universal quantifier over girls is vacuous. This is because the only way the fact about Zahra can guarantee something about every girl in every possible situation is if Zahra is the only girl in s_0 or if there are no girls. Both options are problematic.

Let's first consider the possibility that there is only one girl in s_0 and that she came. There is an independently observed restriction on using *every* when it is known that there is only one individual who satisfies the restrictor of *every*. This observation goes back to Partee (1986). The sentence in (229) (repeated here from Chapter 3) implies that there is more than one satellite of Earth. This is the same restriction we observed already with existentials: if it is established in the context that there is only one individual satisfying a predicate, a definite article has to be used, because it is the expression with maximal presuppositions (The 'Maximize Presuppositions' principle from (Heim 1991)).

(36) #Every satellite of the Earth is yellow.

The only remaining option is that there are no girls in s_0. There are two problems with this possibility. First of all, one might adopt the view that *every* and *all* in natural languages presuppose that their restrictor is not empty. But even if this view is not adopted, if there are no girls in s_0, whenever the presupposition is true, the at issue content is true as well. This meaning is ill-formed in the sense that it is a tautology: if the sentence is defined it is true, there is no way for it to be false. Following Gajewski (2002), I assume that tautologies and contradictions that cannot be repaired by changing all of the open class non-functional elements of a sentence are perceived as ungrammatical in natural languages.

Those are the reasons why the additive meaning is not available for sentences with universal quantifiers like the one in (34).

4.3 Conditional Analysis for The Family of the Additive Readings: Questions, Focus, and Existentials

In this section I show how the conditional theory developed in the previous sections of this chapter can account for the additive readings that the exceptive-additive markers can get in some languages in some contexts. The overarching goal of this project is to account for the exceptive-additive ambiguity of clausal exceptive-additive markers. However, before handling this global task I would like to focus just on the additive cases and show how the additive readings could be expressed in the conditional system for more complex cases involving questions and focus constructions.

I start this discussion by going over the additive readings with questions. In this section I make a simplifying assumption that the exceptive-additive ambiguity is simply a lexical ambiguity and that there is an operator that encodes the additive meaning. I show how in principle the additivity and domain subtraction can be expressed with questions in terms of quantification over possible situations. I also show how the ideas developed for questions can be extended to focus cases: under the assumption that exceptive-additive clauses can modify silent variables over questions under discussion, additive readings with focus associates are predicted in a straightforward way. The theory I develop here is built on the idea that a question can undergo type-shifting from a predicate of propositions (type <pt>) to a generalized quantifier over propositions (type <<pt>t>) (this is the type-shifter A from (Partee 1986) adopted here to apply to the domain of propositions, and the type-shifter Answer3 from (Beck and Rullmann 1999). This is the idea the analysis of the interaction of questions and exceptive-additive markers developed is Chapter 2 was based on. Essentially, I show that a similar idea can be implemented in the conditional system for clausal exceptive-additive markers.

I also show here that under the assumption that the type-shifter LIFT from (Partee 1986) can apply to a proposition and turn it into a set of sets of propositions, the additive denotation for exceptive-additive markers developed for questions can apply to sentences with existential quantifiers and derive the additive reading for those contexts as well.

4.3.1 Conditional Analysis for Additive Readings with Questions: General Idea

The additive meaning with questions can be expressed in terms of quantification over possible situations essentially by using the same mechanism that was used to express the additive meaning with existential quantifiers.

I will illustrate this by using the example from Bulgarian given in (37). This question comes with an inference that Eva is a girl (Containment in (38)) who came (Positive Entailment in (39)) and the question itself is about girls other than Eva who came too (Domain Subtraction in (40)).

Bulgarian:

(37)	Koi	momičeta	osven	Eva	dojdoha?
	Which	girls	ExcAdd	Eva	came

‘Which girl besides Eva came?’

(38) **Containment inference**: Eva is a girl.

(39) **Positive inference**: Eva came.

(40) **Domain subtraction**: Which girl other than Eva came?

Again, before providing the formal meaning of this sentence I would like to express the intuition behind the conditional analysis by giving this question a conditional paraphrase in (41).

(41) Had Eva not come, of which girls it would have been true that they came?

Following much of the literature, I will build on Hamblin's (1973) and Karttunen's (1977) work and assume that a question denotes a set of propositions. I assume that the positive inference and the containment are presuppositions that the question in (37) carries.

Let's consider for now that it is given that Eva is a girl and that she came. Let's also assume that a question is a set of true propositions. With those assumptions, when we evaluate (41) we look at the situations where Eva did not come and collect the propositions in the question denotation that are true in those situations. This is how the domain subtraction is modeled in the conditional system: the question is not about Eva.

The challenge here is to capture the inferences that Eva is a girl (the containment) and that she came (the positive entailment). The challenge is that a presupposition has to be a claim, thus we need to go somehow from a set of propositions (the question denotation) to a claim.

The observation that my analysis is built on is that the right inferences can be predicted if we introduce existential quantification over propositions. The containment and the positive inference can be captured by universally quantifying over situations where facts about Eva coming are the same as in the actual topic situations and saying that in each of them, there is a true proposition in the question denotation. This is shown (42).

(42) The desired presupposition:
$\forall s$[Eva came in s= Eva came in $s_0 \rightarrow$
$\exists p[\exists x$[x is a girl in s_0 & p=[λs'. x came in s']]& p(s)]]

Let's for concreteness consider that the question 'which girls came' denotes a set given in (43), i.e. a set of propositions the form 'x came' where x varies over girls from the actual topic situation. The claim in (42) can only be true if Eva is a girl in s_0 and she came in s_0: it says that in every situation where facts about Eva coming are the same as in s_0 there is a true proposition in (43). This can only be 'λs. Eva came in s'.

(43) {λs. Eva came in s;
λs. Sveta came in s;
λs. Ann came in s;
λs. Mary came in s}

In the next Section I am going to show how to express the domain subtraction inference in the conditional system in formal terms.

4.3.2 Modeling Domain Subtraction with Questions in the Conditional System

Let's consider a scenario where the question in (44) (i.e. the question without the exceptive-additive phrase) denotes a set of propositions in (45), and let's give it a name for shortness QSet. Let me also assume that all the propositions in QSet are true in the s_0.

Bulgarian:

(44)	Koi	momičeta	dojdoha?
	Which	girls	came
	'Which girl came?'		

(45) QSet = {λs. Eva came in s;
λs. Sveta came in s;
λs. Ann came in s;
λs. Mary came in s}

What we are trying to model is the fact that the question we are considering (repeated below as (46)) denotes a set of propositions that minimally differs from (45) and does not include [λs. Eva came in s] (shown in (47)).

Bulgarian:

(46) Koi momičeta osven Eva dojdoha?
Which girls ExcAdd Eva came
'Which girl besides Eva came?'

(47) Updated QSet = { λs. Sveta came in s;
λs. Ann came in s;
λs. Mary came in s}

Under the conditional approach to the semantics of exceptives we cannot subtract Eva directly from the set of girls in (37). The domain subtraction is done indirectly via looking at situations similar to the actual topic situation with respect to some facts and stating that quantificational claim is true in those situations. I don't see how the conditional approach can be realized with respect to questions without adopting Karttunen's idea that a question only contains propositions that are true in the world/situation with respect to which the question is evaluated (Karttunen 1977).

If this assumption is made, we can collect all the propositions expressed by sentences of the form 'x came' (where x varies over girls from the actual topic situation) such that those propositions are true in all situations where the facts regarding coming are the same as in the actual topic situation for the people other than Eva. This is formally implemented in (48). Again, s_0 is the topic situation – the situation with respect to which the entire question is evaluated.

(48) Conditional Domain Subtraction:

$$\lambda \mathbf{q}.\forall s[\forall p[p\neq[\lambda s.\text{ Eva came in s}]\ \&\ p\in[[\text{Eva}_F\text{ came}]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow \exists x[x\text{ is a girl in }s_0\ \&\ \mathbf{q}=[\lambda s'.x\text{ came in }s']\ \&\ \mathbf{q}(s)=1]\ ]$$

Let's break it down into two parts: first I will show that the set of propositions picked by the function in (48) contains all the true propositions of the form 'x came' where x is a girl. After that I will show that this set does not contain the proposition 'Eva came', thus, this is Domain Subtraction.

I will illustrate the first point on a specific example. Let's make an assumption that Mary is a girl and let's check if the proposition given in (49) is in the set picked by (48). Let's also assume that this proposition is true in the actual topic situation s_0.

(49) [λs'. Mary came in s']

Plugging it into the formula, we get (50). (50) is true in s_0, which means that proposition 'Mary came' is in the set picked by (48).

(50) $$\forall s[\forall p[p\neq[\lambda s.\text{ Eva came in s}]\ \&\ p\in[[\text{Eva}_F\text{ came}]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow \exists x[x\text{ is a girl in }s_0\ \&\ [\lambda s'.\text{ Mary came in }s']=[\lambda s''.x\text{ came in }s'']\ \&\ \text{Mary came in s}]]$$

Here is why (50) is true. Let's look at the set of focus values of 'Eva$_F$ came' that does not include the original in (51). The proposition 'Mary came' is in this set.

(51) $\lambda p.p\neq[\lambda s.\text{ Eva came in s}]\ \&\ p\in[[\text{Eva}_F\text{ came}]]^{gF}$ =

{λs. Sveta came in s;
λs. Ann came in s;
λs. Mary came in s;
λs. Ivy came in s;
λs. Jack came in s;
λs. Bill came in s }

The claim in (50) says that in all situations where all proposition in (51) retains the same value as in the situation of evaluation s_0, there is a girl – Mary and she came. Given that we made an assumption that Mary is a girl and that she came in s_0, (50) is true, thus the proposition in (49) is in the set picked by (48).

Now let's consider a different proposition, the proposition denoted by 'Ivy came' under the assumption that Ivy is a girl and under the assumption that this proposition is false in s_0. If we plug this proposition into (48), we will get a false claim, thus this proposition 'Ivy came' is not in the set picked by (48).

(52) $\forall s[\forall p[p \neq [\lambda s.\ \text{Eva came in } s]\ \&\ p \in [[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow$
$\exists x[x \text{ is a girl in } s_0\ \&\ [\lambda s'.\ \text{Ivy came in } s']=[\lambda s''.x \text{ came in } s'']\ \&\ \text{Ivy came in } s]]$

Since 'λs. Ivy came in s' is in the set of focus alternatives in (51), we are looking at situations where the facts about Ivy are the same as in s_0, so we are looking at the situations where Ivy did not come. Of course, in all of them it is false that Ivy came. This means that if Ivy did not come in in s_0, this proposition will not be picked by (48).

For completeness of exposition let us also consider a proposition that has the right form but its subject is not a girl, say, the proposition denoted by 'John came'. It will not be in the set picked by (48) because (53) is false. Since John is not a girl in s_0, it is not going to be true that in all situations where all the propositions in the set of focus alternatives have the same value as in s_0 there is a girl from s_0 who is John and who came.

(53) $\forall s[\forall p[p \neq [\lambda s.\ \text{Eva came in } s]\ \&\ p \in [[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow$
$\exists \mathbf{x}[\mathbf{x\ is\ a\ girl} \text{ in } s_0\ \&\ [\lambda s'.\ \mathbf{John} \text{ came in } s']=[\lambda s''.\mathbf{x} \text{ came in } s'']\ \&\ \text{John came in } s]]$

Now let me show that the proposition denoted by ‘Eva came’ is not in the set picked by (48). This is where the domain subtraction happens.

(54) $[\lambda s'.\ \text{Eva came in } s']$

If we plug this proposition into (48), we will get the false claim shown in (55). This means that the proposition *Eva came* is not in the set picked by (48).

(55) $\forall s[\forall p[p \neq [\lambda s.\ \text{Eva came in } s]\ \&\ p \in [[\text{Eva}_F \text{ came}]]^{g^F} \rightarrow p(s)=p(s_0)] \rightarrow$
$\exists x[x \text{ is a girl in } s_0\ \&\ [\lambda s'.\ \text{Eva came in } s']=[\lambda s''.x \text{ came in } s'']\ \&\ \text{Eva came in } s]\ ]$

The claim is false because it is not true that in every situation that is the same with regards to the facts about people other than Eva coming as s_0 Eva came. In some of them she did not come.

What we have found in this section is a way of implementing Conditional Domain Subtraction for questions in terms of quantification over possible situations. Note, that Conditional Domain Subtraction does not require that Eva is a girl or that she came in s_0. This is done by Conditional Additivity, which is a separate claim.

In the next section I show how the meaning of a question with an exceptive-additive phrase is put together compositionally.

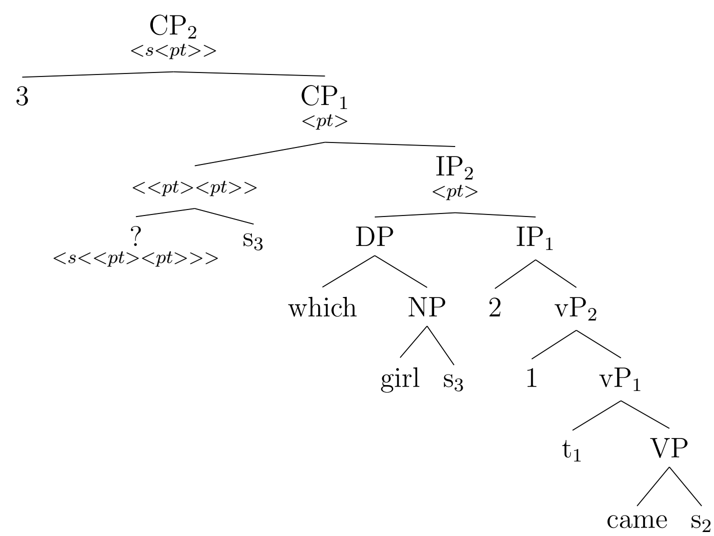
4.3.3 Compositional Treatment of Questions with Additive Phrases

The account of the domain subtraction inference that I have suggested in the previous section relies on selecting the true propositions from the question denotation. The idea that a question denotes a set of true propositions was proposed in Karttunen’s work (1977).

Here I will make one assumption that will simplify the task of creating a unified treatment of regular quantificational propositions and questions. I am going to assume that there is a point in the derivation of the meaning of a question where it denotes a set that does not only include true propositions but includes all propositions. The selection of the true propositions from this set happens by a separate operator '?' . Thus, the structure of a simple question without an exceptive-additive phrase that I will assume is as shown in (57).

(56) Which girl came?

(57)



Let me remain agnostic about how the meaning of the node IP_2 is achieved. My assumption here is the node IP_2 denotes a set of propositions of the form 'x came' where x is a girl. Formally this is given in (58).

(58) $[[IP_2]]^g = \lambda p_p.\exists x[x \text{ is a girl in } g(3) \ \& \ p=[\lambda s'. \ x \text{ came in } s']\ ]$

A separate operator selects true propositions from that set. I gave it the name '?' and it is given in (59). This is an operator that takes a situation variable and a set of propositions and returns a set of propositions that are true in that situation.

(59) $[[?]]^g = \lambda s.\lambda M_{<pt>}.\lambda p_p.\ M(p)\ \&\ p(s)=1$

With those assumptions the meaning of the entire question in (57) is as shown in (60): this is a set of **true** propositions of the form 'x came' where x is a girl. Under the assumption that Eva, Sveta, Ann, and Mary are all the girls who came, this set is as shown in (61).

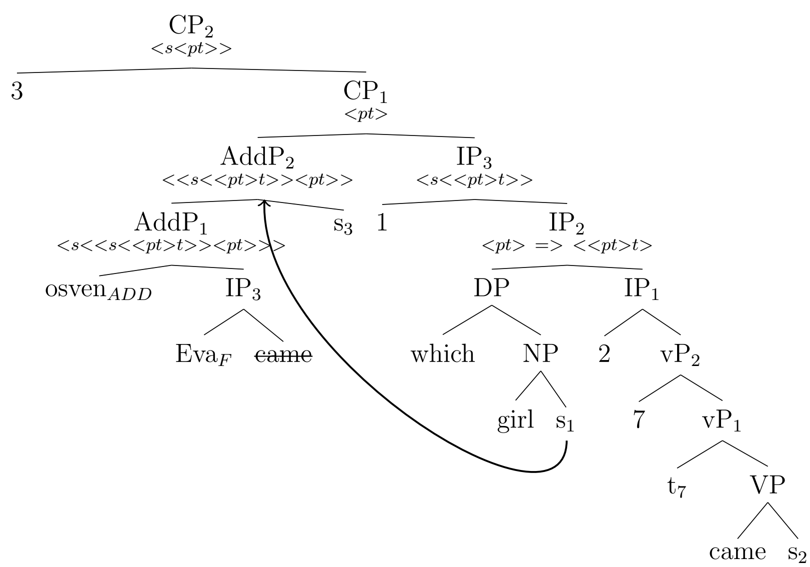
(60) $[[(57)]]^g(s_0)=\lambda p.\exists x[\text{x is a girl in } s_0\ \&\ p=[\lambda s'.\ \text{x came in s'}]\ \&\ p(s_0)=1]$

(61) $\{\lambda s.\ \text{Eva came in s};\ \lambda s.\ \text{Sveta came in s};\ \lambda s.\ \text{Ann came in s};\ \lambda s.\ \text{Mary came in s}\}$

The structure of a question modified by an exceptive-additive phrase that I will assume is as shown in (62). One thing that is familiar from the previous discussion is the position of the additive phrase at LF: it moves from its connected position (the position of the sister of the predicate inside the *which*-phrase) and leaves a trace of type s.

The exceptive-additive phrase is merged instead of '?' and it is responsible for selecting the propositions that are true from the set of all propositions of the relevant form. It is worth pointing out to the reader that instead of OP and NEG the LF in (62) has one operator $osven_{ADD}$. This is because in this section I make a simplifying assumption that *osven* is simply additive operator. The goal here is to show how we can treat all additive cases in a uniform manner given that questions and quantificational propositions do not have the same semantic type. Another goal here is to show how the cases of the additive readings with focus associates can be derived by assuming that in those cases an exceptive-additive phrase operates on a silent question under discussion. Eventually, *osven*$_{ADD}$ will be decomposed into OP and NEG and a uniform system that accounts for both readings in all contexts will be developed.

(62)



With the assumption that there is a point in the derivation where a question denotes just a set of proposition, the denotation of IP$_2$ is as shown in (63).

(63) $[[IP_2]]^g = \lambda p.\exists x[x \text{ is a girl in } g(1) \ \& \ p=[\lambda s'. \ x \text{ came in } s'] \ ]$

Following the ideas developed in Chapter 2, I propose that this node undergoes type-shifting from type <pt> (set of propositions) to type <<pt>t>, where p is the type of a proposition <st> (shown in (64)). This type-shifting operation has been independently proposed for questions in (Beck & Rullmann 1999), they name it Answer3. The benefit of using the type-shifted denotation is that it introduces an existential quantification over propositions that is needed to derive the Conditional Additivity for a question and that it allows introducing different properties of propositions in the question denotation such as being true in a certain situation. I suggest that this type-shifting is driven by the type of the Additive Phrase_2 that is looking for an argument of type <s<<pt>t>> and not of type <s<pt>>.

(64) $[[\text{IP}_2]]^g = \quad \lambda p_p.\exists x[\text{x is a girl in g(1) \& p=}[\lambda s'.\text{ x came in s'}]\ ] \Rightarrow$
$\lambda P_{<pt>}.\exists p[\exists x[\text{x is a girl in g(1) \& p=}[\lambda s'.\text{ x came in s'}]\ ] \quad \text{\& P(p)=1}]$

The denotation of the node IP_3 consisting of the abstraction over the trace of the exceptive-additive phrase and the type-shifted question is given in (65). This is the argument of the exceptive-additive phrase.

(65) $[[\text{IP}_3]]^g = \lambda s.\lambda P_{<pt>}.\exists p[\exists x[\text{x is a girl in s \& p=}[\lambda s'.\text{ x came in s'}]\ ] \ \text{\& P(p)=1}]$

Now, let's focus on the internal structure of the additive phrase. Again, I will give $\text{osven}_{\text{ADD}}$ a syncategorematic treatment, it does not get an independent interpretation, but the meaning is assigned to the structure consisting of this operator and a sentence. This is done so that we could make reference to the focus semantic value of the sentence in the exceptive-additive phrase. This denotation is given below in (66). This is a function that is looking for a situation as its first argument. Then it is looking for a function of type <s<<pt>t>>: a function that takes a situation variable and outputs a generalized quantifier over propositions (<<pt>t>). After the function in (66) takes its first two arguments, it outputs a question – set of propositions (a function of type <pt>).

Conditional Additivity

(66) $[[\text{osven } \varphi]]^g = \lambda s'.\lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p\text{: } \forall s[\ [[\varphi]]^g(s)=[[\varphi]]^g(s') \rightarrow R(s')(\lambda d_p.d(s)=1)=1].$
$\forall s[\forall p[p \neq [[\varphi]]^g \ \& \ p \in [[\varphi]]^{gF} \rightarrow p(s)=p(s')] \rightarrow R(s')(\lambda m_p.\ m(s)=1 \ \& \ m=\mathbf{q})=1]$

Conditional Domain Subtraction

What exactly the function in (66) does will be clear when I go over a derivation of a specific question in detail. To preview the results the function in (66) introduces a presupposition that is Conditional Additivity: it says that being true in all situations where the value for φ remains the same as in the situation of evaluation belongs to the set of properties that is taken as the second argument. The presupposition is not introduced into each of the propositions in the question denotation (like it was done in Chapter 2), but into a question itself. This is possible because a question here has to be a function from a situation to a set of propositions (that are true in this situation) and not just a set of propositions. We can evaluate the presupposition with respect to the same situation with respect to which the truthfulness of propositions in the set is evaluated.

The at issue content we see in (66) provides the information about the propositions q that are collected into the resulting set. Those will be the propositions q such that the property of being equal to q and being true in all situations where all the focus alternatives for the proposition in the exceptive-additive phrase other than the original have the same truth value as in the situation of evaluation is in the set of properties R.

The denotation of the entire exceptive-additive phrase is shown in (67): this is the *osven*-clause that has taken the situation variable (where g is the assignment function and g(3) is the value g maps s_3 to).

(67) $[[\text{AddP}_2]]^g = \lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p$:

$\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{ Eva came}]]^g(g(3)) \rightarrow R(g(3))(\lambda d_p.d(s)=1)=1].$

$\forall s[\forall p[p \neq [[\text{Eva came}]]^g \ \&\ p \in [[\text{Eva came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow R(g(3))(\lambda m_p.\ m(s)=1\ \&\ m=\mathbf{q})=1]$

The next step is to put (67) together with IP_3, they combine via functional application: (67) takes the type-shifted version of its sister as its argument (shown in (68)).

(68) $[[CP_1]]^g$ =by functional application

$[[\text{AddP}_2]]^g([[IP_3]]^g)=$

$\mathbf{[}\lambda \mathbf{R}_{<s<<pt>t>>}.\lambda q_p$: $\boxed{\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow \mathbf{R}(g(3))(\lambda d_p.d(s)=1)=1]}.$

$\forall s[\forall p[p \neq [[\text{Eva came}]]^g \ \&\ p \in [[\text{Eva}_F \text{ came}]]^{gf} \rightarrow p(s)=p(g(3))] \rightarrow \mathbf{R}(g(3))(\lambda m_p.\ m(s)=1\ \&\ m=q)=1]$ $\boldsymbol{(\lambda s.\lambda P_{<pt>}.\exists j[\exists x[x \text{ is a girl in } s\ \&\ j=[\lambda s'.\ x \text{ came in } s']\ ]\ \&\ P(j)=1])\ ]}$

In order to simplify the computation, let's compute the presuppositional part (the part in the box in (68)) separately in (69).

(69) $\boxed{\text{Computing the presupposition}}$:

$\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow \mathbf{[}\lambda s.\lambda P.\exists j[\exists x[x \text{ is a girl in } s\ \&\ j=[\lambda s'.\ x \text{ came in } s']\ ]\ \&\ P(j)=1]\ (g(3))(\lambda d_p.d(s)=1)\ \mathbf{]}\ ]$ =
by 2 applications of lambda conversion

$\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow \exists j[\exists x[x \text{ is a girl in } g(3)\ \&\ j=[\lambda s'.\ x \text{ came in } s']]\ \&\ \mathbf{[}\lambda d_p.d(s)=1\ (j)\mathbf{]}\ ]]$ =
by lambda conversion

$\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow \exists j[\exists x[x \text{ is a girl in } g(3)\ \&\ j=[\lambda s'.\ x \text{ came in } s']]\ \&\ j(s)]]$

The remaining part of the computation is shown in (70).

(70) Computation of the rest of (68).

$\lambda q_p.\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))]\rightarrow$
$\mathbf{[\lambda s.\lambda P.\exists j[\exists x[x \text{ is a girl in } s \;\&\; j=[\lambda s'.\ x \text{ came in } s']\ ] \;\&\; P(j)=1]}$ $(g(3))(\lambda m_p.\ m(s)=1 \;\&\; m=q)=1$ **]**]= by 2 applications of lambda conversion

$\lambda q_p.\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF}\rightarrow p(s)=p(g(3))]\rightarrow$
$\mathbf{\exists j[\exists x[x \text{ is a girl in}}$ $g(3)$ $\mathbf{\&\; j=[\lambda s'.\ x \text{ came in } s']\ ] \;\&}$ $[\lambda m_p.\ m(s)=1 \;\&\; m=q$ $\mathbf{(j)\ ]]}$]
= by lambda conversion

$\lambda q_p.\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))]\rightarrow$
$\mathbf{\exists j[\exists x[x \text{ is a girl in}}$ $g(3)$ $\mathbf{\&\; j=[\lambda s'.\ x \text{ came in } s']\ ] \;\&\; j}(s)\;\&\;\mathbf{j}=q]]$

Thus, the predicted meaning for the entire question (after the abstraction over s_3 is computed) is as shown in (71).

(71) $[[(62)]]^g(s_0) = \lambda q_p.\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(s_0)]\rightarrow$
$\exists j[\exists x[x \text{ is a girl in } s_0 \;\&\; j=[\lambda s'.\ x \text{ came in } s']\ ] \;\&\; j(s)=1 \;\&\; j=q]]$

$[[(62)]]^g(s_0)$ is defined only if
$\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(s_0) \rightarrow\exists j[\exists x[x \text{ is a girl in } s_0 \;\&\; j=[\lambda s'.\ x \text{ came in } s']] \;\&\; j(s)=1\ ]\ ]$

As the reader can verify, this is the desired denotation discussed in the previous section. The presupposition is Conditional Additivity. This is the part that is responsible for the inferences that Eva is a girl and that she came. It says that in every situation that has the same facts about Eva coming as s_0 there is a true proposition of the form ‘x came’ where x is a girl from s_0. That can only be the case if Eva is a girl and if she came in s_0. The at issue content in (71) is a set of propositions. Those are the propositions that are true in every situation that has the same truth value as in s_0 for all focus alternatives of ‘Eva$_F$ came’ (other than the proposition denoted by ‘Eva came’ itself). This is Conditional Domain Subtraction.

Given the discussion about the set of proposition that is picked by the function in (70), the result can be further simplified and reduced to (72): this is the set of true propositions in the original question denotation (propositions of the form [λs'. x came in s'] where x is a girl). This set does not include the one denoted by 'Eva came'. The presupposition can also be simplified: it boils down to saying that Eva is a girl and that she came.

(72) $[[(62)]]^g(s_0) = \lambda \mathbf{q}_p.\ \exists p[\exists x[\text{x is a girl in } s_0\ \&\ p=[\lambda s'.\ \text{x came in } s']\ ]\ \&\ p\neq[[\text{Eva came}]]^g\ \&\ p(s_0)=1\ \&\ p=\mathbf{q}]$
$[[(62)]]^g(s_0)$ is defined only if Eva is a girl in s_0 & she came in s_0

4.3.4 Bringing Questions and Focus Together

Following the ideas developed in Chapter 2, the line that I will pursue here is that in cases like (73) and (74)-(75), an additive (or an exceptive-additive) phrase operates on silent question variable that is related to the focus value of the sentence. I will also assume that the additive phrase contains a reduced clause (the crossed-out material in the examples below).

Bulgarian:

(73) Osven Eva$_F$ ~~doide~~, Maria$_F$ doide.
ExcAdd Eva ~~came~~, Mary came
'Besides Eva, Mary$_F$ came'.

(74) Osven Eva$_F$ ~~tancuvaše s Bill~~, Mary$_F$ tancuvaše s Bill
ExcAdd Eva ~~danced with Bill~~, Mary danced with Bill
'Besides Eva, Mary$_F$ danced with Bill'.
(meaning: Eva danced with Bill and Mary danced with Bill as well)

(75) Osven s Eva$_F$ ~~Mary tancuvaše~~, Mary tancuvaše s Bill$_F$
ExcAdd with Eva ~~Mary danced~~ , Mary danced with Bill
'Besides Eva, Mary danced with Bill$_F$'.
(meaning: Mary danced with Eva and Mary danced with Bill as well)

4.3.4.1 Basic Assumptions about a Sentence with Focus

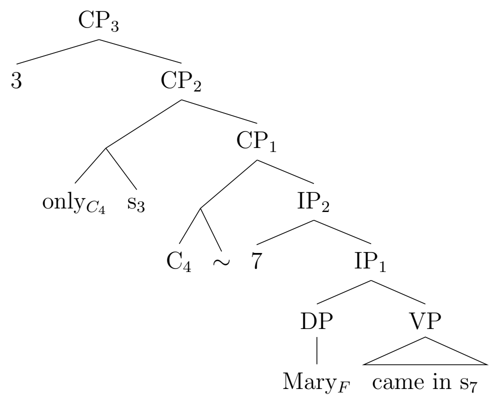
Let me go over the assumptions about a sentence with focus that does not contain an exceptive-additive phrase that I will make here. Given that in the conditional system the question denotation has to contain only true propositions, in the system I will develop to capture the interaction of the exceptive-additive phrases and focus value of a sentence an exceptive-additive phrase does not directly modify the sister of ~ the way it was done in Chapter 2.

It is standardly assumed that ~ introduces a variable of type <pt> that can be used to restrict domains of various focus sensitive operators (Rooth 1992a) such as *only.* If we make an assumption that the variable ~ introduces denotes a set of propositions that are true in the world of evaluation, the meaning of *only* has to be revised, because standardly it is assumed that *only* negates all propositions in its domain, so its domain should not be restricted to include the propositions that are true.

Let me illustrate the standard usage of ~ on a specific example involving a sentence with *only*. In (77) we see the LF structure of (76).

(76) Only Mary_F came.

(77)



The semantics of ~ is given in (78). It received a syncategorematic treatment – a meaning is assigned to a constituent consisting of ~ and its sister (C_4 in our case) and the sister of this constituent (node IP_2 in our case). As its at issue value it outputs just the proposition γ~ is a sister to. Its action is in the presupposition: it says that the variable that comes with ~ has to be a set of propositions - a subset of the focus value of the proposition γ~ is attached to; the ordinary value of this proposition has to be in the set denoted by this variable.

(78) $[[(\gamma\sim)\phi]]^g = [[\phi]]^g$
$[[(\gamma\sim)\phi]]^g$ is defined only if
$[[\gamma]]^g \subseteq [[\phi]]^{gF}$ & $[[\phi]]^g \in [[\gamma]]^{gF}$

With those assumptions denotation of the CP_1 is as shown in (79): the ordinary value is just the proposition [λs. Mary came in s]. The presupposition is that the value of C_4 is a subset of the focus value of 'Mary$_F$ came' and [λs. Mary came in s] is in the set denoted by C_4.

(79) $[[CP_1]]^g = \lambda s.$ Mary came in s
$[[CP_1]]^g$ is defined only if $g(4) \subseteq [[\text{Mary}_F \text{ came}]]^{gF}$ &
[λs. Mary came in s] $\in g(4)$

Only in (77) comes with its own restrictor variable C_4. This variable bears the same index as the variable inside the construction involving ~, thus it has to be mapped to the same value. This way ~ indirectly restricts the value of this focus sensitive operator.

The meaning of *only* with a variable is shown in (78): it takes a situation and a proposition ([λs. Mary came in s] in this specific case). It says that all propositions in the set belonging to the value of the silent variable other than the proposition taken as the second argument are false in that situation[59].

(80) $[[\text{only}_{C4}]]^g = \lambda s.\lambda q.\forall p[p \in g(4)\ \&\ p \neq q \rightarrow \neg p(s)=1]$

Given those standard assumptions, we do not want to directly modify the variable that ~ introduces in such a way that it only contains true propositions, because *only* negates the propositions in that set.

But we can introduce a covert operator (QUD) the sole role of which is to state what the question under discussion is. The idea is that every time a sentence contains an element marked with focus, focus alternatives are introduced that have to be used by some covert or overt operator. Because of the presence of the QUD operator the focus structure of a sentence should match the question that the sentence is addressing. It can be seen clearly in cases where the question is overtly pronounced before a sentence with focus. Thus, (81) is a coherent discourse and (82) is not. The focus structure of the second sentence in (81)

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[59] This is a slightly simplified denotation. In fact, only should say negate all propositions that are not entailed by the original one and not just the ones not equal to it (von Fintel 1997).

introduces a presupposition that the question under discussion is ‘Who danced with Bill?’. The focus structure of the sentence in (81) introduces a presupposition that the question is ‘Who did Mary dance with?’. Since the question is overtly given and it does not match this question under discussion that B addresses, the discourse is infelicitous.

(81) A: Who danced with Bill?
B: Mary_F danced with Bill.

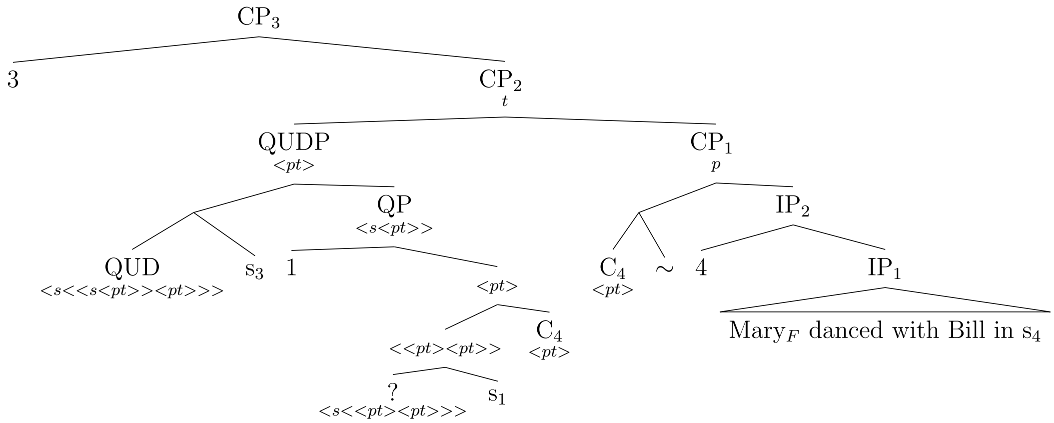
(82) A: Who danced with Bill?
B: #Mary danced with Bill_F.

In order to force QUD to introduce a question under discussion that matches the focus value of a sentence, I will use strategy of co-indexing a variable providing the content of that question under discussion with the variable introduced by $\sim$ explained above. In this way the question under discussion will be restricted by the focus value of the sentence. Let me illustrate this idea on the example without an exceptive-additive phrase given in (83).

A possible structure for this sentence is given in (84).

(83) Mary_F danced with Bill.

(84)



The part of the structure up to the CP_1 is familiar from the earlier discussion.

In the QUD phrase we find a silent operator QUD with the meaning given in (85). This operator is taking a situation, a question (a function from a situation to a set of propositions that are true in that situation) and a proposition (the value of node CP_1 in our case).

(85) $[[\text{QUD}]]^g = \lambda s'.\lambda Q_{<s<pt>>}\lambda q_p$: Q(s') is QUD. q(s')=1

It introduces the presupposition that the question it takes as an argument is the question under discussion and asserts the proposition it takes as the second argument. It ensures that the question and the proposition are evaluated with respect to the same situation. Again, the assumption here is that a question is a function from a situation to a set of propositions that are true in that situation. If the idea that a question in general is a set of true propositions is adopted, it should not be very surprising if a question under discussion is a set of propositions that are true in the world/situation of evaluation as well.

The question QUD combines with is composed as follows. We have a variable C_4 the value of which is restricted by the focus value of ‘Mary$_F$ danced with Bill’ due to ~. Let’s just assume it includes the entire set of propositions that are in the focus value, as shown in (86).

(86) $g(4) = \lambda p.\exists x[p=[\lambda s'.x \text{ danced with Bill in } s']]$

The familiar operator '?' is merged to create a question out of this set: it takes a situation and the set in (86) and select the propositions that are true in that situation. Thus the question QUD will compose with is shown in (88) (this question is 'Who danced with Bill?').

(87) $[[?]]^g = \lambda s.\lambda M_{<pt>}.\lambda p_p.\ p \in M \ \&\ p(s)=1$

(88) $[[QP]]^g = \lambda s.\lambda p.\exists x[p=[\lambda s'.x \text{ danced with Bill in } s']] \ \&\ p(s)=1$

With those assumptions, we derive (89) as the denotation of the entire sentence in (83). There are two presuppositions, one introduced by QUD and the one introduced by ~.

(89) $[[(84)]]^g(s_0)$ is defined only if

1. $[\lambda p.\exists x[p=[\lambda s.x \text{ danced with Bill}]] \ \&\ p(s_0)=1]$ is QUD.
2. $g(4) \subseteq [[\text{Mary}_F \text{ danced with Bill}]]^f \ \&\ [\lambda s. \text{ Mary danced with Bill in } s] \in g(4)$

$[[(84)]]^g(s_0) = T$ iff Mary danced with Bill in s_0

4.3.4.2 Additive Phrases can Modify Questions Under Discussion.

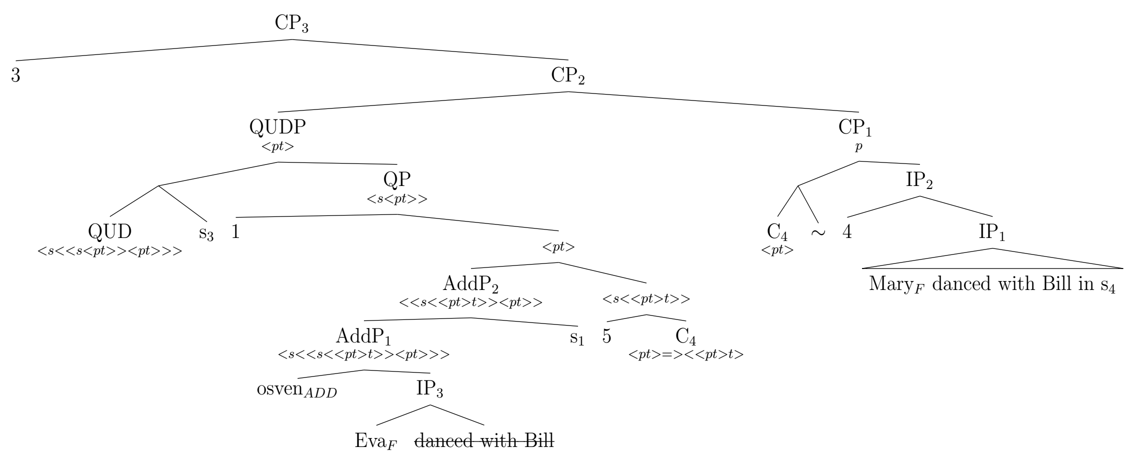
Given these assumptions, a possible structure for the sentence in (74) (repeated below as (90)) – a focus construction with an exceptive-additive phrase – is shown in (91). The structure of CP_1 is familiar from the earlier discussion: this is a typical structure with a focused phrase and ~.

My assumption here is that the remnant of ellipsis inside the *osven* phrase is marked with focus. Note again that there is a focused phrase in the sister of *osven$_{ADD}$*. A technically precise treatment would require introducing another ~ and another variable of the <pt> type. This is not done here in order to keep the structure in (91) simple. Instead *osvenAdd* is given a syncategorematic treatment: the meaning is assigned to a constituent consisting of *osvenAdd* and the clause following it.

Bulgarian:

(90) Osven Eva$_F$ ~~tancuvaše s Bill~~, Mary$_F$ tancuvaše s Bill.
ExcAdd Eva ~~danced with Bill,~~ Mary danced with Bill
'Besides Eva$_F$, Mary$_F$ danced with Bill'.

(91)



The Additive Phrase inside QUDP is merged instead of ? that we saw in (84). Here I follow the assumption I made earlier that there is always an operator that applies to a set of propositions in the question denotation and selects the ones that are true in the situation of evaluation. This job can be done by ? or it can be done by an Additive Phrase. Basically, the structure of the sister of the AddP$_2$ is the structure of any questions that we have seen earlier. The only difference is that the question is not a real pronounced question, but is the value of C_4

The denotation of the variable C_4 introduced by ~ is restricted by the focus value of 'Mary$_F$ danced with Bill'. The variable C_4 inside the QUDP is co-indexed with it and gets the same value.

I propose that C_4 inside the QUDP undergoes type-shifting of the same kind that was discussed above: the type-shifting from a set of propositions <pt> to <<pt>t> – a set of properties that at least one proposition in the original set has.

(92) g(4) = $\lambda p_p.\exists x[p=[\lambda s'.x \text{ danced with Bill in } s']] \Rightarrow$
$\lambda P_{<pt>}.\exists p[\exists x[p=[\lambda s'.x \text{ danced with Bill in } s']] \ \& \ P(p)=1\ ]$

A minor complication here is that the *osven*-clause is looking for a constituent of type <s<<pt>t>> and not just <<pt>t>. In order to meet this type requirement an abstractor over situation variable is merged in the sister of the additive phrase (represented as a numerical index 5 in the tree in (91)). This abstractor is meant to bind a situation variable inside a *wh*-phrase, but there is not any in this case, so the binding is vacuous in this case. The denotation of the sister of the additive phrase is as shown in (93). This is the argument the additive phrase will combine with.

(93) $\lambda s.\lambda P_{<pt>}.\exists p[\exists x[p=[\lambda s'.x \text{ danced with Bill in } s']]\ ]$

The denotation for the additive clause is repeated in (94).

(94) $[[\text{osven}_{\text{ADD}}\ \varphi]]^{g} = \lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p$: $\forall s[\ [[\varphi]]^{g}(s)=[[\varphi]]^{g}(s') \rightarrow$
$R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\forall s[\forall p[p\neq[[\varphi]]^{g}\ \&\ p\in[[\varphi]]^{gF} \rightarrow p(s)=p(g(3))]\rightarrow R(g(3))(\lambda m_p.\ m(s)=1\ \&\ m=\mathbf{q})=1]$

With those assumptions, the predicted denotation of the question under discussion is shown below. This is a function from a situation to a set of propositions of the form 'x danced with Bill' (where x can be any entity) that are true in that situation and that do not include 'Eva danced with Bill'. This question presupposes that Eva danced with Bill, because there is no other way to guarantee that in every situation that has the same truth value for 'Eva danced with Bill' as the situation of evaluation, there is a true proposition of the form 'x danced with Bill'.

(95) $[[\text{QP}]]^{g} = \lambda s'.\lambda \mathbf{q}_p$: $\forall s[\ [[\text{Eva danced with Bill}]]^{g}(s)=[[\text{Eva danced with Bill}]]^{g}(s')$
$\rightarrow \exists p[\exists x[p=[\lambda s''.\ \text{x danced with Bill in s''}]\ ]\ \&\ p(s)\ ]]$.
$\forall s[\forall p[p\neq[[\text{Eva danced with Bill}]]^{g}\ \&\ p\in[[\text{Eva}_F\ \text{danced with Bill}]]^{gF}\rightarrow$
$p(s)=p(s')]\rightarrow \exists d[\exists x[d=[\lambda s''.\ \text{x danced with Bill in s''}]\ ]\ \&\ d(s)=1\ \&\ d=\mathbf{q}]]$

Following the earlier discussion, we can simplify the formula in (95) and reduce it to (96).

(96) $[[\text{QP}]]^{g} = \lambda s'.\lambda q_p$: Eva danced with Bill in s'.
$\exists x[q\neq[[\text{Eva danced with Bill}]]^{o}\ \&\ q=[\lambda s''.\ \text{x danced with Bill in s''}]\ \&\ q(s')=1]$

This is our question under discussion.

The denotation for the entire sentence is given in (97). Its at issue content is simply that Mary danced with Bill. There are three presuppositions, two introduced by QUD and one introduced by ~. The presupposition of the question in (96) becomes the presupposition of the entire sentence. This is because QUD forces the question to be evaluated with respect to the same situation with respect to which the sentence itself if evaluated. Thus, the question will be evaluated in s_0 and will only be defined in s_0 if what it presupposes is true in s_0. The question under discussion is 'who besides Eva danced with Bill?'. The third presupposition of the sentence is that the denotation of the question variable is a subset of the focus value of the sentence. This presupposition is satisfied because of the value for the variable Q_4 that we have initially chosen.

(97) $[[(91)]]^g(s_0)$ is defined only if
1. Eva danced with Bill in s_0

2. $[\lambda q_p: \exists x[q \neq [[\text{ Eva danced with Bill}]]^o \ \& \ q=[\lambda s''.\ x \text{ danced with Bill in } s''] \ ] \ \& \ q(s_0)=1]$ is QUD.

3. $g(4) \subseteq [[\text{Mary}_F \text{ danced with Bill}]]^{gF} \ \&$
$[\lambda s'.\ \text{Mary danced with Bill in } s'] \in [[\text{Mary}_F \text{ danced with Bill}]]^{gF}$

$[[(91)]]^g\ (s_0) = T$ iff Mary danced with Bill in s_0

To conclude, the analysis of the interaction of the additive phrases (or exceptive-additive phrases, but we are ignoring this fact for now) with focus via adopting the assumption that an additive phrase modifies a silent question under discussion allows us to derive the positive inference (that Eva danced with Bill in this case) and capture the relationship between the additive phrase and the focus value of the main clause.

The last issue I would like to address in this section is why the sentence in (99) that is minimally different from the sentence (98) that we have just considered has a different meaning.

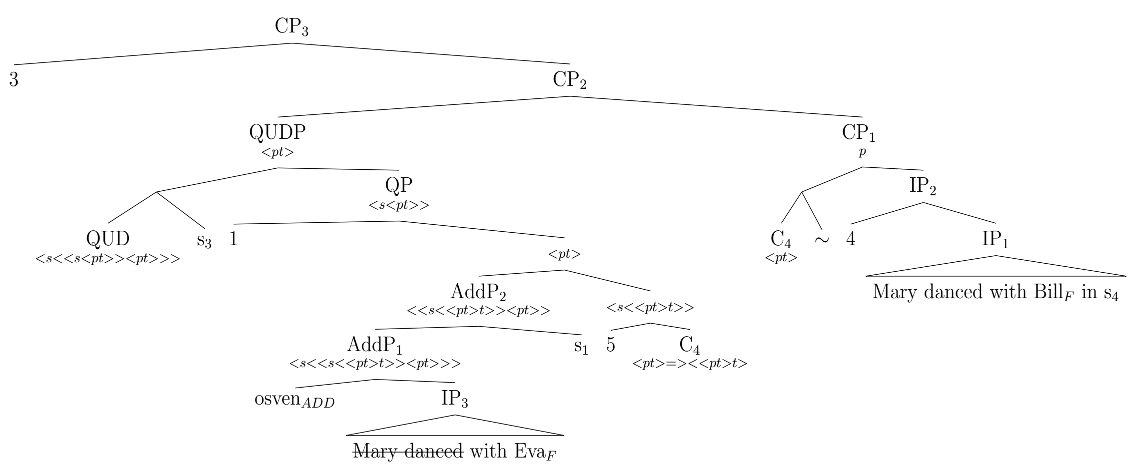
Bulgarian:

(98) Osven Eva$_F$ ~~tancuvaše s Bill~~, Mary$_F$ tancuvaše s Bill.
ExcAdd Eva$_F$ ~~danced with Bill~~, Mary danced with Bill
'Besides Eva, Mary$_F$ danced with Bill'.
(meaning: Eva danced with Bill and Mary danced with Bill as well)

(99) Osven s Eva$_F$ ~~Mary tancuvaše~~, Mary tancuvaše s Bill$_F$.
ExcAdd with Eva$_F$ ~~Mary danced~~, Mary danced with Bill
'Besides Eva, Mary danced with Bill$_F$'.
(meaning: Mary danced with Eva and Mary danced with Bill as well)

There are two reasons for that. The first one is that the ellipsis is resolved in a different way and this difference is shown in the crossed out material in the sentences above. The other reason is that the focus structure of the main clause is not the same. Because of that the value of the variable C_4 introduced by ~ is not going to be the same (see the LF in (100)). Its value will be restricted by the focus value of 'Mary danced with Bill$_F$'. For this reason, the question the additive phrase will be modifying is going to be 'Who did Mary dance with?'.

(100)



The overall predicted meaning for (99) is given in (101). The only part of meaning it shares with (98) is its truth conditional meaning – it is simply the claim that Mary danced with Bill in s_0. The presuppositions are all different: there is a presupposition that Mary danced with Eva (this is the presupposition introduced by the question under discussion), the question under discussion now is 'who did Mary dance with, not including Eva?', and the presupposition introduced by ~ imposes the restriction on the value of C_4 : this is the basis for the question under discussion.

(101) $[[(99)]]^g(s_0)$ is defined only if

1. Mary danced with Eva in s_0

2. $[\lambda q_P: \exists x[q \neq [[\text{Mary danced with Eva}]]^g \ \& \ q=[\lambda s''.\text{Mary danced with x in s''}]\ ] \ \& \ q(s_0)=1]$ is QUD.

3. $g(C_4) \subseteq [[\text{Mary danced with Bill}_F]]^{gF}$ &
$[\lambda s'. \text{ Mary danced with Bill in s'}] \in [[\text{Mary danced with Bill}_F]]^{gF}$

$[[(99)]]^g\ (s_0)$ =T iff Mary danced with Bill in s_0

4.3.5 Benefits of the Proposed Approach: Additive Readings with Multiple Remnants

There are some cases that the conditional approach can capture that the approach developed in Chapter 2 cannot. The approach developed in Chapter 2 was based on the assumption that an exceptive-additive phrase contains a DP that is interpreted as a set of individuals. Thus, that approach cannot capture cases where the phrase inside the exceptive-additive phrase can only be analyzed as a reduced clause. Whereas for some cases discussed above one might plausibly argue that the constituent inside an exceptive-additive phrase is a set denoting expression, there is no clear way in which cases where an exceptive-additive phrase contains multiple constituents can be analyzed in that way.

The conditional approach developed here captures cases with multiple remnants in the exceptive-additive clause modifying a question, like the Bulgarian example (102), in a straightforward way.

(102) Koe momiče govoreše s koe momče , osven
Which girl talked with which boy osven
Iva s Ivan?
Iva with Ivan?
'Which girl talked to which boy in addition to Iva talking to Ivan?'

This question comes with a set of familiar inferences given in (103), (104), and (105).

(103) **Containment:** Iva is a girl, Ivan is a boy.

(104) **Positive inference:** Iva talked to Ivan.

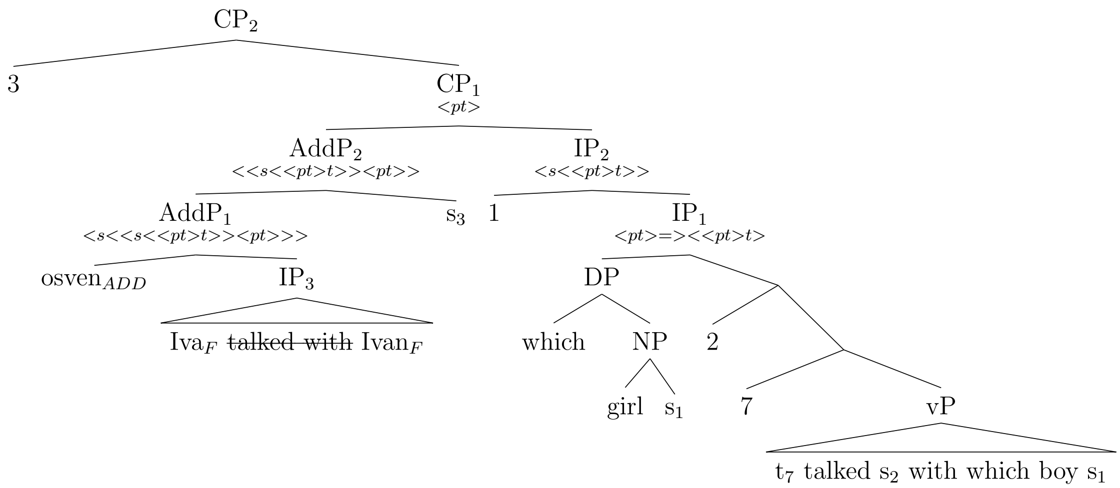
(105) **Domain subtraction:** the question is not about Iva and Ivan.

My assumption here is that the underlying syntactic structure of the sentence in (102) is as shown in (106): (102) is derived by moving the subject DP and the PP inside the clause introduced by *osven* and eliding the rest of the structure. Both remnants of ellipsis are marked with focus.

(106) Koe momiče govoreše s koe momče , osven
Which girl talked with which boy osven
Iva_F s Ivan_F ~~govoreše~~?
Iva with Ivan ~~talked~~
'Which girl talked to which boy in addition to Iva talking to Ivan?'

I propose that this sentence has the LF shown in (107).

(107)



In (107) the situation variables inside both of the *wh*-phrases are bound by the same abstractor. This restriction is familiar from the discussion of exceptives with multiple remnants from Chapter 3.

The reminder of the denotation of the additive clause is in (108).

(108) $[[\text{osven}_{\text{ADD}}\ \varphi]]^g = \lambda s'.\ \lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p\text{: } \forall s[\ [[\varphi]]^g(s)=[[\varphi]]^g(s') \rightarrow R(s')(\lambda d_p.d(s)=1)=1].$

$\forall s[\forall p[p \neq [[\varphi]]^g\ \&\ p \in [[\varphi]]^{gF} \rightarrow p(s)=p(s')] \rightarrow R(s')(\lambda m_p.\ m(s)=1\ \&\ m=\mathbf{q})=1]$

Let me remain agnostic here about the details of the derivation of the meaning of a question with multiple *wh*-phrases. We know it has to be a set of propositions of the form [λs. x talked with y in s] where x is a girl and y is a boy. In order to meet the type requirements of the additive *osven*-clause a question undergoes type shifting from type <pt> to type <<pt>t>.

(109) $[[IP_1]]^g=$

$\lambda p_p.\exists x[x \text{ is a girl in } g(1) \ \& \ \exists y[y \text{ is a boy in } g(1) \ \& \ p=[\lambda s.\ x \text{ talked with } y \text{ in } s]]] =>$
by applying the type-shifter Answer3
$\lambda P_{<<pt>t>}.\exists p[\exists x[x \text{ is a girl in } g(1) \ \& \ \exists y[y \text{ is a boy in } g(1) \ \& \ p=[\lambda s.\ x \text{ talked with } y \text{ in } s]]] \ \& \ P(p)=1]$

The denotation of the node IP_2 consisting of the abstraction over the trace of the exceptive-additive phrase and the type-shifted question is given in (110).

(110) $[[IP_2]]^g =$

$\lambda s.\lambda P_{<<pt>t>}.\exists p[\exists x[x \text{ is a girl in } s \ \& \ \exists y[y \text{ is a boy in } s \ \& \ p=[\lambda s'.\ x \text{ talked with } y \text{ in } s']]] \ \& \ P(p)=1]$

With those assumptions the predicted denotation for the entire structure in (107) is as shown in (111).

(111) $[[(107)]]^g(s_0)$ is defined only if

$\forall s[\text{Iva talked with Ivan in } s = \text{Iva talked with Ivan in } s_0 \rightarrow \exists p[\exists x[x \text{ is a girl in } s_0 \ \& \ \exists y[y \text{ is a boy in } s_0 \ \& \ p=[\lambda s'.\ x \text{ talked with } y \text{ in } s']]\ ] \ \& \ p(s)=1]\ ]$

$[[(107)]]^g(s_0) =$

$\lambda \mathbf{q}_p.\ \forall s[\forall p[p \neq [[\text{Iva talked with Ivan}]]^g \ \& \ p \in [[\text{Iva}_F \text{ talked with Ivan}_F]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow \exists d[\exists x[x \text{ is a girl in } s_0 \ \& \ \exists y[y \text{ is a boy in } s_0 \ \& \ d=[\lambda s'.\ x \text{ talked with } y \text{ in } s']]] \ \& \ d(s)=1 \ \& \ d=\mathbf{q}]]$

This is a question that carries the presupposition that in every situation where facts about Iva talking with Ivan are the same as in s_0 there is a true proposition of the form 'x talked with y' where x is a girl and y is a boy. This can only be satisfied if Iva is a girl and Ivan is a boy and Iva talked with Ivan in s_0. The at issue meaning of this question is a set of propositions of the form 'x talked with y' that are true in all situations where the facts about people talking with other people (excluding the facts about Iva talking with Ivan) are the same as in s_0. Those are all the true propositions of the relevant form with the exclusion of the proposition denoted by 'Iva talked with Ivan'.

Given the discussion above, (111) can be simplified and reduced to (112).

(112) $[[(107)]]^g(s_0)$ is defined only if Iva talked with Ivan in s_0 & Iva is a girl in s_0 & Ivan is a boy in s_0

$[[(107)]]^g(s_0) = \lambda \mathbf{q}_p.\exists x[x \text{ is a girl in } s_0 \ \& \ \exists y[y \text{ is a boy in } s_0 \ \& \ q \neq [\lambda s'. \text{ Iva talked with Ivan in } s'] \ \& \ q=[\lambda s'. \ x \text{ talked with } y \text{ in } s']]] \ \& \ q(s)=1$

This correctly captures the meaning of the Bulgarian question in (106) and the inferences it comes with.

As was established in Chapter 1, additive reading with focus associates are possible when an exceptive-additive phrase contains multiple constituents as well. One such case is the Bulgarian example in (113).

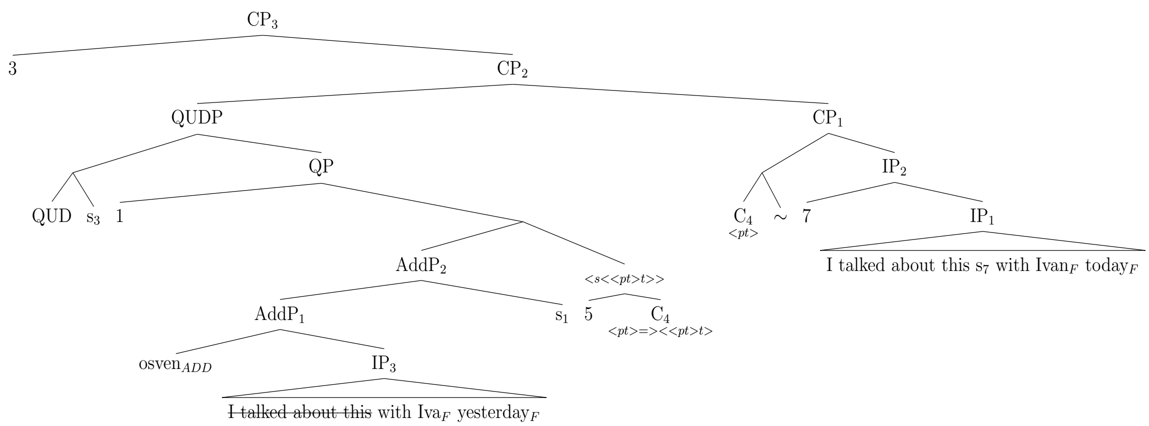
(113) Osven s Iva$_F$ vchera$_F$, govorih za tova s Ivan$_F$ dnes$_F$.
Osven with Iva yesterday talked-I for this with Ivan today
'In addition to talking with Iva yesterday, I talked about this with Ivan today'.

I propose that (113) is derive from (114) via ellipsis.

(114) Osven s Iva$_F$ vchera$_F$ ~~govorih za tova~~, govorih za tova s Ivan$_F$ dnes$_F$.
Osven with Iva yesterday ~~talked for this~~ talked-I for this with Ivan today
'In addition to talking with Iva yesterday, I talked about this with Ivan today'.

Given the assumptions about the structure of examples where an additive phrase interacts with the focus value of a sentence that I made here, the sentence in (114) gets the LF shown in (115). Again, my assumption here is that both remnants in the exceptive-additive clause are focused.

(115)



The focus value of the sister of QUDP is as shown in (116). ~ introduces a presupposition that the value of C_4 has to be a subset of it. For simplicity let me assume that the value of C_4 is the entire set of propositions in (116).

(116) λp. ∃x[∃t[t is a time & p=[λs'. I talked about this with x at t in s']]]

The constituent the Additive Phrase$_2$ (the entire Additive Phrase) is combining with the constituent that has the denotation shown in (117). This is the result of type-shifting the value of C_4 and vacuously abstracting over the situation variable in order to meet the type requirements of the Additive Phrase$_2$ that is looking for an argument of type <s<<pt>t>>.

(117) $\lambda s.\lambda P_{<pt>}.\exists p[\exists x[\exists t[t \text{ is a time } \& \ p=[\lambda s'.\ \text{I talked about this with x at t in s'}]]] \ \& P(p)=1]$

With those assumptions the predicted question under discussion gets the denotation shown in (118).

(118) $[[QP]]^{g} = \lambda s''.\ \lambda \mathbf{q}_{p}$:
$\forall s$[I talked about this with Iva yesterday in s=I talked about this with Iva yesterday in s'' $\rightarrow$ $\exists p[\exists x[\exists t$[t is a time & p=[$\lambda s'$. I talked about this with x at t in s']]] & p(s)]].
$\forall s'''[\forall p'[p' \neq$[[I talked about this with Iva yesterday]]^{g} & p' $\in$ [[I talked about this with Iva_{F} yesterday_{F}]]^{gF} $\rightarrow$ p'(s''')=p'(s'')] $\rightarrow$ $\exists d[\exists z[\exists t'$[t' is a time & d=[$\lambda s'$. I talked about this with z at t in s']]] & d(s''')=1 & d=$\mathbf{q}$]]

It comes with a presupposition that in every situation where the facts about me talking about this with Iva yesterday are the same as in the situation of evaluation of the question, there is a time and there is a person such that I talked about that with that person at that time. This can only be true if I talked about this with Iva yesterday. The at issue content is a set of propositions q such that they have a shape [$\lambda s'$. I talked about this with x at t in s'] where x is a person and t is a time and they are true in all situations where facts regarding me talking about this with people at times excluding the fact about me talking about this with Iva yesterday are the same as in the situation of evaluation. Those are all true propositions of the shape [$\lambda s'$. I talked about this with x at t in s'] (where t is a time and x is an individual) other than the one denoted by ‘I talked about this with Iva yesterday’.

Given this, we can simplify things and write down our question under discussion as follows:

(119) $[[QP]]^g =$
$\lambda s''. \lambda \mathbf{p}_p$: I talked about this with Iva yesterday in s''.
$\exists x[\exists t[$t is a time & $p \neq [\lambda s'$. I talked about this with Iva yesterday in s'] & $p=[\lambda s'$. I talked about this with x at t in s']]] & $p(s'')=1$

The operator QUD will introduce a presupposition that this is the question under discussion and make sure that this question and the proposition that is the at issue value of the entire sentence – the proposition that I talked about this with Ivan today are evaluated with respect to the same situation. The presupposition of (119) will become the presupposition of the sentence. The question that the exceptive-additive phrase modifies is taken from the focus value of the sentence 'I talked about this with Ivan_F today_F' and this is why the exceptive-additive phrase interacts with the focus value of the sentence it occurs in.

To conclude, the approach developed here correctly captures the additive readings of exceptive-additive phrases containing multiple remnants that they get with questions and with focus associates.

4.3.6 Bringing Questions and Existentials Together

The semantics proposed in the previous section works well for the additive reading of *osven* with questions. It has two problems, however. First of all, the additive clause with the meaning repeated below in (120) is looking for a function of the semantics type $<s<<pt>t>>$. This means that it cannot compose with an argument of type $<s<st>>$ (= $<sp>$) - the argument we gave to an exceptive-additive clause when we discussed the preliminary version of it designed to cover the cases with regular propositions containing quantifiers.

(120) $[[\text{osven}_{ADD}\ \varphi]]^g = \lambda s'.\lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p$: $\forall s[[[\varphi]](s)=[[\varphi]](s') \rightarrow R(s')(\lambda d_p.d(s)=1)=1]$.
$\forall s[\forall p[p \neq [[\varphi]]^g \ \&\ p \in [[\varphi]]^{gF} \rightarrow p(s)=p(s')] \rightarrow R(s')(\lambda m_p.\ m(s)=1 \ \&\ m=\mathbf{q})=1]$

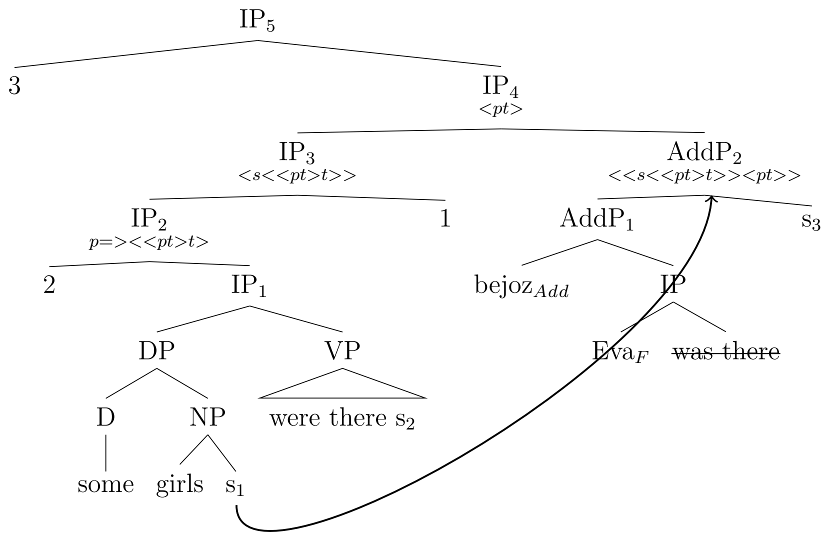
Therefore, some work has to be done in order to extend the additive semantics proposed in the previous section to the existential cases. The second issue is that this semantics is unambiguously additive and the goal of this project to account for all uses of *osven* (Bulgarian), *bejoz* (Persian) and other similar phrases in other languages that can also get the exceptive meaning with universal quantifiers. In this section I will address the first of these problems, namely, the type-mismatch. The second problem will be discussed in Section 4.4.

Let's consider again an example from Persian with an existential in (121). We want to account for the fact that it comes with the inference that Eva is a girl and that she was there. The sentence also means that some girl who is not Eva was there too.

(121)	Chand-ta	doxtar	bejoz	Eva	oonja	bood.
	Some-?	girl-	Exc-Add	Eva	there	were-3pl
	'Some girls were there besides Eva'.					

Let's consider the LF shown in (122).

(122)



In order to turn the sister of the AddP$_2$ into a function of the type compatible with the semantics of the additive clause proposed in order to account for its interaction with questions, I propose that we use the type-shifting principle that turns an argument of type p (<st>) into argument of type <<pt>t> (<<<st>t>t>). This is the type-shifter LIFT from Partee (1986) adapted here for the domain of propositions. (This is the move that I have used in Chapter 2 as well).

Thus, I propose that the constituent IP$_2$ of type <st> (p) undergoes type-shifting to type <<<st>t>t> (<pt>t>). This is shown in (123).

(123) $\lambda s''.\exists x[x \text{ is a girl in } g(1) \ \& \ x \text{ was there in } s'']$ =>by applying LIFT
$\lambda P_{<pt>}. P(\lambda s''.\exists x[x \text{ is a girl in } g(1) \ \& \ x \text{ was there in } s''])=1$

With those assumptions, the sister of Additive Phrase$_2$ has the denotation as shown in (124).

(124) $\lambda s'.\lambda P_{<pt>}.\ P(\lambda s''.\exists x[x \text{ is a girl in } s' \ \&\ x \text{ was there in } s''])=1$

Putting together (124) and the denotation for the additive phrase in (120) and computing the abstraction over situations, we get (125) as the denotation of the entire sentence.

(125) $[[(122)]]^g (s_0)= \lambda q.\ \forall s[\forall p[p\neq[[\text{Eva was there}]]^g \ \&\ p\in[[\text{Eva}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow q(s)=1 \ \&\ q=[\lambda s''.\exists x[x \text{ is a girl in } s_0 \ \&\ x \text{ was there in } s'']]]$

$[[(122)]]^g (s_0)$ is defined only if
$\forall s[\ [[\text{Eva was there}]]^g(s)=[[\text{Eva was there}]]^g(s_0)\rightarrow\exists x[x \text{ is a girl in } s_0 \ \&\ x \text{ was there in } s]]$

In general, the meaning is on the right track, but this is a question denotation. This is a set of propositions such that it includes a proposition as long as it is 'some girl from s_0 was there' (so this is a singleton set) and as long as it is true in every situation where the truth value for 'Eva was there' is different than in the actual topic situation and the truth value for each of its focus alternatives (other than the original) is the same.

However, we do not want to get the question denotation here, we want to get a proposition in the end. We would get the desired denotation for the entire sentence if we introduce existential closure of the propositional argument – in other words if we said that there is such proposition (126).

(126) $\lambda s'.\exists q\ [\forall s[\forall p[p\neq[[\text{Eva was there}]]^g \ \&\ p\in[[\text{Eva}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(s')] \rightarrow q=[\lambda s''.\exists x[x \text{ is a girl in } s' \ \&\ x \text{ was there in } s'']\ ]\&\ q(s)=1\ ]\ ]$

The intended at issue content is 'some girl who is not Eva was there' (the domain subtraction inference). The proposition in (126) does exactly that. It is true whenever (127) is true and false whenever (127) is false.

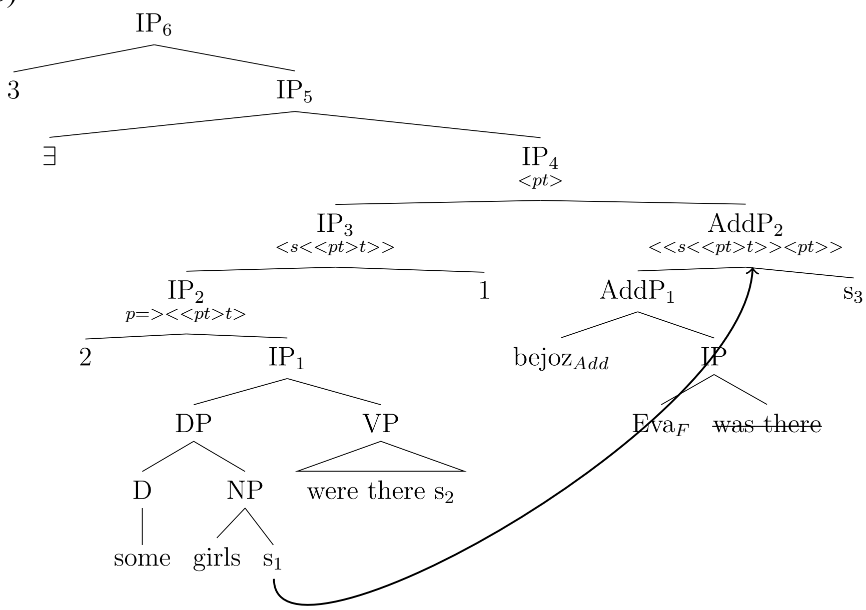
(127) $\lambda s.\ \exists x[$ x is a girl in s & x is not Eva & x was there in s$]$

Let's consider a situation s_4 where (127) is true. In that situation (126) will be true. This is because there is a proposition equal to 'some girl from s_4 was there' that is true in every situation that is the same with respect to all the facts about being there as s_4 for all individuals other than Eva.

Now, let's consider a situation s_5 where (127) is false. In that case (126) will be false as well. If there is no girl in s_5 who is not Eva who was there in s_5, it is going to be false that there is a proposition equal to 'some girl from s_5 was there' that is true in every situation where facts about all individuals other than Eva regarding being there are the same as in s_5. Since no girl other than Eva was there in s_5, in some situations where facts about every individual other than Eva with regards to being there are the same as in s_5 – specifically in all situations where Eva was not there – there is no girl who was there.

I propose that the existential closure applies at the level of the CP node and a propositional variable gets existentially bound before the abstraction over situations happens. This is implemented in the LF in (128), where $\exists$ operator with the denotation shown in (129) is introduced.

(128)



(129) $[[\exists]]^g = \lambda P_{<pt>}.\exists p[P(p)=1]$

4.4 The Ambiguity: General Approach

In the previous section I have shown how additive reading of exceptive-additive markers can be expressed with existentials, questions and with focus associates in terms of quantification over possible situations. The remaining problem with the semantics developed in Section 4.3 is that it is only applicable to additive cases.

In what follows I address this issue. The discussion will go as follows. Based on the ideas developed in Chapter 2 and the ideas developed here for simple quantificational sentences, I extend the approach developed in Section 4.3 in such a way that both the additive and the exceptive reading is generated for all cases in a uniform manner: existentials, universals, questions and focus. One of the readings generated for each case will not be well-formed.

I show that the desired denotation of the exceptive operator that can apply to questions and regular quantificational propositions is as shown in (130). The difference between this exceptive operator and the additive operator that we have seen earlier (repeated here in (131)) is the 3 negations that are highlighted in (130). This is what my approach attempts to capture.

(130) $[[\text{osven}_{\text{EXC}}\ \varphi]]^g = \lambda R_{<s<<pt>t>>}.\lambda q_p$: $\forall s[[[\varphi]]^g(s)=[[\varphi]]^g(s')\rightarrow$
$\neg R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\varphi]]^g\ \&\ p\in[[\varphi]]^{gf} \rightarrow p(s)=p(g(3))]\rightarrow \neg R(g(3))(\lambda m_p.\ m(s)=1\ \&\ m=q)=1]$

(131) $[[\text{osven}_{\text{ADD}}\ \varphi]]^g = \lambda R_{<s<<pt>t>>}.\lambda q_p$: $\forall s[[[\varphi]]^g(s)=[[\varphi]]^g(s')\rightarrow$
$R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\forall s[\forall p[p\neq[[\varphi]]^g\ \&\ p\in[[\varphi]]^{gF} \rightarrow p(s)=p(g(3))]\rightarrow R(g(3))(\lambda m_p.\ m(s)=1\ \&\ m=q)=1]$

Following the ideas developed earlier, I propose that both the exceptive and the additive operator are not primitive operators in languages where exceptive-additive ambiguity exists, but come as a result of putting together an operator that I call OP and negation. Depending on the scope between the two operators the resulting meaning is the additive one or the exceptive one. As before, I do not model the scope of negation by giving it different positions at LF. I will assume that negation is a type flexible operator and the two possible scopes come as a result of assigning two different denotations to negation and having two different ways it can combine with OP.

I start this discussion by extending the system and allowing for both the exceptive and the additive reading to be generated for questions. Like in cases with existential quantifiers discussed in this chapter earlier, this reading is not available, because it is ill-formed: it is predicted that there is a conflict between the presupposition that an exceptive-additive under its exceptive interpretation introduces and the question meaning. I also show that the exceptive meaning this system generates for focus constructions is ill-formed. I discuss the constructions with existentials and demonstrate that the exceptive meaning we are getting in this general system is equivalent to the meaning we got in a simpler system in Section 4.2: it is still the same ill-formed meaning.

After that I show that the same exceptive operator (the complex operator derived from OP and NEG) that was applied to questions, focus constructions and existentials and generated the ill-formed meaning can apply to sentences with a universal quantifier and generate the exceptive reading that we actually observe in those cases that was discussed earlier in this Chapter. I also show that the additive meaning the system generates for a universal quantifier is still the ill-formed meaning – exactly the one we saw in the beginning of this Chapter in Section 4.2.

This achieves the goal of creating a uniform account of exceptive-additive ambiguity covering the cases involving existential quantifiers, universal quantifiers, questions and focus.

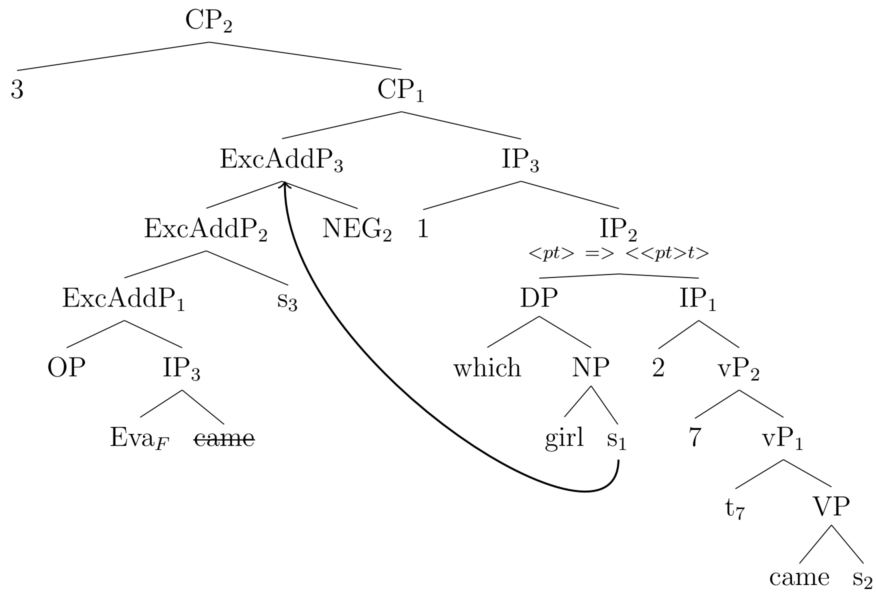
4.4.1 Generating Both Readings with Questions and Explaining Why the Exceptive One is not Well-Formed

Let us go back to the Bulgarian example given in (132).

(132)	Koi	momičeta	osven	Eva	dojdoha?
	Which	girls	ExcAdd	Eva	came
	‘Which girl besides Eva came?’				

The revised structure for this sentence is given in (133). There are no changes in the IP_2 part of the structure. The only revisions are inside the exceptive-additive phrase.

(133)



Let's focus on the internal composition of the exceptive-additive phrase. Again, I will give OP a syncategorematic treatment, it does not get an independent interpretation, but the meaning is assigned to the structure consisting of this operator and a sentence. This is done so that we could make reference to the focus semantic value of the sentence in the exceptive-additive phrase. This denotation is given below in (134). This is a function that is looking for a situation as its first argument. Then it is looking for a function of type <s<<pt>t>>: a function that takes a situation variable and outputs a generalized quantifier over propositions (<<pt>t>). After the function in (134) takes its first two arguments, it outputs a question – set of propositions (a function of type <pt>).

(134) $[[\text{OP } \varphi]]^g = \lambda s'.\lambda R_{<s<<pt>t>>}.\lambda \mathbf{q_p}$:
$\forall s[\ [[\varphi]]^g (s) = [[\varphi]]^g (s') \rightarrow R(s')(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p \neq [[\varphi]]^g \ \&\ p \in [[\varphi]]^{gF} \rightarrow p(s)=p(s')] \rightarrow R(s')(\lambda m_p.\ m(s)=1\ \&\ m=\mathbf{q})=1]$

The constituent consisting of OP and a clause (ExcAddP_1) combines with the value of the situation variable with index 3 (g(3)), the result of this is shown in (135).

(135) $[[\text{ExcAddP}_2]]^g = \lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p$:
$\forall s[\ [[\text{Eva came}]]^g (s)=[[\text{Eva came}]]^g(g(3))\rightarrow R(g(3))(\lambda d_p.d(s)=1)=1].$
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF}\rightarrow p(s)=p(g(3))]\rightarrow R(g(3))(\lambda m_p.\ m(s) \;\&\; m=\mathbf{q})=1]$

The next step is to put together this function in (135) and negation. Following the ideas developed in Section 4.2 for quantificational sentences, there will be two ways of putting together NEG and the function in (67) depending on the type this type-flexible operator gets.

The first reading I will derive is the additive one, the only reading available for questions. The additive reading is formed by giving negation the scope over the function in (135). In this case, negation is a function that takes the function in (135) as its argument and returns a function of the same type.

(136) $[[\text{NEG}_2]]^g=\lambda W_{<s<<pt>t>><pt>}.\ \lambda M_{<s<<pt>t>>}.\lambda n_p.\ \neg W(M)(n)=1$

The detailed computation of putting together NEG_1 and ExcAddP_2 is given below in (138), but the general idea is that when negation applies to the function in (135) the negation that we see in the formula in (135) at the at issue meaning is cancelled out by NEG_1 . The presupposition remains unaffected by negation. ExcAddP_2 is only defined for arguments satisfying the condition specified between ':' and '.'. Thus, the M argument that NEG_1 feeds to this function can apply to it only if it meets that condition. NEG_1 says that the function that it takes as its first argument does not get the value Truth when applied to M. Since ExAdP_2 comes with its own negation, this will result in not not getting the value True, which means getting the value Truth. As the reader can verify, this is exactly the additive operator we used earlier in this chapter to derive the additive meaning with questions.

(137) The additive operator: $[[\text{ExcAddP}_3]]^g = \lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p$:
$\forall s[[[\text{Eva came}]]^g(s)=[[\text{ Eva came}]]^g(g(3)) \rightarrow R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow R(g(3))(\lambda m_p.\ m(s)=1 \;\&\; m=\mathbf{q}) =1]$

(138) The computation of the additive operator:
$[[\text{ExcAddP}_3]]^g$ = by functional application
$\mathbf{[[NEG_2]]^g}$ $([[\text{ExcAddP}_2]]^g)$ =
$\mathbf{[\lambda W_{<s<<pt>t>><pt>}.\ \lambda M_{<s<<pt>t>>}.\lambda n_p.\ \neg W(M)(n)=1}$
$(\lambda R_{<s<<pt>t>>}.\lambda q_p$: $\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow R(g(3))(\lambda m_p.\ m(s)=1 \;\&\; m=q) =1])$ $\mathbf{]}$ = by lambda conversion

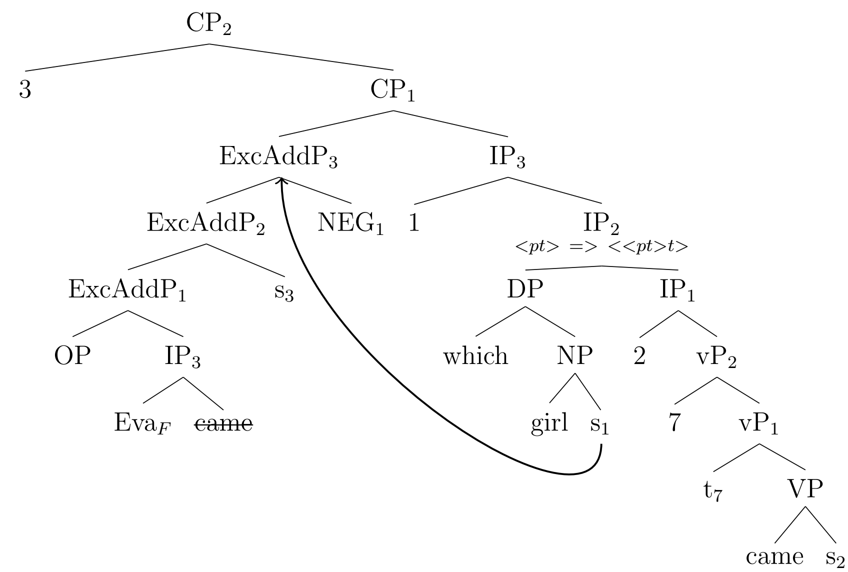
$\mathbf{\lambda M_{<s<<pt>t>>}.\lambda n_p.\ \neg\ [}\lambda R_{<s<<pt>t>>}.\lambda q_p$: $\forall s[\ [[\text{Eva came}]]^g(s) = [[\text{Eva came}]]^g(g(3)) \rightarrow R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow R(g(3))(\lambda m_p.\ m(s)=1 \;\&\; m=q)]) =1$ $\mathbf{(M)(n)\ ]}$ = by 2 applications of lambda conversion

$\mathbf{\lambda M_{<s<<pt>t>>}.\lambda n_p}$. $\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow \mathbf{M}(g(3))(\lambda d_p.d(s)=1)=1]$.
$\forall s[\forall p[p\neq[[\text{Eva came}]]^g \;\&\; p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow \mathbf{M}(g(3))(\lambda m_p.\ m(s)=1 \;\&\; m=\mathbf{n})=1])$

Since I have discussed the derivation of the additive reading in details above, I will not continue the derivation of the additive reading here. Instead I will focus on deriving **the exceptive meaning and explaining why this meaning is not available in questions**.

It is generated by the LF in (139) which is exactly like the LF in (133) that results in the additive reading modulo the type of negation. The derivation of the meaning of the exceptive-additive phrase up to the point where ExcAddP_2 is computed remains the same, its value is repeated below in (140).

(139)



(140) $[[\text{ExcAddP}_2]]^g = \lambda R_{<s<<pt>t>>}.\lambda q_p$:
$\forall s[\ [[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^o\ \&\ p\in[[\text{Eva}_F\text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow R(g(3))(\lambda m_p.\ m(s)=1\ \&\ m=q)=1]$

I propose that the exceptive operator comes as a result of assigning negation a lower type $<<s<<pt>t>><s<<pt>t>>>$. This is the function given in (141).

(141) $[[\text{NEG}_1]]^g = \lambda O_{<s<<pt>t>>}.\ \lambda s.\lambda P_{<pt>}.\ \neg O(s)(P)=1$

The negation of this type cannot take the function in (140) as its argument. However, they can combine via function composition. The details of the computation are shown below in (143). The intuition here is that the two functions compose and apply together to the argument R in (140). The result of putting together (140) and (141) via function composition is a function that is just like (140) but every occurrence of the R argument is substituted by its negation (shown in (142)).

(142) $[[\text{ExcAddP}_2]]^g = \lambda R_{<s<<pt>t>>}.\lambda q_p$:
$\forall s[[[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3)) \rightarrow \neg R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^g \ \& \ p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow \neg R(g(3))(\lambda m_p.\ m(s)=1 \ \& \ m=q)=1]$

(143) The computation of the exceptive operator:
$[[\text{ExcAddP}_3]]^g$ = by function composition
$\boldsymbol{\lambda M_{<s<<pt>t>>}.}$ **[** $[[\text{ExcAddP}_2]]^g$ $(\mathbf{[[NEG_1]]^g\ (M))]}=$

$\boldsymbol{\lambda M_{<s<<pt>t>>}.}$ **[** $[[\text{ExcAddP}_2]]^g$ $(\mathbf{[\lambda O_{<s<<pt>t>>}.\ \lambda s.\lambda P_{<pt>}.\ \neg O(s)(P)=1\ (M)])}$= by lambda conversion

$\boldsymbol{\lambda M_{<s<<pt>t>>}.}$ **[** $[[\text{ExcAddP}_2]]^g$ $\mathbf{(\lambda s.\lambda P_{<pt>}.\ \neg M(s)(P)=1)]}=$

$\boldsymbol{\lambda M_{<s<<pt>t>>}.}$ $\mathbf{[}\lambda R_{<s<<pt>t>>}.\lambda q_p$: $\forall s[[[\text{Eva came}]]^g\ (s)=[[\text{Eva came}]]^g(g(3)) \rightarrow R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^g \ \& \ p\in[[\text{Eva came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow R(g(3))(\lambda m_p.\ m(s)=1 \ \& \ m=q)=1]$ $\mathbf{(\lambda s.\lambda P_{<pt>}.\ \neg M(s)(P)=1)\ ]}$= by 3 applications of lambda abstraction

$\boldsymbol{\lambda M_{<s<<pt>t>>}.}$ λq_p: $\forall s[[[\text{Eva came}]]^g\ (s)=[[\text{Eva came}]]^g\ (g(3)) \rightarrow$
$\neg\mathbf{M}(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^g \ \& \ p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow \neg\mathbf{M}\ (g(3))(\lambda m_p.\ m(s)=1 \ \& \ m=q)=1]$ =

$\lambda M_{<s<<pt>t>>}.\ \lambda q_p$: $\forall s[[[\text{Eva came}]]^g\ (s)=[[\text{Eva came}]]^g\ (g(3)) \rightarrow \neg\mathbf{M}(g(3))(\lambda d_p.d(s)=1)=1]$.
$\exists s[\forall p[p\neq[[\text{ Eva came}]]^g \ \& \ p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \ \& \ \mathbf{M}(g(3))(\lambda m_p.\ m(s)=1 \ \& \ m=q)=1]$

The reminder of the detonation of the sister of the entire exceptive-additive phrase is given in (144). This meaning is obtained by type-shifting the question denotation from type <pt> to type <<pt>t> – from a set of propositions to a set of sets that have at least one proposition from the original set – and abstraction over the situation argument inside the wh-phrase.

(144) $[[\text{IP}_2]]^g = \lambda s.\lambda P_{<pt>}.\exists p[\exists x[x \text{ is a girl in } s \ \& \ p=[\lambda s'.\ x \text{ came in } s']\ ] \ \& \ P(p)=1]$

ExcAddP_3 and IP_2 combine via functional application, the function in (143) takes the function in (144) as its argument and outputs a set of propositions.

With those assumptions the following meaning is assigned for the entire LF in (139).

(145) $[[(139)]]^g(s_0)$ is defined only if
$\forall s[\text{Eva came in } s=\text{Eva came in } s_0 \rightarrow \neg\exists p[\exists x[x \text{ is a girl in } s_0 \ \& \ p=[\lambda s''. \ x \text{ came in } s''] \ ]\& \ p(s)=1]]$

$[[(139)]]^g(s_0) =$
$\lambda q. \ \exists s[\forall p[p\neq[\lambda s''.\text{Eva came in } s''] \ \& \ p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(s_0)] \ \& \ \exists m[\exists x[x \text{ is a girl in } s_0 \ \& \ m=[\lambda s''. \ x \text{ came in } s'']] \ \& \ m(s)=1 \ \& \ m=q]]$

The exceptive meaning we have derived here is not well-formed. The problem lies in the conflict between the presupposition and the at issue content. The presupposition introduced by the exceptive operator in (145) is that in all situations where the facts about Eva are the same as in s_0, all propositions of the form $[\lambda s''. \ x \text{ came in } s'']$ where x is a girl are false (in other words no girl from s_0 came).

This means that the question is defined only if Eva is the only girl and she did not come in the topic situation or if there are no girls in the topic situation. Otherwise there is no way to guarantee that no matter what happens with other people as long as the fact about Eva coming is the same as in s_0 there are no girls who came.

Now let's look at the at issue content. This is a collection of all the propositions of the form 'x came' where x is a girl that are true in some situation where all focus alternatives for 'Eva came' minus the original retain the same values as in s_0.

The presupposition left us two possibilities. The first one is that there are no girls in s_0. If there are no girls, the predicted set of propositions in the at issue content will be empty. The second one is that Eva is the only girl and she did not come in s_0. In this case, the predicted set of propositions in the at issue content will only contain one proposition 'Eva came'. This is because in the at issue content we are looking at situations where facts about Eva can differ, because we are only keeping constant the facts about other people. There is a situation where facts about Eva coming differ from s_0 and there is a girl who came (Eva).

Both options are problematic. Let's adopt the view that it is a part of a question meaning (a presupposition that a question carries) that the speaker who speaks the question does not believe that the question denotation is empty (a speaker find it possible that there are true proposition in the question denotation). In this case, the question will not be felicitous if the one who is asking it already presupposes that there are no girls.

The possibility that Eva is the only girl and the speaker already knows she was not there is also ruled out by pragmatic considerations. There is a restriction on the use of a wh-question when it is known that its restrictor denotes a singleton set. For example, the question in (146) is only felicitous if John has more than one father. I suggest that because there is no way to felicitously asking a question in situations where the presupposition generated by an exceptive meaning is satisfied, the exceptive reading is not available with questions.

(146) #Which father of John came to the meeting?

4.4.2 Explaining Why the Exceptive Reading is not Available with Focus Associates

In this section I will show that the exceptive meaning generated for sentences where an exceptive-additive phrase operates on focus associates is also not well-formed. This follows from the fact that in those cases an exceptive-additive phrase modifies a silent question under discussion and the exceptive reading generated by this system for questions is not predicted to be well-formed. On top of this the presupposition generated by an exceptive-additive phrase under the exceptive reading in cases where it operates on a silent question under discussion directly contradicts the at issue content of the main clause.

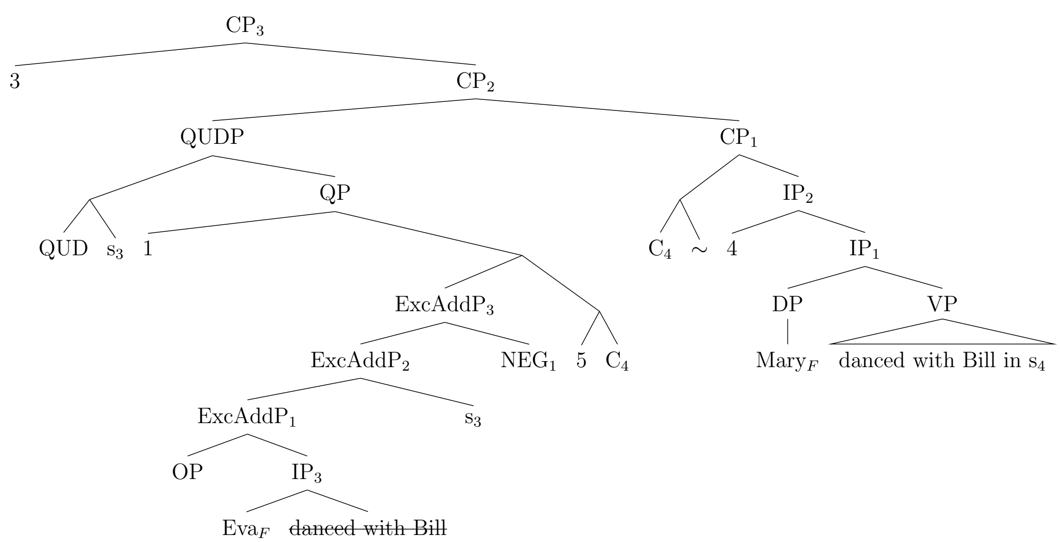
Let's go back to the example discussed earlier in this chapter in (147) and look at the exceptive reading generated by this system.

Bulgarian:

(147) Osven Eva ~~tancuvaše s Bill~~, Mary$_F$ tancuvaše s Bill.
ExcAdd Eva ~~danced with Bill~~ Mary danced with Bill
Besides Eva, Mary$_F$ danced with Bill'.
(meaning: Eva danced with Bill and Mary danced with Bill as well)

The LF that generates both the exceptive reading and the additive reading is given in (148). Most of this structure is familiar to the reader from the earlier discussion. The change introduced here is that instead of the Additive Phrase we have an Exceptive-Additive Phrase and this phrase is given more structure: there is OP and NEG and not just one additive operator.

(148)



The denotation for the Exceptive-Additive Phrase under the exceptive mode of composition is repeated for convenience in (149).

The exceptive operator:

(149) $[[\text{ExcAddP}_3]]^g = \lambda R_{<s<<pt>t>>}.\lambda \mathbf{q}_p$:
$\forall s[[[\text{Eva came}]]^g (s)=[[\text{Eva came}]]^g (g(3)) \rightarrow \neg R(g(3))(\lambda d_p.d(s)=1)=1]$.
$\neg\forall s[\forall p[p\neq[[\text{Eva came}]]^g \,\&\, p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))] \rightarrow \neg R(g(3))(\lambda m_p.\ m(s)=1 \,\&\, m=\mathbf{q})=1]$

The value of C_4 is as shown in (150): it is restricted by the focus value of the main clause because of ~.

(150) $[[C_4]]^g = g(4) = \lambda p.\ \exists x[p=[\lambda s'.x \text{ danced with Bill in } s']]$

Following the earlier discussion, I will assume that the constituent the exceptive-additive phrase combines with has the denotation shown in (151): this is the result of type-shifting the value of C_4 followed by vacuous abstraction over situations.

(151) $\lambda s.\lambda P_{<pt>}.\exists p[\exists x[p=[\lambda s'.x \text{ danced with Bill in } s']]\ ]$

With those assumptions, the following question under discussion is generated (shown in (152)).

(152) $[[\text{QP}]]^g = \lambda s'.\lambda \mathbf{q}_p$: $\forall s[\ [[\text{Eva danced with Bill}]]^g(s)=[[\text{Eva danced with Bill}]]^g(s') \rightarrow \neg\exists p[\exists x[p=[\lambda s'.\ x \text{ danced with Bill in } s']\ ] \,\&\, p(s)]]$.
$\exists s[\forall p[p\neq[[\text{Eva danced with Bill}]]^g \,\&\, p\in[[\text{Eva}_F \text{ danced with Bill}]]^{gF} \rightarrow p(s)=p(s')] \,\&\, \exists d[\exists x[d=[\lambda s''.\ x \text{ danced with Bill in } s'']\ ] \,\&\, d(s)=1 \,\&\, d=\mathbf{q}]]$

The QUD operator will take this question and ensure that it is evaluated with respect to the same situation as the at issue content of the main clause and state that this is QUD. The problem with the question under discussion generated here is in the presupposition it introduces. Let's look at the meaning of the entire sentence that is given in (153). It carries 3 presuppositions: the first two are introduced by the QUD operator and the last one by ~. The first one is the presupposition of the question under discussion that we generated in (152). It says that in every situation where facts about Eva dancing with Bill are the same as in s_0, no one danced with Bill. It can only be satisfied if there are no people other than Bill and Eva at all and Eva did not dance with Bill. This is because it is essentially saying no matter what happens with other individuals, just learning the fact about Eva and Bill is enough to learn that nobody danced with Bill.

That is not compatible with the at issue content of the sentence that states that Mary danced with Bill in s_0. We do not even need to look at what the QUD is in this case: the exceptive presupposition generated by this system for cases when an exceptive-additive phrase operates on focus associates will not be compatible with the at issue content of the main clause.

(153) $[[(148)]]^g(s_0)=1$ iff Mary danced with Bill in s_0

$[[(148)]]^g(s_0)$ is defined only if

1. $\forall s[\ [[\text{Eva danced with Bill}]]^g(s)=[[\text{Eva danced with Bill}]]^g(s_0) \rightarrow$
$\neg\exists p[\exists x[p=[\lambda s'.\ x \text{ danced with Bill in } s']\ ]\ \&\ p(s)=1]]$

2. QUD is $[\lambda \mathbf{q}_p.\exists s[\forall p[p\neq[[\text{Eva danced with Bill}]]^g\ \&\ p\in[[\text{Eva}_F \text{ danced with Bill}]]^{gF} \rightarrow p(s)=p(s_0)]\ \&\ \exists d[\exists x[d=[\lambda s''.\ x \text{ danced with Bill in } s'']\ ]\ \&\ d(s)=1\ \&\ d=\mathbf{q}]]]$

3. $g(4) \subseteq \lambda p.\ \exists x[p=[\lambda s'.x \text{ danced with Bill in } s']]\ \&$
$[\lambda s.\ \text{Mary danced with Bill in } s] \in g(4)$

To conclude the system correctly captures the fact that when an exceptive-additive phrase operates on a focus associates the exceptive reading is not available. The sentence in (154) (repeated from above) comes with the positive inference that Eva danced with Bill and not with a negative inference that Eva did not dance with Bill. This is because the reading that would come with a negative inference is never generated for questions (including questions under discussion). The exceptive reading that is generated in this case is Eva did not dance with Bill and she and Bill are the only people in the universe and Mary danced with Bill. That is not a coherent meaning. This is why it is not available.

Bulgarian:

(154)	Osven	Eva,	Mary$_F$	tancuvaše	s	Bill.
	ExcAdd	Eva	Mary	danced	with	Bill

‘Besides Eva, Mary$_F$ danced with Bill’.

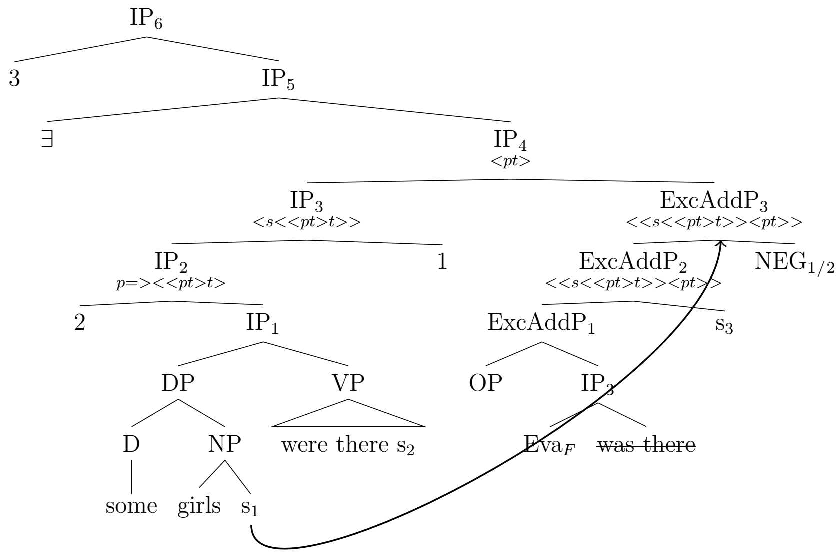
4.4.3 Ruling Out the Exceptive Reading with Existentials

In the previous subsections I have extended the system that generates the additive reading for questions, focus and existentials in such a way that it also generates an exceptive meaning for all of those constructions. In this subsection I will show that the exceptive reading generated for existentials in this updated system is still the same ill-formed meaning that we have discussed in Section 4.2 where we looked at the exceptive-additive ambiguity for simple quantificational sentences. In the updated system the Persian sentence with an existential and an exceptive-additive phrase repeated here as (155) gets the LF shown in (156).

(155)	Chand-ta	doxtar	bejoz	Eva	oonja	bood.
	Some-?	girls-	Exc-Add	Eva	there	were-3pl

‘Some girls were there besides Eva’.

(156)



The changes in this structure compared to the structure we saw in Section 4.3.6 are in the internal structure of the exceptive-additive phrase. The internal structure of the exceptive-additive phrase is also familiar from the earlier discussion (specifically, from the discussion of the exceptive readings in questions and in focus constructions). If NEG_2 – the function of type <<<s<<pt>t>><pt>><<s<<pt>t>><pt>>> and $ExcAddP_2$ are put together via functional application, the resulting operator is equivalent to the additive operator I discussed in Section 4.3.6 in detail. For this reason, I will not discuss this derivation here again.

The exceptive operator is the result of putting together $ExcAddP_2$ and negation NEG_1 - the function of type <<<s<<pt>t>><<s<<pt>t>>> given in (141) - via function composition. Under this mode of putting together the exceptive-additive phrase, the denotation of $ExcAddP_3$ is as shown in (157).

The exceptive operator:

(157) $[[ExcAddP_3]]^g = \lambda M_{<<s<<pt>t>>}. \lambda q_p$: $\forall s[[[\varphi]]^g (s)=[[\varphi]]^g (g(3))\rightarrow$
$\neg M(g(3))(\lambda d_p.d(s)=1)=1]$.
$\exists s[\forall p[p\neq[[\varphi]]^g \ \& \ p\in[[\varphi]]^{gF} \rightarrow p(s)=p(g(3))] \ \& \ M(g(3))(\lambda m_p. \ m(s)=1 \ \& \ m=q)=1]$

This operator combines with its sister that gets the denotation shown in (158). This denotation for this node is derived by type shifting the quantificational proposition (node IP_2) from p to <<pt>t> via LIFT and abstracting over situation variable inside the predicate ‘girl’. This is familiar from the earlier discussion.

(158) $[[IP_3]]^g = \lambda s'.\lambda P_{<pt>}. \ P(\lambda s''.\exists x[x \text{ is a girl in } s' \ \& \ x \text{ was there in } s''])=1$

Putting together (157) and (158) results in (159). The at issue content given in (159) is a set of propositions. Following the discussion of the derivation of the additive reading, we need to existentially close this predicate in order to get the right meaning of the entire sentence.

(159) $[[IP_4]]^g$ is defined only if
$\forall s[\text{Eva was there } s=\text{Eva was there in } g(3)\rightarrow\neg\exists x[x \text{ is a girl in } g(3) \ \& \ x \text{ was there in } s]]$

$[[IP_4]]^g = \lambda q.\exists s[\forall p[p\neq[[\text{Eva was there}]]^g \ \& \ p\in[[\text{Eva}_F \text{ was there}]]^{gF}\rightarrow p(s)=p(g(3))] \ \& \ q=[\lambda s''.\exists x[x \text{ is a girl in } g(3) \ \& \ x \text{ was there in } s''] \ ] \ \& \ q(s)=1]$

Granted that, the generated exceptive meaning of the entire sentence is as shown in (160).

(160) $[[(156)]]^g (s_0)$ is defined only if
$\forall s[\text{Eva was there } s=\text{Eva was there in } s_0\rightarrow\neg\exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ was there in } s]]$

$[[(156)]]^g (s_0) = T$ iff
$\exists q[\exists s[\forall p[p\neq[[\text{Eva was there}]]^g \ \& \ p\in[[\text{Eva}_F \text{ was there}]]^{gF}\rightarrow p(s)=p(s_0)] \ \&$
$q=[\lambda s''.\exists x[x \text{ is a girl in } s_0 \ \& \ x \text{ was there in } s''] \ ] \ \& \ q(s)=1]]$

The reader can verify that the presupposition that we have generated is the exceptive presupposition shown in Section 4.2. This presupposition can only be satisfied if there are no girls in s_0 or if Eva is the only girl and she was not there, because there is no other way to guarantee that in every situation that matches s_0 with respect to Eva being there has no girl who was there. The option of Eva being the only girl in s_0 is ruled out as it is not compatible with the usage of the existential quantifier.

The option of there being no girls s_0 is not compatible with the at issue content. The at issue content says that there is a proposition equal to 'some girls from s_0 were there' that is true in some situation where all facts regarding the people other than Eva being there remain the same as in s_0. This requires that there are some girls in s_0.

Thus, the meaning generated by applying the exceptive operator to an existential is not well-formed.

The goal of this section was to show that the results of the discussion in Section 4.2 were replicated in the system where one and the same operator can apply to existentials and questions. As the reader can verify, the exceptive reading generated by this more complex system is exactly equivalent to the reading that was generated by the simpler system of Section 4.2 (the shortcoming of which was that was not compatible with the question denotation).

4.4.4 Exceptive Readings and the Absence of the Additive Reading with Universals in the Unified System

In the previous sections I have extended the system in such a way that the exceptive and the additive meaning are generated for questions. This meaning is not available in those cases because it is not well-formed, however it is generated. Prior to that I have shown how one and the same denotation for the additive phrase can apply to questions and regular propositions. The last two points I need to show in order to get the full picture are as follows:

- the exceptive way of putting together OP and NEG generates the exceptive meaning for universals that we have discussed in Section 4.2.
- the additive reading generated for universals is exactly the one we saw in Section 4.2 and it is not well-formed and is unavailable for this reason.

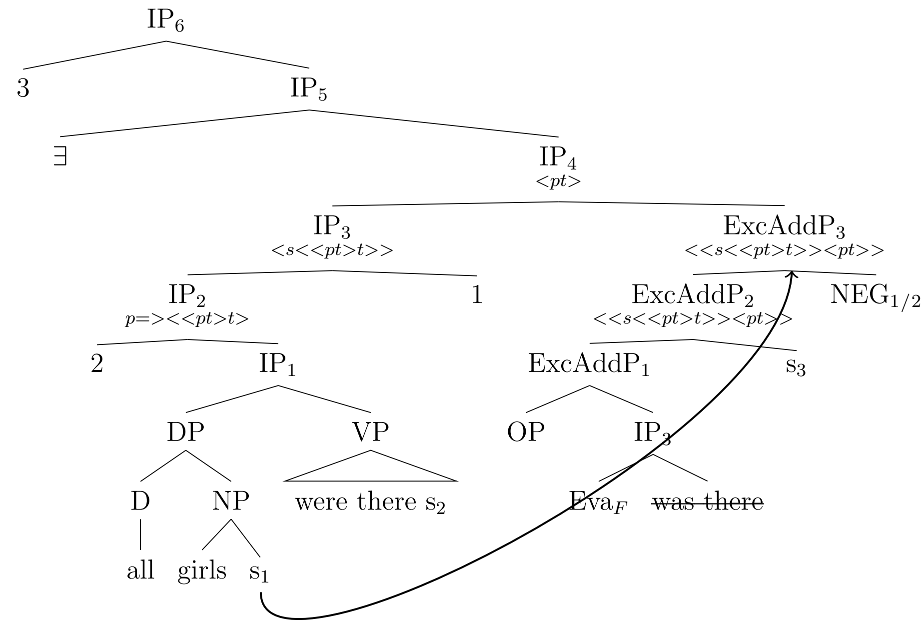
I will start from showing the derivation of the well-formed exceptive reading for the sentence in (161).

Persian:

(161)	Har	doxtari	bejoz	Eva	oonja	bood.
	All	girl-	Exc-Add	Eva	there	were-3pl
	'All girls were there except Eva'.					

The LF that this sentence gets in the updated system is as shown in (162). Both the exceptive and the additive reading are generated by this LF. All parts of the structure of this LF are already familiar from the earlier discussion of the similar structure of sentences with existential quantifiers.

(162)



The reminder of the denotation of the exceptive operator that results from putting together NEG_1 of type <<s<<pt>t>><s<<pt>t>>> and its sister via function composition is given in (163).

The exceptive operator:

(163) $[[ExcAddP_3]]^g$= by function composition

$\lambda M_{<s<<pt>t>>}.[\ [[ExcAddP_2]]^g\ ([[NEG_1]]^g\ (M))]=$

$\lambda M_{<s<<pt>t>>}.\ \lambda q_p\!: \forall s[[[\text{Eva was there}]]^g\ (s)=[[\text{Eva was there}]]^g\ (g(3))\rightarrow$

$\neg M(g(3))(\lambda d_p.d(s)=1)=1].$

$\exists s[\forall p[p\neq[[\text{Eva was there}]]^g\ \&\ p\in[[\text{Eva}_F\text{ was there}]]^{gF} \rightarrow p(s)=p(g(3))]\ \&\ M(g(3))(\lambda m_p.$ $m(s)=1\ \&\ m=q)=1]$

This exceptive operator requires an argument of type <s<<pt>t>>. This argument is created via the following steps. The constituent IP_2 of type p (<st>) undergoes type-shifting to type <<pt>t> via LIFT (shown in (164)).

(164) $[[IP_2]]^g=\lambda s''.\forall x[x\text{ is a girl in }g(1) \rightarrow x\text{ was there in }s''] =>$
$\lambda P_{<pt>}.\ P(\lambda s''.\forall x[x\text{ is a girl in }g(1) \rightarrow x\text{ was there in }s''])=1$

The abstraction over the situation argument inside the noun predicate is computed after the type-shifting takes place.

(165) $[[IP_3]]^g = \lambda s'.\lambda P_{<pt>}.\ P(\lambda s''.\forall x[x \text{ is a girl in } s' \rightarrow x \text{ was there in } s''])=1$

Putting (163) and (165) produces a set of propositions (shown in (166)).

(166) $[[IP_4]]^g$ is defined only if
$\forall s[\text{Eva was there } s=\text{Eva was there in } g(3) \rightarrow \exists x[x \text{ is a girl in } g(3)\ \&\ \neg x \text{ was there in } s]]$

$[[IP_4]]^g=$
$\lambda q.\exists s[\forall p[p \neq [[\text{Eva was there}]]^g\ \&\ p \in [[\text{Eva}_F \text{ was there}]]^g \rightarrow p(s)=p(g(3))]\ \&\ q=[\lambda s''.\forall x[x \text{ is a girl in } g(3) \rightarrow x \text{ was there in } s'']\ ]\ \&\ q(s)=1]$

The existential closure applies to this predicate and the following final meaning for this sentence is generated:

(167) $[[(162)]]^g\ (s_0)$ is defined
$\forall s[\text{Eva was there } s=\text{Eva was there in } s_0 \rightarrow \exists x[x \text{ is a girl in } s_0\ \&\ \neg x \text{ was there in } s]]$

$[[(162)]]^g\ (s_0) = T$ iff
$\exists q[\exists s[\forall p[p \neq [[\text{Eva was there}]]^g\ \&\ p \in [[\text{Eva}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(s_0)]\ \&$
$q=[\lambda s''.\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ was there in } s'']\ ]\ \&\ q(s)=1]\ ]$

This is our exceptive meaning. The presupposition in (167) is the familiar Conditional Leastness – the claim that Eva is a girl who was not there. This is a claim that in all situations which are the same as the actual topic situation with respect to the facts about Eva being there, there is a girl who was not there. This can only be true if Eva is a girl in s_0 and she was not there.

The at issue content is the familiar conditional domain subtraction. This claim can be true only if every girl from s_0 who is not Eva was there. It says: there is a proposition equal to [λs''.$\forall$x[x is a girl in $s_0 \rightarrow$ x was there in s'']] that is true in some situation where all focus alternatives of 'Eva$_F$ was there' other than the original proposition retain the same truth value as in s_0. Basically this claim says: no proposition of the form [λs. x was there] where x is any individual other than Eva stand in a way of the proposition [λs''.$\forall$x[x is a girl in $s_0 \rightarrow$ x was there in s'']] being true in s_0.

Thus, the system developed in this section in order to give a unified treatment of the interaction of exceptive-additive markers with questions, existentials, universals, and focus associates correctly captures the exceptive reading those constructions get with universal quantifiers.

One remaining thing to show is that the additive reading generated for universal quantifier by this system is the same ill-formed meaning we derive by the simpler system in Section 4.2. This will capture the fact that the only reading that this sentence in (161) can have is the exceptive one.

The additive reading is generated by the same LF that was given in (162). The difference is that we assign negation a different semantic type (<<s<<pt>t>><pt> <s<<pt>t>><pt>>) This is NEG_2 and its denotation was given in (136). This is a function that takes $ExcAddP_2$ as its argument. The reminder of the additive operator is given below in (168).

(168) The additive operator:
$[[ExcAddP_3]]^g$ = by functional application
$[[NEG_2]]^g([[ExcAddP_2]]^g)$ =
$\lambda M_{<s<<pt>t>>}.\lambda n_p.\ \forall s[[[\text{Eva came}]]^g(s)=[[\text{Eva came}]]^g(g(3))\rightarrow M(g(3))(\lambda d_p.d(s)=1)=1].$
$\forall s[\forall p[p\neq[[\text{Eva came}]]^g \,\&\, p\in[[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(g(3))]\rightarrow M(g(3))(\lambda m_p.\ m(s)=1 \,\&\, m=n)=1])$

The additive operator combines with its sister with the meaning given in (169) (the result of type-shifting a proposition to type <<pt>t> and abstraction over the situation variable)

(169) $[[IP_3]]^g = \lambda s'.\lambda P_{<pt>}.\ P(\lambda s''.\forall x[x \text{ is a girl in } g(1) \rightarrow x \text{ was there in } s''])=1$

The result of putting together the function in (168) and its argument in (169) is the set of propositions. Existential closure applies to this set and the final meaning of the entire sentence is as shown in (170) (under the assumption that we interpret the structure with NEG_2 not NEG_1).

(170) $[[(162)]]^g (s_0)$ is defined
$\forall s[\text{Eva was there } s=\text{Eva was there in } s_0 \rightarrow \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ was there in } s]]$

$[[(162)]]^g\ (s_0) = T$ iff
$\exists q[\forall s[\forall p[p \neq [[\text{Eva was there}]]^g \ \&\ p \in [[\text{Eva}_F \text{ was there}]]^{gF} \rightarrow p(s)=p(s_0)] \rightarrow$
$q=[\lambda s''.\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ was there in } s'']]\ \&\ q(s)=1]]$

This is the same meaning that we have generated in a simpler system in Section 4.2. This meaning is problematic because of the presupposition that is introduced by the additive operator. The sentence is defined only if in all situations where the facts about Eva being there are the same as in s_0, everyone who is a girl in s_0 was there. That is only possible if Eva is the only girl and she was there in s_0 or if there are no girls in s_0 and the quantification over girls is vacuous. There is no other way to guarantee that no matter what happens with other individuals, a single fact about Eva allows us to conclude something about every girl from s_0.

In Section 4.2 I proposed that this reading is ruled out because both options the presupposition leaves us with are problematic. To review, if Eva is the only girl and it is known, the usage of *every* is blocked: a universal quantifier cannot be used if it is known that its restrictor is a singleton set. This observation was discussed in Section 4.2 and it goes back to Partee (1986).

The possibility that there are no girls is problematic as well. First, one might adopt the view that natural language quantifiers *every* or *all* presuppose there the restrictor is not empty. But even if it is not the case, if there are no girls in the topic situation and this is known, then whenever the presupposition is satisfied the sentence is true. This is because if the restrictor of *every girl* is empty and the quantifier is not presuppositional, *every girl came* is true in every situation. Thus, this meaning is a tautology in the sense that whenever it is defined it is true, there is no way for it to be false. This cannot be repaired by substitution of all the open class lexical items in the sentence. Following Gajewski (2002), I assume that sentences with this property are perceived as ungrammatical. Thus, this sentence under this interpretation is perceived as ungrammatical. For this reason, this interpretation is not available.

Those are the reasons why this additive meaning is not available for the sentence with a universal quantifier in (161).

4.4.5 Plural Remnants Again

In this discussion I again made a simplified assumption that the remnant of an exceptive-additive phrase is always a singular individual denoting expression. This is, of course, not true. The denotation for OP has to be modified along the lines it was discussed in Chapter 3 Section 3.6 (Plural Remnants in Exceptive Clauses). We want to capture the fact that both Anna and Eva have to be girls in (171) and in (172). In order to do this, I will use the strategy proposed in Chapter 3: we can use the focus alternatives of the reduced clause following the exceptive-additive marker in order to get a set of propositions of the same general form, but with individual denoting expression in the position corresponding to the focused element.

Bulgarian:

(171)	Vsički	momičeta	doidoha,	osven	Anna	i	Eva.	
	All	girls	came,	osven	Anna	and	Eva	

‘All girls came except Anna and Eva’.

(172)	Koi	momičeta	osven	Eva	i	Anna	dojdoha?
	Which	girls	osven	Eva	and	Anna	came

‘Which girl besides Eva and Anna came?’

Here I will use the idea proposed in Chapter 3 Section 3.6 (Plural Remnants in Exceptive Clauses). The idea is that in (171) and (172) we want to go from the proposition denoted by *Eva and Anna came* to propositions denoted by *Eva came* and *Anna came* and apply the Conditional Additivity to each of them. Those are the propositions that belong to the set of focus alternatives of [*Eva and Anna*]$_F$ *came* such that they are entailed by the original propositions. Since a relatively detailed discussion of this issue was given in Chapter 3 Section 3.6 (Plural Remnants in Exceptive Clauses), here I will only give the relevant update for the denotation of OP.

(173) $[[\text{OP}\ \varphi]]^g = \lambda s'.\lambda R_{<s<<pt>t>>}.\lambda q$:
$\forall p[(p \in [[\varphi]]^{gF}\ \&\ [[\varphi]]^g \subseteq p) \rightarrow \forall s[p(s)=p(s') \rightarrow R(s')(\lambda d_p.d(s)=1)=1]]$.
$\neg\forall s[\forall p[p \in [[\varphi]]^{gF}\ \&\ [[\varphi]]^g \not\subseteq p \rightarrow p(s)=p(s')] \rightarrow R(s')(\lambda m_p.\ m(s)=1\ \&\ m=q)=1]$

4.5 Conclusions

In this chapter I have shown how clausal exceptive-additive construction can be handled under the assumption that a clausal exceptive-additive marker introduces quantification over possible situations and provides the restriction for this quantification. I showed how the additive reading of exceptive-additive phrases with existentials, *wh*-phrases and focus associates can be captured in the conditional system.

I have developed a system where the ideas developed in Chapter 2 for phrasal exceptive-additive constructions are extended to clausal constructions. In this system an exceptive-additive ambiguity is the result of scopal interaction between two elements one of which is negation. In general, both the exceptive and the additive meanings are generated in every case, however, one of them is not well-formed.

CHAPTER 5

REMAINING ISSUES AND DIRECTIONS FOR FUTURE RESEARCH

5.1 The Unified Treatment of Clausal and Phrasal Exceptive and Exceptive-Additive Constructions

5.1.1 The Goal of Creating a Unified Treatment of Clausal and Phrasal Exceptive and Exceptive-Additive Constructions

Based on the observation that some exceptive constructions are clearly clausal, I have developed an approach to the semantics of exceptives that is very different from the previously existing approaches, which were built on the assumption that exceptives introduce sets of individuals. According to the conditional semantics I have proposed, exceptives do not subtract sets from domains of quantifiers. They introduce quantification over possible situations and make statements about possible situations in which some facts differ from the facts in the situation of evaluation and some facts remain the same.

A natural question arising at this point is how clausal exceptive and exceptive-additive constructions and exceptive and exceptive-additive constructions that don't show any evidence of an underlying clausal syntactic structure are related to each other. The syntactic properties of such constructions were discussed in Chapter 1. As a reminder, there are exceptive constructions that do not allow for multiple remnants and cannot host constituents of any syntactic type other than DPs. In English one example of such an exceptive construction is *but*. One grammatical example illustrating the usage of this exceptive is given in (1). The difference between *except* and *but* in their ability to host PPs is illustrated by the contrast between (2) and (3)(the example already familiar from the earlier discussion).

(1) Every girl came but Eva.

(2) *I got no presents but from my mom.

(3) I got no presents except from my mom.

The answer to the questions about the semantics of those constructions depends on what the syntax of those constructions is. As was said in Chapter 1, there are two options: all phrasal constructions are underlyingly clausal and there are constructions that are truly syntactically phrasal.

As was show in Chapter 1, in Persian phrasal and clausal exceptives show different syntactic properties. Perez-Jimenez and Moreno-Quiben (2010) argue that in Spanish phrasal and clausal exceptives also have distinct syntactic properties (the relevant facts were discussed in Chapter 1). Those languages provide evidence in support of the idea that some exceptive constructions are truly phrasal.

One interesting fact about *but*-exceptives in English is that NPIs are not allowed in them independently of whether the exceptive operates on a universal or negative quantifier (as shown by the contrast between (4) and (5)). In this respect they behave differently than clausal exceptives introduced by *except* in English. This also suggests that there is a syntactic difference between *but*-exceptives and *except*-exceptives in English.

(4) *John danced with everyone but any girls from his class.

(5) *John danced with no one but any girls from his class.

To conclude, the existing evidence suggests that there are exceptive constructions for which the phrasal syntactic analysis (i.e. the analysis that does not assume the existence of unpronounced structure in the complement of an exceptive marker) is most plausible. In this case those constructions require the semantic analysis that is faithful to their syntax. As was pointed out in Chapter 1, most of the existing semantic theories assume the phrasal syntax. However, accounting for clausal exceptives required a significant departure from the existing analysis of exceptives. Recall that, for example, in the semantics proposed by von Fintel (1994) for exceptives and extended here in Chapter 1 to account for the exceptive-additive ambiguity exceptives did not introduce quantification over possible situations. The state of affairs where phrasal exceptives and clausal exceptives have drastically different semantics is not be optimal. In what follows I attempt to extend the key ideas of the analysis proposed here for clausal exceptives to phrasal exceptives. I show that the most straightforward idea runs into a difficulty. The attempt to solve the problem results in a system that uses both the quantification over possible situations and the quantification over sets (as in the system built on von Fintel's work (1994) in Chapter 2).

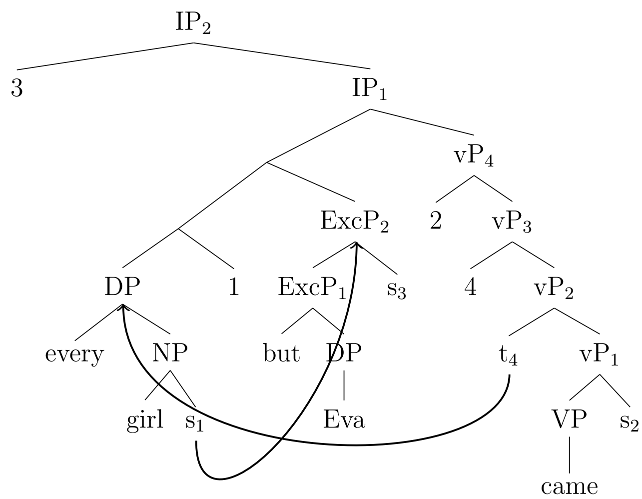
5.1.2 The Semantics of Phrasal Exceptives: the First Attempt

We can create a unified treatment for clausal and phrasal exceptives, where both types of exceptives introduce quantification over possible situations and provide restrictors for this quantification. Quantification over possible situations has to be restricted by propositions. They can be given to us in syntax or we can construct them semantically from predicates of situations and individuals.

(6) Every girl but Eva came.

Here is how the ideas developed here for clausal exceptives can be extended to the phrasal cases. Let's assume that (6) has the LF shown in (7).

(7)



In this LF the subject DP moves to the subject position together with the exceptive phrase. It leaves a trace of type e (t_4). This trace is bound by the lambda abstractor 4.

Let's assume, following (Reinhart 1991), that a phrasal exceptive can be a part of the constituent containing a DP and have access to the main predicate of a sentence. In the LF shown in (7), this structure is derived by moving the exceptive phrase from the connected position (the position of a sister of the NP in the restrictor of the quantifier) after the subject moves to its surface position. This is a very short movement. The exceptive phrase leaves a trace of type s (s_1). Binder 1 binding this trace is merged in the LF. Again, this structure does not have to be derived via movement, alternatively it could be base-generated.

There are two other lambda abstractors in this LF that bind situation variables.

One abstractor over situations binds the situation variable of the main verb (2) and it is merged above the abstraction over the trace of the subject. The merge of this binder over situation is forced by the type of *but*: its last argument has to be of type <s<et>> and not of type <et> – the standard type of the scopal argument of a quantifier. Another one binds the situation variable inside the exceptive (3). This is the situation with respect to which the entire sentence is evaluated.

Given those assumptions, the sister of the phrase consisting of the DP and the exceptive phrase has the denotation shown in (8).

(8) $[[vP_4]]^g = \lambda s.\ \lambda y.$ y came in s

What we have in (8) is the object that we can use in order to create a restrictor for quantification over possible situations.

Given that this is just a phrasal exceptive, the constituent following the exceptive marker *but* does not contain negation. Thus, we need to use the same strategy here as the one that was used here for clausal exceptives in languages where the exceptive clause operating on a universal quantifier does not have negation in it. What I proposed for those clausal exceptives is that we control the polarity semantically: we look at situations where the truth value of the proposition 'Eva came' equals (or not equals, depending on what we are trying to capture) to its truth value in the situation of evaluation

The denotation for a phrasal exceptive is given in (9). It is a function that combines with an individual introduced by a DP inside the *but*-phrase, a situation variable, a generalized quantifier with an abstraction over a situation variable in the head noun (<s<<et>t>>), and a predicate of type <s<et>> – the argument in the scope of the quantifier.

For clarity and simplicity the arguments *but* takes in this specific examples are given in (10), (11), (12) and (13) (in the order *but* takes them). *But* introduces the familiar presupposition – Conditional Leastness and the assertive part – Conditional Domain Subtraction.

(9) $$\overbrace{[[\text{but}]]^g=\lambda x.\lambda s'.\lambda M_{<s<<et>t>>}.\lambda P_{<s<et>}: \forall s[P(s)(x)=P(s')(x) \rightarrow \neg M(s')(P(s))=1].}^{\text{Conditional Leastness}}$$
$$\underbrace{\forall s[(P(s)(x)\neq P(s')(x) \,\&\forall z[z\neq x \rightarrow P(s)(z)=P(s')(z)]) \rightarrow M(s')(P(s))=1]}_{\text{Conditional Domain Subtraction}}$$

(10) Eva

(11) $[[s_3]]^g=g(3)$

(12) $\lambda s'.\lambda Q_{<et>}.\forall x[x \text{ is a girl in } s' \rightarrow Q(x)=1]$

(13) $\lambda s.\lambda y.$ y came in s

With those assumptions the denotation for the entire sentence is as shown in (14) (the presupposition) and (15) (the at-issue content). The presupposition in (14) is Conditional Leastness. Its equivalent formulation is given in (16). It says that in every situation where the truth value of the proposition 'Eva came' equals to its truth value in s_0 there is an individual who is a girl in s_0 who came. This can only be the case if Eva is a girl in s_0 and she came in s_0.

The at-issue content in (15) is Conditional Domain Subtraction. This is the claim that is the fact about Eva coming is changed while all other coming facts remain the same, all girls from s_0 came. This can only be true if all other girls came.

(14) Conditional Leastness: $[[(7)]]^g$ is defined only if
$\forall s[\text{Eva came in } s= \text{Eva came in } s_0 \rightarrow \neg\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

(15) Conditional Domain Subtraction: $[[(7)]]^g = 1$ iff
$\forall s[(\text{Eva came in } s \neq \text{Eva came in } s_0 \ \& \ \forall p[p \neq [\lambda s. \text{ Eva came in } s] \ \& \ p \in [[\text{Eva}_F \text{ came}]]^{gF} \rightarrow p(s)=p(s_0)]) \rightarrow \ \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

(16) $\forall s[\text{Eva came in } s = \text{ Eva came in } s_0 \rightarrow \ \exists x[x \text{ is a girl in } s_0 \ \& \neg \ x \text{ came in } s]]$

5.1.3 A Problem with Exceptives Operating on NPIs: A Challenge for the Proposed Semantics for Phrasal Exceptives

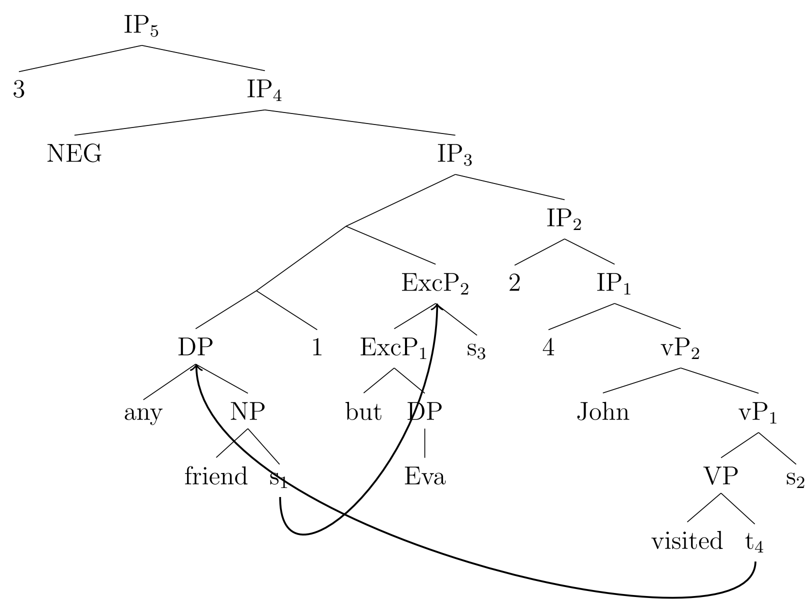
The extension of the conditional analysis to phrasal cases as presented in the previous section seemed trivial. However, there is an immediate problem with this proposal and this problem is rather challenging. The problem is caused by the examples like the one in (17), where an exceptive phrase introduces an exception to the quantificational claim introduced by *any friends*. The problem is that in the system I have proposed the meaning of an exceptive phrase has to be computed at the position where the meaning of the DP it operates on is computed. It is generally assumed that the NPI *any* is an existential quantifier that has to be interpreted in the scope of a downward entailing operator (Fauconnier 1975, 1978; Ladusaw 1979). One fact the semantics for clausal exceptives developed here is designed to capture is that exceptives are not compatible with existential quantifiers. Thus, given that the proposal for phrasal exceptives as presented in the previous section requires them to be interpreted very close to the quantificational claim, it incorrectly predicts that (17) has to be an ungrammatical sentence. The detailed derivation of the predicted meaning is shown below.

(17) John did not visit any friends but Eva.

The structure predicted by the account for phrasal exceptives presented so far is shown in (18). My assumption in (18) is that the quantificational object undergoes QR and leaves a trace of type e (t_4). This trace is bound by the abstractor 4. The position the object moves to has to be below negation in order for it to be in the scope of a downward entailing operator. Those are the standard assumptions about the interpretation of NPIs like *any* that I adopt here.

Following the discussion in the previous section, the exceptive phrase *but Eva* moves to a position where it forms a constituent with the whole DP and leaves a trace of type s (s_1). A lambda abstractor (λs_2) binding the situation variable of the main predicate of the sentence is merged below the abstractor over the trace of the DP.

(18)



The two arguments Exceptive Phrase$_2$ combines with are given in (19) and (20).

(19) $\lambda s.\lambda P_{<et>}.\ \exists x$[x is a friend in s & P(x)=1]

(20) $\lambda s'.\lambda y$. John visited y in s'

The prediction for the denotation of the IP_3 (the sister of negation) is given in (21) (the presupposition) and (22) (the assertive content).

The condition of definedness given in (21) requires that every situation that matches s_3 with respect to John visiting Eva has no one who is a friend in s_3 who John visited. This can only be satisfied if either Eva is the only friend in s_3 or there are no friends in s_3. The reason for this was discussed in Chapter 3 in detail, but in the nutshell, it is that there is no other way in which a fact about one individual can guarantee something for all individuals in all possible situations.

The situation where Eva is the only friend is ruled out by the fact that an NPI *any* is used that signals that the speaker does not believe that the condition for the use of a definite article are met. So, this option is ruled out by the pragmatic considerations.

The remaining option that there are no girls in the situation picked by g(3). This contradicts the at-issue content given in (22). This is because it says that in all situations where the truth-value of 'John visited Eva' is different than in g(3) and the rest of the propositions of the relevant form have the same truth value there is a person who is a friend in g(3) who John visited.

(21) $[[IP_3]]^g$ is defined only if
$\forall s$[John visited Eva in s=John visited Eva in g(3) $\rightarrow \neg\exists x$[x is a friend in g(3) & John visited x in s]]

(22) $[[IP_3]]^g$=1 iff
$\forall s$[(John visited Eva in s$\neq$John visited Eva in g(3) & $\forall z$[z$\neq$Eva$\rightarrow$ John visited z in s= John visited z in g(3)]) $\rightarrow$ $\exists x$[x is a friend in g(3) & John visited x in s]]

Not surprisingly, when negation is applied to this constituent with a contradictory meaning, the result is a tautology. The predicted denotation for the entire sentence is shown in (23). The presupposition is not affected by this negation, it only affects the assertive content.

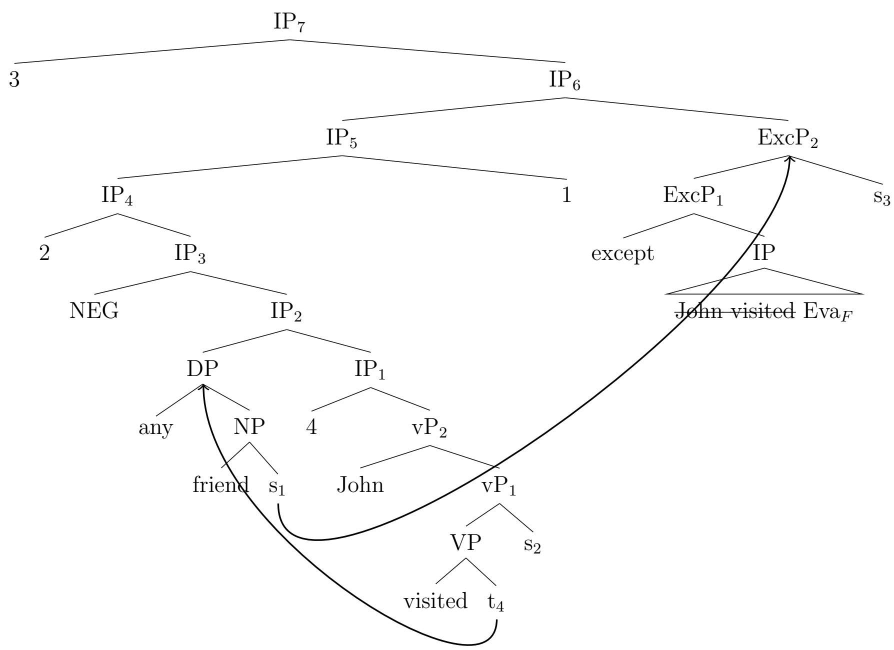
(23) $[[(18)]]^g=\lambda s$: $\forall s$[John visited Eva in s= John visited Eva in $s_0 \rightarrow \neg\exists x$[x is a friend in s_0 & John visited x in s]].
$\exists s$[(John visited Eva in s$\neq$John visited Eva in s_0 & $\forall z[z\neq$Eva$\rightarrow$ John visited z in s=John visited z in s_0]) & $\neg\exists x$[x is a friend in s_0 & John visited x in s]]

The resulting meaning is problematic because this is a function that is true in every situation it is defined in. Here is why. The presupposition is satisfied in s_0 only if there are no friends in s_0 (again, under the assumption that the usage of *any* signals that the speakers does not believe that Eva is the only friend). Well, the at-issue content says that there is a possible situation where John visited no friends from s_0 (and we also know that in that possible situation facts about John visiting Eva are the opposite than in s_0, while the rest of the visiting facts are the same, but that is irrelevant here). Whenever the presupposition that there are no friends in s_0 is satisfied, the sentence is guaranteed to be true. Under the assumption that sentences that have tautological meaning due to the combination of their functional elements (Gajewski 2002) are perceived as ungrammatical in natural languages, we wrongly predict that (17) is ungrammatical.

The reason why the result the system delivered is not correct is that when we interpret exceptives with NPIs, we need to apply the exceptive meaning at the position where the NPI becomes a negative quantifier, i.e. above negation. However, this is difficult to implement due to the fact that, as it was said in the previous section, an exceptive needs to combine with the sister of the QRed quantifier – a predicate – in order to construct the right restrictor for the quantification over possible situations.

This problem did not arise for clausal exceptives because they did not need to compose with a predicate. The relevant predicate was given as a part of the clause inside the exceptive. A clausal exceptive can QR to a position above negation as shown in (24). Interpreting the exceptive phrase in this position gives the right result as shown below.

(24)



The reminder of the denotation of English *except* proposed in Chapter 3 of this work is given in (25).

(25) $[[\text{except } \varphi]]^g = \lambda s'.\lambda M_{<s<st>>}: \forall s[\ [[\varphi]]^g(s) \rightarrow \neg M(s')(s)=1] \ \&\ [[\varphi]]^g(s')=1.$
$\forall s[(\neg[[\varphi]]^g(s)=1 \ \&\ \forall p[p \neq [[\varphi]]^g \ \&\ p \in [[\varphi]]^{gF} \rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

The denotation of the sister of Exceptive Phrase$_2$ is given in (26).

(26) $\lambda s'.\lambda s.\ \neg\exists x$[x is a friend in s' & John visited x in s]

The predicted interpretation for the entire sentence is given in (27). This sentence is predicted to be defined only if Eva is a friend in s_0 (due to the contribution of the fist conjunct of the presupposition) and if John visited Eva in s_0.

The sentence is predicted to be true if in all situations where John did not visit Eva and where the other fact concerting John visiting people match s_0 it holds that he visited no friend. These truth conditions capture the intuitive meaning the sentence has.

(27) $[[(24)]]^g(s_0)$ is defined only if
$\forall$s[John visited Eva in $s_0 \rightarrow \exists$x[x is a friend in s_0 & John visited x in s]] & $\neg$John visited Eva in s_0

$[[(24)]]^g(s_0)$=1 iff
$\forall$s[$\neg$John visited Eva in s & $\forall$p[p$\neq$[λs'. John visited Eva in s']$\rightarrow$ p(s)=p(s_0)]) $\rightarrow \neg\exists$x[x is a friend in s_0 & John visited x in s]]

What can be concluded from this discussion is that at least a part of the meaning of an exceptive has to be computed in the position above negation in cases where an exceptive operates on an NPI. This is the observation made by Jon Gajewski (Gajewski 2008). In the next section I briefly review this observation and Gajewski's solution that was implemented assuming the meaning von Fintel (1994) proposed for phrasal exceptives.

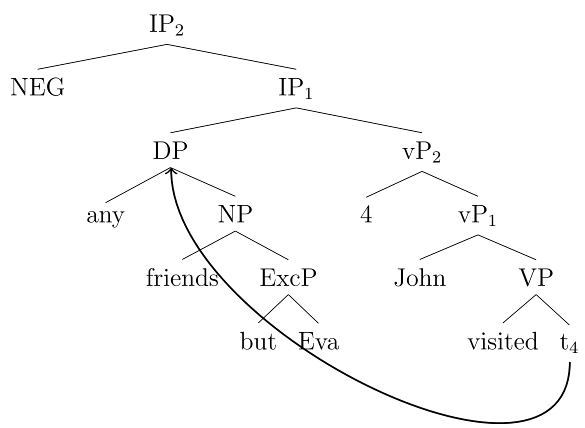
5.1.4 The NPI Problem in von Fintel's system and Gajewski's Solution

In this section I discuss Gajewski's observation about the problem with interpretation of connected exceptives with NPIs like *any* and the solution he proposed for this problem. Essentially, the conditional system faces with the same the problem. In my exposition of the problem I will switch back to an extensional system, because situations did not play any role in von Fintel's account of exceptives and Gajewski's account is an extension of von Fintel's system.

The structure for the sentence in (17) with an NPI *any* in the object position we have considered so far (repeated here in (28)) assumed by von Fintel's analysis is shown in (29). In this structure the exceptive phrase forms a constituent with the NP friend[60] .

(28) John did not visit any friends but Eva.

(29)



An exceptive in this system has the semantics given in (24). It combines with its own sister (the set denoted by the DP immediately following it), then with a set in the restrictor of the determiner, then with the determiner and with the scope. In this system Domain Subtraction and Leastness were treated as two conjuncts (rather than Leastness being the presuppositional component of the sentence). Those ideas were already reviewed in more detail in Chapter 1.

[60] This is one of the two possible structures von Fintel considers. In the second one the exceptive phrase forms a constituent with the entire DP *any friends*.

(30) $[[\text{but}]]^g = \lambda B_{<et>}. \quad \lambda A_{<et>}. \quad \lambda D_{<<et><<et>t>>}. \quad \lambda P_{<et>}.$
sist of *but* restr set determiner scope
$D(A\text{-}B)(P)=1 \quad \& \quad \forall Y[D(A\text{-}Y)(P)=1 \rightarrow B \subseteq Y]$

The idea that exceptives contribute the Leastness Condition successfully predicts some of the crucial properties of exceptives. However, the particular implementation of this idea where the Leastness Condition applies immediately to the DP the exceptive phrase is operating on runs into problems. Gajewski (2008) observes that the meaning predicted by this system for (28) is not on the right track. This is because the Leastness Condition applies to the existential before the negation is applied to it. The denotation of the constituent below negation, is shown in (31).

(31) $[[IP_1]]^g = \exists x[\text{x is a friend} \ \& \ x \notin \{\text{Eva}\} \ \& \ \text{John visited x}] \ \&$
$\forall Y[\exists x[\text{x is a friend} \ \& \ x \notin Y \ \& \ \text{John visited x}] \rightarrow \{\text{Eva}\} \subseteq Y]$

After negation is applied to the IP with this denotation, the entire sentence gets the interpretation shown in (32).

(32) $[[(29)]]^g=1 \text{ iff } \neg\exists x[\text{x is a friend} \ \& \ x \notin \{\text{Mary}\} \ \& \ \text{John visited x}]$
$\vee \ \exists Y[\exists x[\text{x is a friend} \ \& \ x \notin Y \ \& \ \text{John visited x}] \ \& \neg(\{\text{Mary}\} \subseteq Y)]$

These truth conditions in plain English can be expressed as (33).

(33) Either John visited no friend who is not Mary or John visited some friend (Mary or another person).

The reader can verify that the second disjunct in (32) is true if I visited any friend at all: empty set would make the quantification over sets true in that case (shown in (34)).

(34) $\exists x[\text{x is a friend} \ \& \ x \notin \varnothing \ \& \ \text{John visited x} \ \& \neg(\{\text{Mary}\} \subseteq \varnothing)]$

The formula in (32) is a tautology. This is because the Leastness Condition with existential gets a contradictory meaning. When this contradiction is negated, the result is a tautology. This is not the right result; the sentence in (28) has a clear non-tautological meaning.

Gajewski (2008) suggested that this problem can be solved within the leastness-based framework if the domain subtraction step and application of Leastness are separated syntactically. In his system an exceptive word itself only contributes the domain subtraction. The Leastness Condition is contributed by a separate operator LEAST that can be placed quite far from the quantifier *but* is operating on.

In his system, (28) will get the structure given in (35).

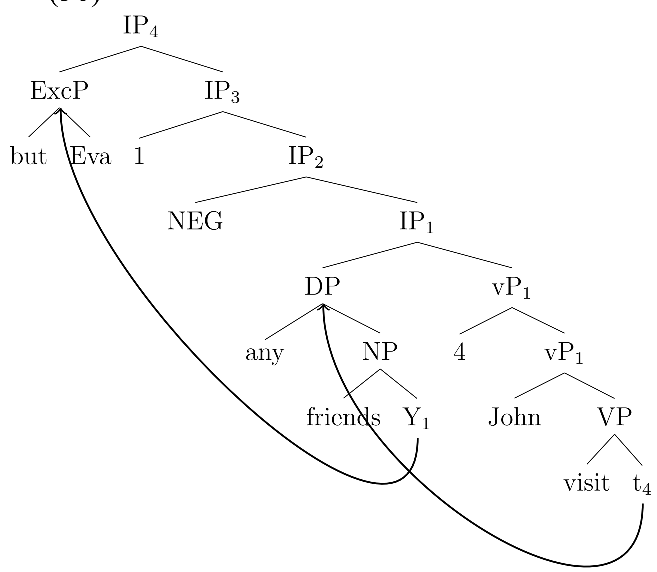
(35) [LEAST [John did not visit any friend but Mary]]

Given that LEAST applies at a position where the NPI is interpreted as a negative quantifier, this approach makes the right prediction about the meaning of the sentence. Gajewski (2008) implements these ideas in a system where *but* subtracts its complement (the set denoted by the DP that immediately follows *but*) from the domain of a quantifier and marks it with focus. LEAST in his definition is a focus sensitive operator. He adopts the structural approach to focus values (Jacobs 1983, Krifka 1991).

Exactly the same result can be achieved by allowing an exceptive phrase to take scope at LF via QR and this is the option I have chosen in this work due to its relative simplicity. Below I show the solution to this puzzle in the system where exceptive phrases are allowed to take scope at LF.

The LF structure of the sentence under consideration (the example (28)) is shown below in (36). The Y_1 is the trace of type <et> left by the exceptive phrase. This trace is bound by the lambda abstractor 1. Y_1 composes with the predicate *friends* via the rule of Predicate Modification.

(36)



The denotation of the exceptive marker *but* that is already familiar from the discussion in Chapter 2 is given in (37) (the account presented here differs from von Fintel's account (1994) in treating Leastness as the presuppositional component of the sentence not as its at-issue contribution). This is a function that combines with a set (in our case the singleton set that contains just {Eva}) and a function of type <<et>t> (the sister of the exceptive phrase). The denotation of the sister of the exceptive phrase is given in (39).

(37) $[[\text{but}]]^g = \lambda X_{<et>}.\ \lambda M_{<<et>t>}: \forall Y[Y \cap X \neq \varnothing \rightarrow \neg M(Y)=1].\ M(\overline{X})=1$

(38) $[[\text{but Eva}]]^g = \lambda M_{<<et>t>}: \forall Y[Y \cap \{\text{Eva}\} \neq \varnothing \rightarrow \neg M(Y)=1].\ M(\overline{\{\text{Eva}\}})=1$

(39) $[[\text{IP}_3]]^g = \lambda Y_{<et>}.\neg\exists x[\text{x is a friend \& x} \in \text{Y \& John visited x}]$

Putting (38) and (39) together gives us (40) as the meaning of this sentence. The presupposition can only be satisfied if Eva is a friend and John visited her. This is because the singleton set {Eva} satisfies the restrictor of the universal quantification over sets in the presupposition, thus there has to be a friend in {Eva} who John visited. The at issue content is Domain Subtraction: this is the quantificational claim made for a domain that does not include Eva.

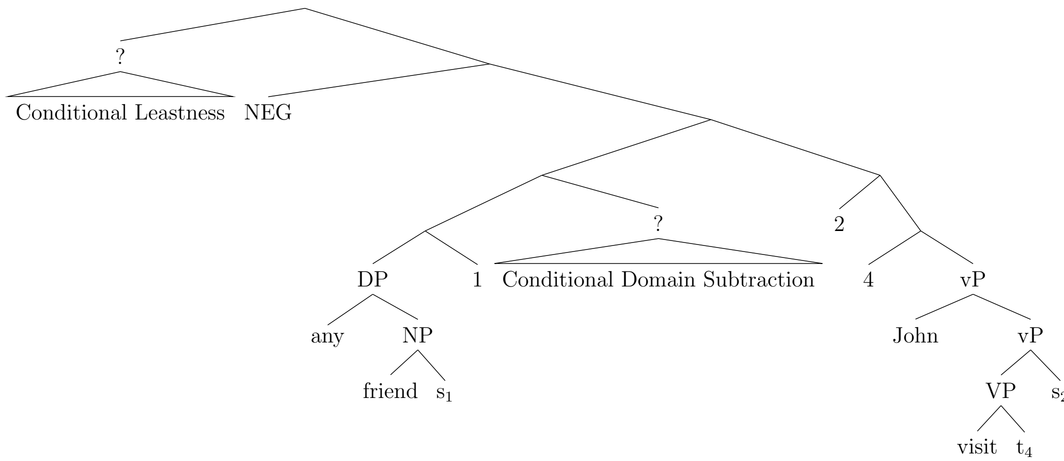
(40) $[[(36)]]^g$ is defined only if
$$\forall Y[Y \cap \{Eva\} \neq \varnothing \rightarrow \exists x[x \text{ is a friend } \& \ x \in Y \ \& \text{ John visited } x]]$$

$$[[(36)]]^g=1 \text{ iff } \neg\exists x[x \text{ is a friend } \& \ x \notin \{Eva\} \ \& \text{ John visited } x]$$

5.1.5 The Solution in the Conditional System

The challenge we face with when trying to implement the conditional semantics for phrasal exceptives is that there is a part of the structure that has to be interpreted where the quantifier is interpreted because a phrasal exceptive needs access to the predicate formed by QR of the quantifier and there is a part of the structure that needs to be interpreted above negation because Conditional Leastness has to apply above negation. Thus, the overall meaning of a phrasal exceptive has to be contributed by two separate elements that are interpreted at different positions. This is schematically shown in (41). In what follows I show one way of implementing this idea.

(41)



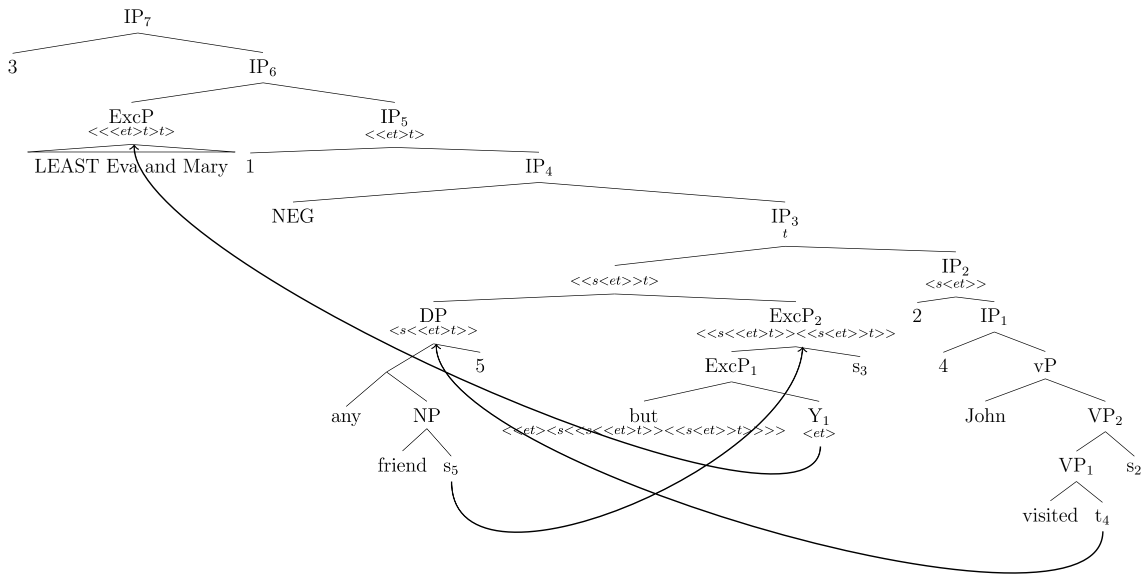
I will also slightly modify the considered sentence and work with the example (42), where an exceptive phrase introduces a plural DP. This is done in order to show how the analysis handles those cases along with cases where the DP is singular.

(42) John did not visit any friends but Eva and Mary.

The LF for (42) is shown in (43).

As it was shown schematically in (41), the meaning of an exceptive here is split between two elements. A part of a meaning is contributed by *but*. The second part of the meaning is contributed by an operator I called LEAST.

(43)



Many aspects of this LF are familiar from the earlier discussion. As before, I assumed that the object DP undergoes QR.

The new aspects of this LF are as follows. *But* is the operator that is looking for an argument of type <et>. Let's assume that the DP *Eva and Mary* forms a constituent with a silent operator called LEAST. This constituent has a type <<<et>t>t>. *But* and LEAST DP cannot compose due to the type-mismatch. For this reason, this constituent consisting of LEAST and DP undergoes QR. It leaves a trace of type <et> (Y_1) that is bound by the abstractor 1.

The denotation for the phrasal *but* is given in (44). This is a function that combines with a set, a situation, a generalized quantifier with an abstraction over the situation variable, and a predicate of type <s<et>>. The arguments *but* takes in this example are given in (45)-(48) (in the order in which *but* takes them).

The argument of type <e<st>> is formed by the QR of the quantificational object to the position above the abstraction over the situation variable.

(44) $[[\text{but}]]^g = \lambda A_{<et>}. \lambda s'.\lambda Q_{<s<<et>t>>}.\lambda P_{<s<et>>}.$
$\exists s\,[\forall y[y\in A\rightarrow P(s)(y)\neq P(s')(y)]\ \&\ \forall z[z\notin A\rightarrow P(s)(z)=P(s')(z)]\ \&\ Q(s')(P(s))=1]$

(45) $[[Y_1]]^g = g(1)$

(46) $[[s_5]]^g = g(5)$

(47) $[[\text{DP}]]^g = \lambda s.\lambda M_{<et>}.\ \exists x[x \text{ is a friend in } s\ \&\ M(x)=1]$

(48) $[[\text{IP}_2]]^g = \lambda s'.\ \lambda z_e.$ John visited z in s'

With those assumptions, the denotation of the node IP_5 consisting of the abstractor over the trace of type <et> and its sister containing the quantificational phrase and negation is given in (49).

(49) $\lambda Y.\neg\exists s[\forall y[y\in Y\rightarrow$ John visited y in s$\neq$John visited y in g(3)] & $\forall z[z\notin Y\rightarrow$ John visited z in s=John visited z in g(3)] & $\exists x$[x is a friend in g(3) & John visited x in s]]=

$\lambda Y.\forall s[\forall y[y\in Y\rightarrow$ John visited y in s$\neq$John visited y in g(3)] & $\forall z[z\notin Y\rightarrow$ John visited z in s=John visited z in g(3)]$\rightarrow\neg\exists x$[x is a friend in g(3) & John visited x in s]]

Before I provide the formal meaning of LEAST, I will describe its general contribution. The job of the LEAST is twofold. It feeds the set – in this specific case {Eva, Mary} – to the function in (49), thus completing the domain subtraction. The result of this in (50): this says that in all situations where facts about John visiting Eva and Mary are different than in s_3 and the rest of the fact of this form are the same, John visited no friend.

(50) $\forall s[\forall y[y \in \{Eva, Mary\} \rightarrow$ John visited y in s$\neq$John visited y in g(3)] &
$\forall z[z \notin \{Eva, Mary\} \rightarrow$ John visited z in s=John visited z in g(3)]$\rightarrow \neg\exists x$[x is a friend in g(3) & John visited x in s]]

It also introduces the presupposition – Conditional Leastness. Conditional Leastness for clausal exceptives was the claim that in every situation that matches the topic situation with respect to the facts about the individuals an exceptive introduces the quantificational situation is not true.

An equivalent claim can be created in this system by feeding the function given in (49) alternative sets and negating the result. The bound variable Y in (49) is binding the place-holder for a set of things for which the relevant facts are changing across possible situations. For the remaining individuals facts remain the same (this part of the formula is responsible for that: $\forall z[z \notin Y \rightarrow$ John visited z in s=John visited z in g(3))]).

Conditional Leastness could be expressed as follows: for any way of rearranging facts about John visiting individuals other than Eva and Mary (i.e. making them equal or non-equal to the relevant fact in actual topic situation) while keeping the fact about John visiting Eva or the fact about John visiting Mary the same as in the situation of evaluation it holds that the quantificational claim (*John did not visit any friend*) is not true. This is because Eva and Mary are exceptions to the claim *John did not visit any friends*. This can be done by feeding the function in (49) sets that don't include either Eva or Mary.

Let's me illustrate this on some specific sets. Let's plug in an empty set into the formula in (49) (as it does not have Eva or Mary in it). The result of this is given in (51). This says that in some situations where all facts about John visiting a person are exactly equal to the situation of evaluation John visited a friend from s_0. (There are no individuals for which the facts about visiting were changed because there are no individuals in the empty set). This can only be true if in the situation of evaluation John visited a friend.

(51) $\exists$s[$\forall$y[y$\in\varnothing\rightarrow$ John visited y in s$\neq$John visited y in g(3)] & $\forall$z[z$\notin\varnothing\rightarrow$ John visited z in s=John visited z in g(3)] &
$\neg\neg\exists$x[x is a friend in g(3) & John visited x in s]]

From plugging in {Mary} (which is another set that does not contain Eva) (shown in (52)) we learn that there is a situation where facts about John visiting Mary are different than in the situation of evaluation, but the rest of the facts are the same and where John visited a friend. From this we learn that changing only a fact about Mary is not enough to make the quantificational claim *John did not visit any friend* true.

(52) $\exists$s[$\forall$y[y$\in${Mary}$\rightarrow$ John visited y in s$\neq$John visited y in g(3)]&$\forall$z[z$\notin${Mary}$\rightarrow$ John visited z in s=John visited z in g(3)] &
$\neg\neg$ $\exists$x[x is a friend in g(3) & John visited x in s]]

We continue plugging in all possible sets that do not contain Eva in the same manner, for example a set {Mary, Jack, Bill} in (53). We do the same thing for all other sets not containing Eva. What we get from this is the Eva is a friend in s_0 that John visited in s_0. This is because we are essentially saying: keep the fact about John visiting Eva the same as in s_0 and rearrange the facts about him visiting everyone else in all possible ways (keep any number of them the same or change any number of them): there still will be a friend who John visited. We do the same thing for all sets not containing Mary and we get the inference that John visited Mary who is a friend.

(53) $\exists$s[$\forall$y[y$\in${Mary, Jack, Bill}$\rightarrow$ John visited y in s$\neq$John visited y in g(3)] &
$\forall$z[z$\notin${Mary, Jack, Bill}$\rightarrow$ John visited z in s=John visited z in g(3)] &
$\neg\neg\exists$x[x is a friend in g(3) & John visited x in s]]

The actual denotation for LEAST that will achieve this result is shown in (54). This is a function that combines with a set ({Eva, Mary} in our case) and with a constituent formed by abstraction over sets. It introduces a presupposition that for all sets that don't fully contain {Eva, Mary} the quantificational claim is not true. Its at-issue content is that the quantificational claim is true of the set taken as the first argument.

(54) $[[\text{LEAST}]]^g = \lambda Z_{<et>}.\lambda M_{<<et>t>}: \forall Y[Z \not\subseteq Y \rightarrow \neg\, M(Y)=1].\ M(Z)=1$

The predicted denotation for the entire sentence is shown in (55). The reader can verify that the presupposition in (55) is Conditional Leastness discussed above. The sets that the universal quantification over sets quantifies over are all the sets that have either Eva or Mary or both of them missing. What is says is that without changing the fact about John visiting Eva and the fact about John visiting Mary there is no way of making ‘John did not visit any friend’ true in s_0.

The at-issue content is that if we change the fact about Mary and Eva and keep the rest of the visiting facts the same as in s_0, it is going to be true that John did not visit any friend.

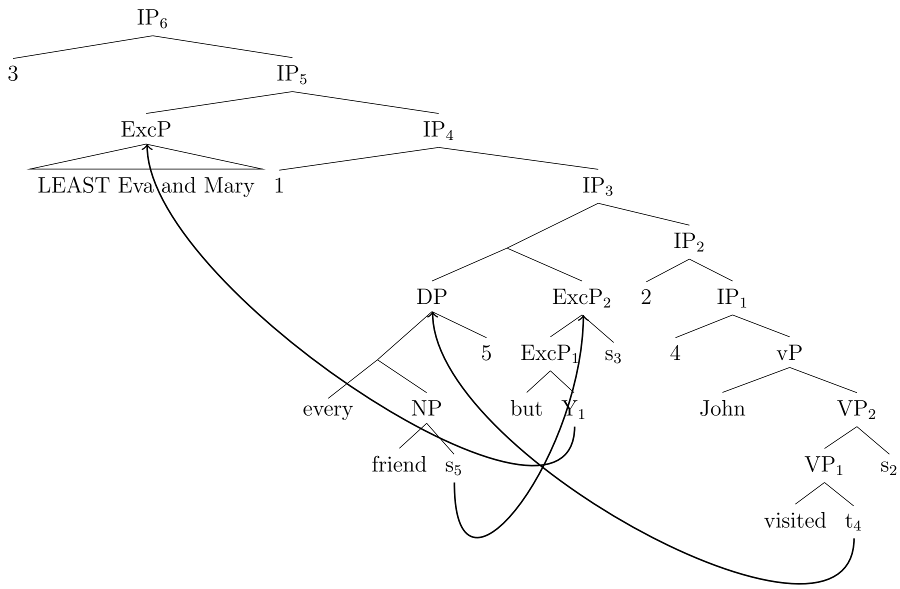
(55) $[[(43)]]^g(s_0)$ is defined only if
$\forall Y[\{\text{Eva, Mary}\} \not\subseteq Y \rightarrow$
$\exists s[\forall y[y \in Y \rightarrow \text{John visited y in s} \neq \text{John visited y in } s_0]\ \&\ \forall z[z \notin Y \rightarrow \text{John visited z in s} = \text{John visited z in } s_0)]\ \&\ \exists x[\text{x is a friend in } s_0\ \&\ \text{John visited x in s}\ ]\ ]\ ]$

$[[(43)]]^g(s_0)=1$ iff
$\forall s[\forall y[y \in \{\text{Eva, Mary}\} \rightarrow \text{John visited y in s} \neq \text{John visited y in } s_0]\ \&$
$\forall z[z \notin \{\text{Eva, Mary}\} \rightarrow \text{John visited z in s} = \text{John visited z in } s_0)] \rightarrow \neg\exists x[\text{x is a friend in } s_0\ \&\ \text{John visited x in s}\ ]\ ]$

Let me also illustrate here how this system will derive the right meaning for a phrasal exceptive operating on a universal quantifier. Let's consider the example (56). The LF for this sentence is shown in (57).

(56) John visited every friend but Eva and Mary.

(57)



The reminder of the denotation of *but* is in (58). The last two arguments it takes in this case are given in (59) and (60).

(58) $[[\text{but}]]^g = \lambda A.\ \lambda s'.\lambda Q_{<s<<et>t>>}.\lambda P_{<s<et>>}.$
$\exists s\ [\forall y[y\in A \rightarrow P(s)(y)\neq P(s')(y)]\ \&\ \forall z[z\notin A \rightarrow P(s)(z)=P(s')(z)]\ \&\ Q(s')(P(s))=1]$

(59) $[[\text{DP}]]^g = \lambda s.\lambda M_{<et>}.\ \forall x[x \text{ is a friend in } s \rightarrow M(x)=1]$

(60) $[[\text{IP}_2]]^g = \lambda s.\ \lambda z.$ John visited z in s

With those assumptions the denotation of the node that is a sister to a LEAST+DP is as shown in (61). The reminder of the denotation for LEAST *Eva and Mary* is in (62).

(61) $[[IP_5]]^g = \lambda Y.\exists s\ [\forall y[y \in Y \rightarrow \text{John visited y in s} \neq \text{John visited y in g(3)}]\ \&\ \forall z[z \notin Y \rightarrow \text{John visited z in s} = \text{John visited z in g(3)}]\ \&\ \forall x[\text{x is a friend in g(3)} \rightarrow \text{John visited y in s}]]$

(62) $[[\text{LEAST } \textit{Eva and Mary}]]^g = \lambda M_{<<et>t>}: \forall Y[Z \not\subseteq \{\text{Eva, Mary}\} \rightarrow \neg\ M(Y)=1].\ M(\{\text{Eva, Mary}\})=1$

The predicted denotation for the entire sentence is given in (64) (the presupposition) and (63) (the assertive contribution).

(63) $[[(56)]]^g(s_0)=1$ iff
$\boxed{\exists} s[\forall y[y \in \{\text{Eva, Mary}\} \rightarrow \text{John visited y in s} \neq \text{John visited y in } s_0]\ \&\ \forall z[z \notin \{\text{Eva, Mary}\} \rightarrow \text{John visited z in s} = \text{John visited z in } s_0)]\ \&\ \forall x[\text{x is a friend in } s_0 \rightarrow \text{John visited x in s}\ ]\ ]$

(64) $[[(56)]]^g(s_0)$ is defined only if
$\forall Y[\{\text{Eva, Mary}\} \not\subseteq Y \rightarrow \forall s[\forall y[y \in Y \rightarrow \text{John visited y in s} \neq \text{John visited y in } s_0]\ \&\ \forall z[z \notin Y \rightarrow \text{John visited z in s} = \text{John visited z in } s_0)] \rightarrow \exists x[\text{x is a friend in } s_0\ \&\ \neg \text{John visited x in s}\ ]\ ]\ ]$

One worry I would like to address here is that in the previous example with an NPI, negation applied to the result of putting together *but* and its arguments before LEAST applied to that constituent. Consequently, the existential quantifier quantifying over situations in (61) changed into a universal quantifier with negation in its scope. There is no negation in the currently considered example. The worry here might be that the resulting at issue content might be too weak as it has an existential quantification over situations and not the universal one (it is boxed in (63)) . However, it is not the case. The at-issue content given in (63) can only be true if there is a situation where facts about John visiting Eva and Mary are different than in s_0 while the rest of the facts of this form are exactly the same as in s_0 where John visited every friend from s_0. This can only be the case if for every person who is a friend in s_0 and who is not Eva or Mary it holds that John visited her. The at-issue content does not say anything about Eva and Mary. The information that they are John's friends in s_0 and that he did visit them is coming from the presupposition in (64). It can only be true in s_0 if Eva and Mary are friends who John visited. This is because it says that we can take any set of individuals that has either Eva or Mary missing and there will be a possible situation where the facts about all the individuals in that set are different than in s_0 and there is an individual who is a friend in s_0 who John did not visit.

In this section I have shown how the approach to the semantics of exceptives developed in this work for clausal exceptives can be extended to phrasal exceptives. I proposed that clausal exceptives introduce quantification over possible situations and serve as restrictors of this quantification. I have shown here that extending this general line of thinking to phrasal exceptive constructions is not a trivial task due to the fact that there are cases where the quantification over situation has to be computed in one place and quantification over sets in another. The resulting system is quite complex. This is a disadvantage of this approach.

The approach to phrasal exceptive constructions developed by Gajewski (2008) (based on von Fintel's proposal (1994)) involves an operator that introduces quantification over possible sets that can take scope in the position that is quite far from the position where the quantificational phrase is interpreted. In the approach presented in this section an exceptive introduces both the quantification over possible situations and an operator that is semantically almost the same as the exceptive operator proposed in Gajewski (2008). The quantification over possible situations seems redundant in this case. It is introduced only for the sake of making phrasal exceptive constructions more similar to the clausal exceptive constructions. The question arising at this point is if this move is necessary at all.

5.1.6 Free Phrasal Exceptives.

Another natural question arising at this point is what to do with phrasal exceptive constructions that can appear very far away from the quantifier they can operate on. According to the proposal presented above phrasal exceptive-additive constructions have to get access to the predicate of individuals and situations in the scope of the quantifier they operate on.

But-exceptives can appear at the end of a clause even in cases where they operate on a quantifier in the subject position (as in (65)). It is possible to argue that (65) is derived from (66) by the rightward movement of the *but*-phrase. Thus, we could say that when (65) is interpreted *but*-phrase reconstructs to its base-position. As was said in Chapter 1, not all syntactic positions are available for *but*-exceptives, for example they cannot appear in the sentence initial position (as illustrated again in (67)).

(65) Every girl came but Eva.

(66) Every girl but Eva came.

(67) *But Eva every girl came.

The same does not hold for exceptives introduced by *except for*, as shown in (68). On the surface, *except for* appears to be a phrasal construction as it cannot host anything larger than a DP. For example, it cannot host PPs, as shown in (69).

(68) Except for Eva, every girl came.

(69) *Bill danced with every girl except for with Eva.

Let's consider a scenario where the sentence given in (68) is not derived from (70) by movement of the exceptive phrase, but the exceptive phrase is base-generated in the position it appears in at the surface level in (68). How is the relevant restrictor for the quantification over situations created in this case?

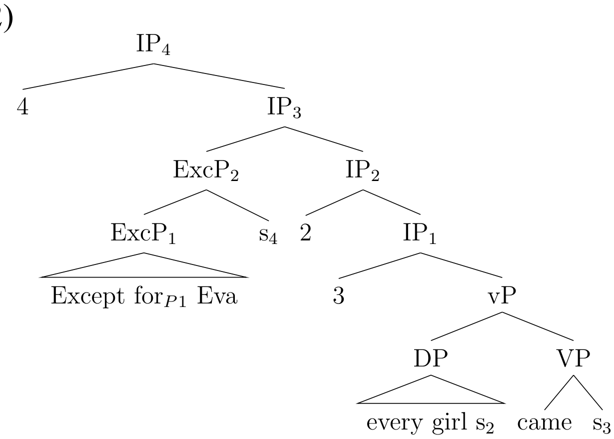
(70) Every girl except for Eva came.

One idea I would like to discuss and discard here is that a phrasal exceptive introduces a quantification over possible situations and provides the restriction for this quantification without getting access to the main predicate of a sentence. An idea here would be that *except for* introduces a variable of a property type <e<st>>. This can be modeled as a variable that the exceptive marker carries (shown in (71) and in the LF in (72)). This variable gets its value from the assignment function. If this approach is on the right track, it could also help us with the problem of exceptives operating on NPIs: in that case, an exceptive would not need access to the predicate in the scope of the NPI, we could simply move the entire exceptive and interpret it in the position above the licenser.

Let's assume that the structure for a sentence with a free exceptive given in (72) is base-generated: the exceptive phrase does not undergo QR.

(71) Except for$_{P1}$ Eva, every girl came.

(72)



We could consider the idea that *except for* introduces quantification over possible situations in a familiar manner and restricts it with the predicate it introduces as a variable as shown in (73). The idea is that we can choose the value for P_1 freely, but it will be restricted by the meaning of the sentence. Specifically, the presupposition has to be satisfied in order for the sentence to be defined. What we are aiming to capture with the presupposition here is the fact that Eva is a girl and that she did not come.

(73) $[[\text{Except }_{P1}\text{ for}]]^g = \lambda s'.\lambda Y_{<et>}.\lambda M_{<s<st>>}$:
$\forall z[z\in Y \rightarrow \forall s[g(1)(z)(s)=g(1)(z)(s') \rightarrow \neg M(s')(s)=1]]$.
$\forall s[(\forall x[x\in Y\rightarrow g(1)(x)(s)\neq g(1)(x)(s')] \& \forall y[y\notin Y\rightarrow g(1)(y)(s)=g(1)(y)(s')])\rightarrow$
$M(s')(s)=1]$

The resulting presupposition is given in (74) and its equivalent formulation in (75).

(74) $[[(72)]]^g(s_0)$ is defined only if
$\forall z[z\in \{Eva\}\rightarrow\forall s[g(1)(z)(s)=g(1)(z)(s_0)\rightarrow\neg\forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]]$

(75) $\forall s[g(1)(Eva)(s)=g(1)(Eva)(s_0)\rightarrow \exists x[x \text{ is a girl in } s_0 \& \neg x \text{ came in } s]]$

If the index 1 is mapped to the right property, what we have in (75) is the familiar Conditional Leastness that says: in every situation where the property introduced by *except* *for* when applied to Eva and this situation outputs the same truth value as when it applies to Eva and s_0 the quantificational claim is not true. Let's illustrate this point with the property given in (76). This property will work very well. It will make the quantification in (75) true if Eva did not come in s_0 and she is a girl in s_0.

(76) $g(1)= \lambda y.\ \lambda s.$ y came

The question we want to ask now is whether this is the only possible value that could make (75) true. Let's look at the property given in (77).

(77) $g(1)=\lambda s.\lambda y.$ y saw in s a girl from s_0 who did not come in s

This property will also make (75) true. This means that the presupposition introduced by *except for* in (73) is not going to be restrictive enough to capture the containment inference and the negative inference. To see that let's substitute Eva for John as shown in (78). Under the assumption that the index 1 is mapped to the function shown in (77) and John saw a girl who did not come in s_0, (78) is true. So, it is not clear how within this approach to capture the fact that (79) is not a well-formed sentence because John is not a girl.

(78) $\forall s[g(1)(John)(s)=g(1)(John)(s_0) \rightarrow \exists x[x \text{ is a girl in } s_0 \ \&\neg x \text{ came in } s]\ ]$

(79) #Except for$_{P1}$ John, every girl came.

Thus, this proposal, where a free exceptive introduces a quantification over possible situations but does not need access to the main predicate of the sentence as it uses the property introduced as a variable in order to restrict this quantification, does not capture some of the most basic properties of exceptives as it is not restrictive enough. I don't see how the semantics for phrasal exceptives (under the assumption that phrasal and clausal exceptive constructions both introduce quantification over possible situations) can be created without providing an exceptive with access to the predicate in the scope of the quantifier it operates on.

Is it plausible that in examples where a free exceptive *except for* appears in the beginning of a sentence (like in (71)) it originates in the position adjacent to the restrictor of the quantifier? We can try using the standard movement diagnostic in order to find an empirical support for this. In (80) there is a condition C effect[61]: the sentence is ungrammatical under the reading where *he* refers to John.

(80) *Except for John_1's sister, he_1 danced with every classmate.

There are two possible explanation for the condition C effect observed in (80). One is that *except for* $\textit{John}_1$*'s sister* does originate where the quantifier it operates on originates. Since *he* c-commands the quantifier, it c-commands the base-position of the exceptive phrase.

Another option is that *except for* has a clausal structure, but a part of this structure is mandatory deleted. If this was the case, ellipsis would be reconstructed as shown in (81). There is a condition C violation inside the exceptive clause. Unfortunately, there is no way to tell the two options apart.

(81) *Except for ~~he_1 danced with~~ John_1's sister, he_1 danced with every classmate.

---

[61] Condition C is the restriction observed in (Chomsky 1981). It can be formulated as follows: a referential non-pronominal expression cannot be c-commanded by a co-referential expression.

I have shown previously that the NPIs are licensed after *except* (exceptive constructions that can have a clear evidence of clausal structure) but not after *but* and I argued that the presence of NPIs can be taken as an argument in favor of the clausal structure. An example with an NPI after *except for* in (82) appears to be only slightly degraded. This fact can be taken as an argument in favor of the idea that exceptives introduced by *except for* in English are underlyingly clausal.

(82) ??John danced with everyone except for any girls from his class.

In English we saw condition C effects with some free exceptives. However, there is no way to tell if that is because an exceptive is underlyingly clausal or because it has originated where the quantificational phrase originated. What we are looking for is a language, where clausal and phrasal exceptive constructions have distinct syntactic properties. One such language is Persian (the construction I look at is an exceptive-additive construction, but here we are focusing at its exceptive use). As we saw in Chapter 1, in Persian if an exceptive phrase has a PP correlate, two options are available: the exceptive phrase can contain a PP or a DP. In Chapter 1 I have shown that the one that hosts a DP can be phrasal. We can use this fact in order to establish whether a free phrasal exceptive has to originate where the quantifier it operates on originates.

Both versions of (83) (with and without *ba* ('with') inside the phrase introduced by *bejoz* show condition C effect.

(83) *Bejoz (ba) doxtari ke Ali_1 ashegh-esh ast, (ou_1) ba hameye
bejoz (with) girl that Ali love- her is, he with all
hamkelasiha-sh raghsid.
classmates-his danced
Intended: 'Except for the girl that Ali_1 is in love with, he_1 danced with all of his_1 classmates'.

The version of (83) with *ba* inside the *bejoz*-phrase is a clausal exceptive. Condition C effect observed in this case arises inside the exceptive clause itself as shown in (84).

(84) *Bejoz (~~ou_1~~) ba doxtari ke Ali_1 ashegh-esh ast ~~raghsid~~, (ou_1) ba
bejoz ~~he~~ with girl that Ali love- her is danced, he with
hameye hamkelasiha-sh raghsid.
all classmates-his danced

However, the version of (83) without *ba* can be phrasal. Condition C effect in that case is expected if the exceptive originates where the quantificational claim originates and is not expected otherwise. Since the Condition C effect is observed in this case as well, we can say that Persian provides a preliminary support for the claim that free phrasal exceptives in the sentence initial position originate at the position where a quantifier they operate on originates.

5.1.7 Additive Meanings

I have suggested here an approach to phrasal exceptive constructions where they introduce quantification over possible situation like clausal exceptive constructions. In this section for the completeness of discussion I show that this approach to phrasal exceptives can be extended to handle the phrasal exceptive-additive constructions due to the fact that it is a Leastness based approach.

As was shown in Chapter 1, the semantic contribution of Leastness can be expressed as a combination of two operators, one of which is negation. By flipping the scopes of those two operators we get the additive operator.

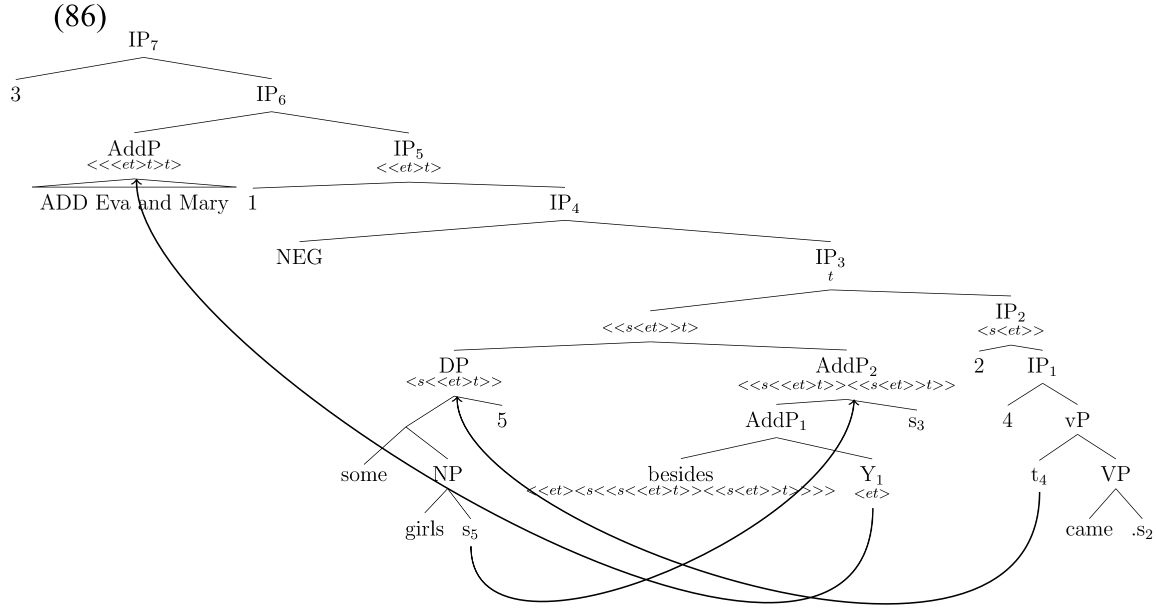
I will illustrate here how the exceptive-additive ambiguity can be modeled in this system by using an example with a universal and an existential quantifier.

I will use the familiar strategy and first show how the additive meaning can be expressed by substituting LEAST by the additive operator ADD. Later I will show how both of those operators can be expressed via a combination of two operators.

The LF for a sentence with the additive meaning in (85) is given in (86).

(85) Some girl besides Eva and Mary came.

(86)



Let's give *besides* exactly the same semantics that was given to *but* (shown in (87)). The arguments *besides* takes are given in (88), (89), (90) and (91) (in the order in which *besides* takes them).

(87) $[[\text{besides}]]^g = \lambda A_{<et>}.\ \lambda s'.\lambda Q_{<s<<et>t>>}.\lambda P_{<s<et>>}.$
$\exists s[\forall y[y \in A \to P(s)(y) \neq P(s')(y)]\ \&\ \forall z[z \notin A \to P(s)(z) = P(s')(z)]\ \&\ Q(s')(P(s)) = 1]$

(88) $[[Y_1]]^g = g(1)$

(89) $[[s_3]]^g = g(3)$

(90) $[[DP]]^g = \lambda s.\lambda M_{<et>}.\ \exists x[x \text{ is a girl in } s\ \&\ M(x)=1]$

(91) $[[IP_5]]^g = \lambda s.\lambda z.\ z \text{ came in } s$

The denotation for ADD is given in (92). After it takes its first argument, it is looking for an argument of type <<et>t> as shown in (93). This is the type the sister of this phrase has, as shown in (94).

(92) $[[ADD]]^g = \lambda Z_{<et>}.\lambda M_{<<et>t>}{:}\forall Y[Z \not\subseteq Y \to M(Y)=1].\ M(Z)=1$

(93) $[[\text{ADD Eva and Mary}]]^g = \lambda M_{<<et>t>}{:}\forall Y[\{\text{Eva, Mary}\} \not\subseteq Y \to M(Y)=1].\ M(\{\text{Eva, Mary}\})=1$

(94) $\lambda Z_{<et>}.\exists s\ [\forall y[y \in Z \to y \text{ came in } s \neq y \text{ came in } g(3)]\ \&\ \forall z[z \notin Z \to z \text{ came in } s = z \text{ came in } g(3)]\ \&\ \exists x[x \text{ is a girl in } g(3)\ \&\ x \text{ came in } s]]$

The overall predicted meaning for this sentence is shown in (95) (the assertive content) and (96) (the presuppositional content).

(95) $[[(85)]]^g(s_0)=1$ iff
$\exists s[\forall y[y \in \{\text{Eva, Mary}\} \to y \text{ came in } s \neq y \text{ came in } s_0]\ \&$
$\forall z[z \notin \{\text{Eva, Mary}\} \to z \text{ came in } s = z \text{ came in } s_0]\ \&\ \exists x[x \text{ is a girl in } s_0\ \&\ x \text{ came in } s\ ]\ ]$

(96) $[[(85)]]^g(s_0)$ is defined only if
$\forall Y[\{\text{Eva, Mary}\} \not\subseteq Y \to$
$\exists s[\forall y[y \in Y \to y \text{ came in } s \neq y \text{ came in } s_0]\ \&\ \forall z[z \notin Y \to z \text{ came in in } s = z \text{ came in } s_0)]\ \&$
$\exists x[x \text{ is a girl in } s_0\ \&\ x \text{ came in } s\ ]\ ]\ ]$

The presupposition in (96) can only be satisfied if Eva and Mary are both girls and if they both came in s_0. This is because it says that if we keep the fact about Eva coming the same as in s_0, we can rearrange the rest of the facts about other people coming in any possible way (keep them the same as in s_0 or change them), what we will find is that there is a girl who came. The same goes for Mary.

The at-issue content in (95) can be true only if there is a girl who is not Eva and is not Mary who came. This is because it says that there is a possible situation where facts about Eva coming are different than in s_0 and facts about Mary coming are different too while the rest of the coming facts are the same as in s_0 and where some girl came. From the presupposition we know that Eva came and Mary came, so we are looking are situations where they did not come, but the rest of the relevant facts are the same and we find that someone who is a girl in s_0 came.

Besides is one of the exceptive-additive items. As was discussed in Chapter 1, when it is put together with a universal quantifier for some speakers of English it gets the exceptive meaning (the relevant example is given in (97)). Following the ideas developed here earlier, we can derive the exceptive-additive ambiguity as a scopal interaction between two elements.

(97) Every girl besides Eva and Mary was there

Let's compare the denotation for ADD that we used here to derive the additive meaning (repeated in (98) and the operator LEAST that we have used earlier to derive the exceptive meaning (repeated in in (99)). The difference between them consists in one negation that is boxed in (99). Thus, it is possible to break them down into two operators in the familiar manner.

(98) $[[\text{ADD}]]^g = \lambda Z_{<et>}.\lambda M_{<<et>t>}: \forall Y[Z \not\subseteq Y \rightarrow M(Y)=1].\ M(Z)=1$

(99) $[[\text{LEAST}]]^g = \lambda Z_{<et>}.\lambda M_{<<et>t>}: \forall Y[Z \not\subseteq Y \rightarrow \boxed{\neg} M(Y)=1].\ M(Z)=1$

Following the ideas developed here earlier, I will substitute the parts of the structures that have ADD and LEAST (shown in (100)) by a unified structure shown in (101). OP will get the denotation shown in (102) and the denotation of the ExcAddP_1 (of the constituent consisting of OP and a DP) is as shown in (103).

(100)

ExcP

LEAST Eva and Mary

AddP

ADD Eva and Mary

(101)

ExcAddP_2

ExcAddP_1 $\text{NEG}_{1/2}$

OP Eva and Mary

(102) $[[\text{OP}]]^g = \lambda Z_{<et>}.\lambda M_{<<et>t>}: \forall Y[Z \not\subseteq Y \rightarrow M(Y)=1].\ \neg M(Z)=1$

(103) $[[\text{OP Eva and Mary}]]^g = \lambda M_{<<et>t>}: \forall Y[\{\text{Eva, Mary}\} \not\subseteq Y \rightarrow M(Y)=1].\ \neg M(\{\text{Eva, Mary}\})=1$

This structure allows us to derive the two meanings corresponding to the two structures in (100). Following the ideas developed here earlier, I will model the two scopes between the

2 operators by giving NEG two denotations of different semantic type and allowing it to combine with its sister via two different rules.

The negation that we want in order to derive the exceptive operator LEAST is given in (104). It is put together with its sister via function composition as shown in (105). As the reader can verify, the resulting operator is equivalent to previously use LEAST.

(104) $[[\mathrm{NEG}_1]]^g = \lambda F_{<<et>t>}\lambda S_{<et>}.\ \neg F(S)=1$

Deriving the exceptive operator LEAST:

(105) $[[\mathrm{OP\ Eva\ and\ Mary\ NEG}_1]]^g=$ by function composition

$\lambda Q\mathbf{[}\ [[\mathrm{OP\ Eva\ and\ Mary}]]^g\ \mathbf{([[NEG_1]]^g(Q)\ )]}=$

$\lambda Q\mathbf{[}\ [[\mathrm{OP\ Eva\ and\ Mary}]]^g\ \mathbf{([\lambda F_{<<et>t>}\lambda S_{<et>}.\ \neg F(S)=1\ \ (Q)]\ )\ ]}=$

by lambda conversion and by (103)

$\lambda Q_{<<et>t>}\mathbf{[}\lambda M_{<<et>t>}:\forall Y[\{Eva,Mary\}\not\subseteq Y\rightarrow M(Y)=1].\ \neg M(\{Eva,Mary\})=1$
$\mathbf{(\lambda S_{<et>}.\neg Q(S)=1)]}=$

by lambda conversion

$\lambda Q_{<<et>t>}:\forall Y[\{Eva,Mary\}\not\subseteq Y\rightarrow \mathbf{[\lambda S_{<et>}.\neg Q(S)=1}\ (Y)\ \mathbf{]}\ ].$
$\neg\mathbf{[\lambda S_{<et>}.\neg Q(S)}\ (\{Eva,Mary\})=1\mathbf{]} =$

by 2 applications of lambda conversion

$\lambda Q_{<<et>t>}:\forall Y[\{Eva,Mary\}\not\subseteq Y\rightarrow \neg Q(Y)=1].\ Q(\{Eva,Mary\}) =1$

The negation needed to derive the additive operator ADD is given in (53). It is put together with its sister via functional application. This derivation is shown in (107). The result of this is the additive operator as the reader can verify.

(106) $[[\mathrm{NEG}_2]] = \lambda P_{<<<et>t>t>}.\lambda S_{<<et>t>}.\ \neg P(S)=1$

Deriving the additive operator ADD:

(107) $[[\text{OP Anya and Masha NEG}_2]]^g$= by functional application

$\mathbf{[[NEG_2]]^g}([[\text{OP Anya and Masha}]]^g)$=

$\mathbf{[\lambda P_{<<<et>t>t>}.\lambda S_{<<et>t>}.\neg P(S)=1}$

$(\lambda M_{<<et>t>}:\forall Y[\{\text{Eva, Mary}\}\not\subseteq Y\rightarrow M(Y)=1].\neg M(\{\text{Eva, Mary}\})=1\mathbf{]}$=

by lambda conversion

$\mathbf{\lambda S_{<<et>t>}.\neg[}\lambda M_{<<et>t>}:\forall Y[\{\text{Eva, Mary}\}\not\subseteq Y\rightarrow M(Y)=1].\neg M(\{\text{Eva, Mary}\})\ \mathbf{(S)=1]}$=

by lambda conversion

$\mathbf{\lambda S_{<<et>t>}}:\forall Y[\{\text{Eva, Mary}\}\not\subseteq Y\rightarrow \mathbf{S}(Y)=1].\ \neg\neg\mathbf{S}(\{\text{Eva, Mary}\})=1$ =

$\mathbf{\lambda S_{<<et>t>}}:\forall Y[\{\text{Eva, Mary}\}\not\subseteq Y\rightarrow \mathbf{S}(Y)=1].\ \mathbf{S}(\{\text{Eva, Mary}\})=1$

For the completeness of discussion let me also illustrate that the fact that the exceptive reading is not available with an existential quantifier and the additive reading is not available with a universal quantifiers is captured in this system in the exactly the same way as in the conditional system discussed here earlier. Specifically, those readings are predicted to be generated but they are not well-formed.

The predicted exceptive reading for a sentence with an existential quantifier is given in (108) (the presupposition) and (109) (the assertive content).

The predicted exceptive reading of a sentence with an existential in (85):

(108) Presupposition: $[[(85)]]^g(s_0)$ is defined only if

$\forall Y[\{\text{Eva,Mary}\}\not\subseteq Y\rightarrow \neg\exists s\ [\forall y[y\in Y\rightarrow y \text{ came in } s\neq y \text{ came in } s_0]\ \&\ \forall z[z\notin Y\rightarrow z \text{ came in } s = z \text{ came in } s_0]\ \&\ \exists x[x \text{ is a girl in } s_0\ \&\ x \text{ came in } s]]]$ =

$\forall Y[\{\text{Eva,Mary}\}\not\subseteq Y\rightarrow \forall s\ [\forall y[y\in Y\rightarrow y \text{ came in } s\neq y \text{ came in } s_0]\ \&\ \forall z[z\notin Y\rightarrow z \text{ came in } s=z \text{ came in } s_0]\rightarrow\neg\ \exists x[x \text{ is a girl in } s_0\ \&\ x \text{ came in } s]]]$

(109) Assertion: $[[(85)]]^g(s_0)=1$ iff

$\exists s\ [\forall y[y\in\{\text{Eva,Mary}\}\rightarrow y \text{ came in } s\neq y \text{ came in } s_0]\ \&\ \forall z[z\notin\{\text{Eva,Mary}\}\rightarrow z \text{ came in } s = z \text{ came in } s_0]\ \&\ \exists x[x \text{ is a girl in } s_0\ \&\ x \text{ came in } s]]$

The sentence is predicted to be defined only if there are no girls in s_0. It says that if we keep the fact about Eva coming the same as in s_0, no matter how we rearrange the rest of the facts about the people coming, there is no possible situation where a girl from s_0 came.

The alternative option would be if Eva is the only girl and she did not come in s_0. But this option cannot be true in this case, because (108) does the same thing for Mary: keep the fact about Mary coming the same as in s_0, rearrange the rest of the facts about other people coming in any possible way, you will not find a situation where a girl from s_0 came. The asserted content requires that there are girls in s_0. Thus the presupposition contradicts the assertion in (109).

The predicted additive reading for a sentence with a universal quantifier in (98) is given in (110) (the presupposition) and (111) (the assertive content).

The presupposition given in (110) says that if we keep the fact about Eva coming the same as in s_0, and rearrange the facts about other people coming in any possible way what we will find is that every girl from s_0 came. The alternative option would be if Eva is the only girl and she came in s_0. But this option cannot be true in this case, because (110) does the same thing for Mary. This can hold only if there are no girls in s_0 (this is possible only if *every* is not a presuppositional determiner). In this case whenever the sentence is defined, it is true: the assertion says that there is a possible situation where every girl from s_0 came. We already know that from the presupposition. Given that there are no girls in s_0, in every possible situation every girl in s_0 came. Because the meaning we have gotten in this case is tautological in a sense, it is not available.

The predicted additive reading of a sentence with a universal in (98):

(110) Presupposition: $[[(97)]]^g$ (s_0) is defined only if
$\forall Y[\{Eva,Mary\} \not\subseteq Y \rightarrow \exists s\ [\forall y[y \in Y \rightarrow y \text{ came in } s \neq y \text{ came in } s_0]\ \&\ \forall z[z \notin Y \rightarrow z \text{ came in } s = z \text{ came in } s_0]\ \&\ \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]] =$

(111) Assertion: $[[(97)]]^g(s_0)=1$ iff
$\exists s\ [(\forall y[y \in \{Eva,Mary\} \rightarrow y \text{ came in } s \neq y \text{ came in } s_0]\ \&\ \forall z[z \notin \{Eva,Mary\} \rightarrow z \text{ came in } s = z \text{ came in } s_0])\ \&\ \forall x[x \text{ is a girl in } s_0 \rightarrow x \text{ came in } s]]$

In this section I have shown a way of extending the approach to the semantics of clausal exceptives suggested in Chapter 3 to phrasal cases. In that Chapter proposed that clausal exceptives introduce quantification over possible situations and provide the restriction for this quantification. Extending this approach to phrasal cases requires constructing the relevant restrictor for the quantification over situations semantically. I have shown that the most straightforward way of doing this faces the difficulty of interpreting exceptives operating on NPIs as there is a part of the meaning of an exceptive that has to be interpreted in the position close to the NPI and there is a part of the meaning that has to be interpreted above the licenser of that NPI. Solving this problem within the conditional framework requires complicating the system quite significantly. We would need both the quantification over possible situations and a quantifier over sets (an operator introducing Leastness). The quantification over possible situations seems redundant in this case. It is only introduced for the uniformity of treatment of clausal and phrasal exceptives.

5.2 Other Uses of *Except*

In Chapter 3 I have suggested a semantic approach to clausal exceptive constructions. One observation that was made in that Chapter is that it is very common crosslinguistically that a language has an exceptive (or an exceptive-additive) construction that can host what can only be understood as a remnant of a clause but cannot host a fully pronounced clause. This holds for Spanish, Persian, and Bulgarian. English exceptives introduced by *except* are unique in this sense: as was observed here before, for many speakers both the reduced version given in (112) and the full version given in (113) are acceptable.

(112) Every girl came except Eva.

(113) Every girl came except Eva did not come.

Another property of English *except* is that it can relate two clauses where the main predicates are not the same. Two such examples are given in (114) and (115). Another property of (114) and (115) is that there is no quantificational DP there or any other observed quantificational expression.

(114) I like my job, except my father is my boss.

(115) The project went well, except Ann cut her hand.

One question arising at this point is what is the relationship between the exceptive constructions that introduce exceptions to quantificational DPs and the ones in (114) and (115), where the exceptive phrase introduces a partial retraction of the previous statement. Similar thoughts can be expressed by using *only* as shown in (116) and (117).

(116) I like my job, only my father is my boss.

(117) The project went well, only Ann cut her hand.

One approach would be to say that *except* in (114) and (115) and *except* in (112) and (113) are two different *except*s. If this is the case, the situation with exceptives is similar to the situation with conditionals. There are various different types of conditionals many of which are introduced by *if*. This point can be illustrated with the contrast between an indicative conditional given in (118) and a biscuit conditional in (119) (first observed in Austin 1956, see the discussion in DeRose and Grandy 1999, Siegel 2006, Ebert, Endriss & Hinterwimmer 2008, Biezma & Goebel 2018 among others). The conditional in (119), unlike the conditional in (118), does not establish a dependency between the clause introduced by *if* and the consequent. Since those two types of conditionals do not have the same meanings, they cannot get exactly the same semantic treatment.

(118) If you are hungry, then it will be difficult for you to focus.

(119) If you are hungry, there is pizza in the fridge.

A similar line of thought can apply to exceptives. It is possible that *except* can mark two different types of constructions in English. This approach is supported by the fact that expressing (112) and (114) requires using different constructions in many languages. In Spanish *excepto que* has to be used and not *excepto* (shown in (120)) if we want to say (114), even though, as was shown in Chapter1, *excepto* can hosts remnants of clauses such as PP and multiple elements.

The same situation is in Bulgarian: as shown in (121), *osven če* has to be used in this context and not *osven*, which in general is a clausal exceptive-additive construction as was shown in Chapter 1.

Spanish:

(120)	Me	gusta	mi	trabajo,	excepto	*(que)	mi	padre	es	mi	jefe.
	I	like	my	job	except	that	my	father	is	my	boss

‘I like my job except my father is my boss’.

Bulgarian:

(121)	Xaresvam	si	rabotata,	osven	*(če)	бašča	mi	e	moj	šef.
	Like-I	self	job	osven	that	father	my	is	my	boss

‘I like my job except my father is my boss’.

Another approach would be to push for a unified treatment of cases in (112), (113), (114), and (115). A general idea here would be that in cases like (114) and (115) where no overt quantifier is present, there is a covert quantifier with the right kind of properties (a quantifier with a universal force).

The treatment of clausal exceptives I proposed in Chapter 3 will not extent to those cases in a direct way. A starting point for any approach that treats cases considered in Chapter3 (like the one in (112)) and cases like (114) in a uniform manner is finding the relevant quantificational expression in (114). If there is an exceptive in a sentence, there has to be a quantifier with a universal force. Let's assume that the quantificational element in (114) is something like 'in general' or 'overall'. Let's also assume that *I like my job overall* has the meaning shown in (122).

(122) $[[\text{I like my job overall}]]^g=1$ iff $\forall x[x \text{ is an aspect of my job } s_0 \rightarrow \text{I like } x \text{ in } s_0]$

The reminder of the denotation for except proposed in Chapter 3 is given below.

(123) $[[\text{except } \varphi]]^g= \lambda s'.\lambda M_{<s<st>>}: \forall s[\,[[\varphi]]^g(s)=1\rightarrow \neg M(s')(s)=1] \,\&\, [[\varphi]]^g(s')=1.$
$\forall s[(\neg[[\varphi]]^g(s)=1\& \forall p[p\neq[[\varphi]]^g \,\&\, p\in[[\varphi]]^{g,F}\rightarrow p(s)=p(s')]) \rightarrow M(s')(s)=1]$

Let's also grant that the exceptive phrase after taking its situation variable combines with the constituent with the meaning given below.

(124) $\lambda s'.\lambda s.\forall x[x \text{ is an aspect of my job } s'\rightarrow \text{I like } x \text{ in } s]$

Then the predicted meaning of (114) is the three claims shown in (125) (the first two are presuppositions): the clause that follows *except* is true in s_0; there is a law-like relationship between the clause following *except* and the quantificational claim (in every situation where the clause introduced by *except* is true, the quantificational claim is not true); had the clause following except been true in s_0, the quantificational claim would have been true too (here I made the assumption that the subject of the clause following *except* is focused (*my father*)).

(125)

i. My father is my boss in s_0

ii. $\forall s$[my father is my boss in s $\rightarrow \neg\forall x$[x is an aspect of my job in $s_0 \rightarrow$ I like x in s_0]]= $\forall s$[my father is my boss in s $\rightarrow \exists x$[x is an aspect of my job in s_0 & $\neg$I like x in s_0]]

iii. $\forall s$[($\neg$my father is my boss in s & $\forall p$[p$\neq$[λs'.my father is my boss in s'] & p$\in$[[my father$_F$ is my boss]]$^{g,F} \rightarrow$ p(s)=p(s_0)]) $\rightarrow \forall x$[x is an aspect of my job in $s_0 \rightarrow$I like x in s]]

What we have in (125) almost works, but not quite. I will illustrate the problem by focusing on the second claim in (125). It cannot be true: in some situations where my father is my boss there is a thing that I don't like and in some others there is not. That depends on my preferences in those other possible situations. The problem here is that the quantification over possible situations is not restricted to situations that are most similar to s_0: it is simply over all situations where my father is my boss.

Let's restrict the quantification over possible situations in the last two claims in (125) to situations that are most similar to s_0 as shown in (126). In this case we will be looking at situations where my preferences are the same as in s_0. Then the claim in (126) (ii) is going to be true if I don't like that my father is my boss in s_0 and the claim in (126) (iii) will be true if in all situations where my preferences are the same as in s_0 and my father is not my boss, I like everything about my job (I kept the restriction that in the situations we are looking at the truth value of all the focus alternatives other than the original is the same as in s_0, as it was in my original proposal about *except*, otherwise we will run into problems with the pure exceptive usages of *except*, those problems were discussed in Chapter 3). (126) captures the meaning of (114) pretty well.

(126)

i. My father is my boss in s_0

ii. $\forall$s[s is most similar to s_0 among the situations s' such that my father is my boss in s' $\rightarrow \neg\forall$x[x is an aspect of my job in $s_0 \rightarrow$ I like x in s]] =

$\forall$s[s is most similar to s_0 among the situations s' such that my father is my boss in s' $\rightarrow \exists$x[x is an aspect of my job in s_0 & I like x in s]]

iii. $\forall$s[s is most similar to s_0 among the situations s' such that my father is not my boss in s' & $\forall$p[p$\neq$[λs''.my father is my boss in s''] & p$\in$[[my father$_F$ is my boss]]$^{g,F} \rightarrow$ p(s_0)=p(s')] $\rightarrow$

$\forall$x[x is an aspect of my job in $s_0 \rightarrow$I like x in s]]

The problem is that if we make this modification, the analysis will no longer capture some of the properties of (113) (repeated below as (127)). Let's modify the three claims a clausal exceptive introduces following the example of (126).

(127) Every girl came except Eva$_F$ ~~did not come.~~

(128)

i. $\neg$Eva came in s_0

ii. $\forall$s[s is most similar to s_0 among the situations s' such that Eva did not come in s' $\rightarrow$ $\neg\forall$x[x is a girl in $s_0 \rightarrow$ x came in s]] =

$\forall$s[s is most similar to s_0 among the situations s' such that Eva did not come in s' $\rightarrow$ $\exists$x[x is a girl in s_0 & $\neg$x came in s]]

iii. $\forall$s[s is most similar to s_0 among the situations s' such that Eva came in s' & $\forall$p[(p$\neq$[λs''. $\neg$Eva came in s''] & p$\in$[[Eva$_F$ did not come]]^{g,F}) $\rightarrow$ p(s_0)=p(s')]) $\rightarrow$

$\forall$x[x is a girl in $s_0 \rightarrow$ x came in s]]

The second claim is supposed to capture the fact that Eva is a girl in s_0. But it does not. Let's consider a scenario where Eva is not a girl in s_0. (128)(ii) is compatible with that because there is a possibility where s_0 is a situation where Eva is a boy and this boy has a girlfriend that always does what he does and goes wherever he goes. Then, in any situation among the most similar ones where Eva did not come, there is a girl from s_0 who did not come. So the fact that Eva has to be a girl in order for (113) to be felicitous is not captured. Unifying the semantics for *except* as it is used in (112) and (113) and *except* as it is used in (114) and (115) requires more work than simply saying that we are looking situations that are most similar to the topic situation.

One idea is that we could capture the fact that Eva has to be a girl by saying something like this: take any situation that is most similar to s_0 where Eva did not come and while all of its focus alternatives are false (so it is false that John did not come, Anna did not come, Olga did not come etc): what you will find is that there is a girl who did not come. This is shown in (129). (129) forces us to look at situations (among the most similar to s_0) where Eva did not come, but the rest of the people came. Given that we find that there is a girl who did not come in all of those situations, Eva has to be a girl.

(129) ii. $\forall$s[s is most similar to s_0 among the situations s' such that Eva did not come in s' & $\forall p[p \in [[\text{Eva}_F \text{ did not come}]]^{g,F} \rightarrow p(s')=0]) \rightarrow$
$\exists x$[x is a girl in s_0 & $\neg$x came in s]]

Unfortunately, this also runs into problems. Recall that this second aspect of meaning contributed by *except* played a crucial role in controlling the ellipsis resolution. Specifically, it was the part of the meaning that was responsible for the fact that (130) is not the right way to resolve the ellipsis. Now, nothing rules out (130). This second aspect of meaning contributed by *except* in this case after we made the relevant modification is as given in (131). Of course, a simple existence of a girl who is not Eva in s_0 would make it true. So, nothing prevents the ellipsis to be resolved with the wrong polarity.

(130) *Every girl came except Eva ~~came.~~

(131) ii. $\forall s[s$ is most similar to s_0 among the situations s' such that Eva came in s' & $\forall p[p \in [[\text{Eva}_F \text{ came}]]^{g,F} \rightarrow p(s')=0] \rightarrow \neg\forall x[x$ is a girl in $s_0 \rightarrow$ x came in s]]

Here is another fix we could try. The facts that Eva has to be a girl and that the exceptive clause has to be negative in (127) (*Every girl came except Eva did not come*) can be captured (while the quantification over situations is restricted to the situations that are most similar to s_0 which we want for the other use of *except*) if we substitute Conditional Leastness with the conjunction of the two claims in (132). The first one says: in all of the most similar situation where Eva did not come and the rest of the people came some girl from s_0 did not come. The second one says: in all situations where Eva did not come and the rest of the people did not come as well, some girl did not come. The first of those conjuncts gives us that Eva is a girl. The second one helps to control the polarity in ellipsis resolution. If we attempt to resolve the ellipsis as shown in (130), the resulting Conditional Leastness would be as shown in (133). It is not going to be true because of the second conjunct, the one that says that in every situation (among the most similar) where Eva came along with every other individual, some girl did not come.

(132) $\forall s[s$ is most similar to s_0 among the situations s' such that Eva did not come in s' & $\forall p[p\in[[\text{Eva}_F \text{ did not come}]]^{g,F}\rightarrow p(s')=0]\rightarrow$

$\neg\forall x[x$ is a girl in $s_0 \rightarrow x$ came in $s]]$

&

$\forall s[s$ is most similar to s_0 among the situations s' such that Eva did not come in s' & $\forall p[p\in[[\text{Eva}_F \text{ did not come}]]^{g,F}\rightarrow p(s')=1]\rightarrow$

$\neg\forall x[x$ is a girl in $s_0 \rightarrow x$ came in $s]]$

(133) $\forall s[s$ is most similar to s_0 among the situations s' such that Eva came in s' & $\forall p[p\in[[\text{Eva}_F \text{ came}]]^{g,F}\rightarrow p(s')=0]\rightarrow \neg\forall x[x$ is a girl in $s_0 \rightarrow x$ came in $s]]$

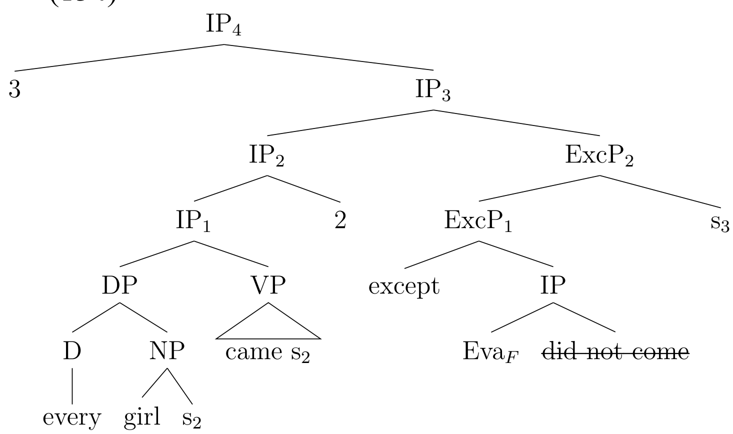
&

$\forall s[s$ is most similar to s_0 among the situations s' such that Eva came in s' & $\forall p[p\in[[\text{Eva}_F \text{ came}]]^{g,F}\rightarrow p(s')=1]\rightarrow \neg\forall x[x$ is a girl in $s_0 \rightarrow x$ came in $s]]$

Another point we can make here is that in the system where the quantification over possible situations is restricted to the situations that are most similar to the situation of evaluation, we no longer need to evaluate the predicate inside the restrictor with respect to the actual topic situation s_0. Since we are looking at the most similar words/situations, it is likely that in those situations the predicate denoted by NP in the restrictor of the quantifier (*girls* in this case) does not change its extension.

More formally, a possible LF for the sentence in (127) (Every girl came except Eva ~~did not come~~) is given in (134). In this LF both situation variable inside the quantificational phrase are bound by the same lambda abstractor 2. Let's assume that this structure is based-generated.

(134)



The sister of the exceptive phrase has the denotation shown in (135). The denotation for the constituent consisting of *except* followed by a clause is in (136).

(135) $[[IP_2]]^g = \lambda s.\forall x[x \text{ is a girl in } s \rightarrow x \text{ came in } s]$

(136) $[[\text{except } \varphi]]^g = \lambda s'.\lambda M_{<st>}$**:**

$[[\varphi]]^g(s')=1$

&

$\forall s[s$ is most similar to s' among the situations s'' such that $[[\varphi]]^g(s'')=1 \ \& \ \forall p[p \neq [[\varphi]]^g \ \& \ p \in [[\varphi]]^{g,F} \rightarrow p(s'')=0]) \rightarrow \neg M(s)=1]$

&

$\forall s[s$ is most similar to s' among the situations s'' such that $[[\varphi]]^g(s'')=1 \ \& \ \forall p[p \neq [[\varphi]]^g \ \& \ p \in [[\varphi]]^{g,F} \rightarrow p(s'')=1]) \rightarrow \neg M(s)=1]$ **.**

$\forall s[s$ is most similar to s' among the situations s'' such that $\neg[[\varphi]]^g(s'')=1 \ \& \ \forall p[p \neq [[\varphi]]^g \ \& \ p \in [[\varphi]]^{g,F} \rightarrow p(s')=p(s'')]) \rightarrow M(s)=1]$

With those assumptions the predicted overall meaning of this sentence is as shown in (137) (the presupposition) and (138) (the assertive content). The presupposition gives us that Eva did not come and that she is a girl. The part of the meaning that is responsible for the last inference is in bold. This is because it says: take any situation among the most similar to s_0 where Eva did not come and the rest of the people came, what you will find is that there is a girl who did not come. The at-issue content gives us the domain subtraction inference: it says take any situation among the most similar to s_0 where Eva came and the rest of the facts about coming are exactly the same as in s_0 – what you will find is that every girl came.

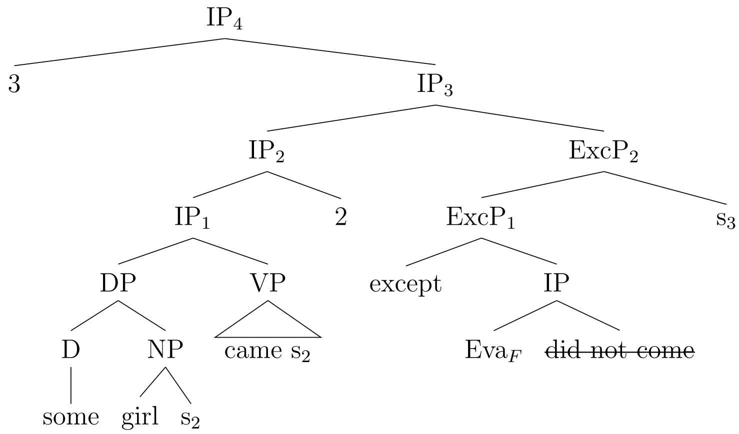
(137) $[[(134)]]^g(s_0)$ is defined only if
$\neg$Eva came in s_0
&
$\forall$s[s is most similar to s_0 among the situations s' such that Eva did not come in s' & $\forall$p[p$\in$[[Eva$_F$ did not come]]^{g,F}$\rightarrow$p(s')=0]$\rightarrow$ $\neg\forall$x[x is a girl in s $\rightarrow$ x came in s]]
&
$\forall$s[s is most similar to s_0 among the situations s' such that Eva did not come in s' & $\forall$p[p$\in$[[Eva$_F$ did not come]]^{g,F}$\rightarrow$p(s')=1]$\rightarrow$ $\neg\forall$x[x is a girl in s $\rightarrow$ x came in s]]

(138) $[[(134)]]^g(s_0)$ =1 iff
$\forall$s[s is most similar to s_0 among the situations s' such that Eva came in s' &
$\forall$p[(p$\neq$[λs''. $\neg$Eva came in s''] & p$\in$[[Eva$_F$ did not come]]^{g,F}) $\rightarrow$ p(s_0)=p(s')]) $\rightarrow$
$\forall$x[x is a girl in s_0 $\rightarrow$ x came in s]]

For the completeness of discussion let me also illustrate how the meaning proposed in (136) derives the distributional restrictions on the use of exceptives, specifically, how this approach predicts that exceptives are not compatible with existential quantifiers. Under the assumption that (139) gets the LF shown in (140), the sister of the exceptive phrase gets the denotation shown in (141). The whole sentence is predicted to have the meaning shown in (142)(the presupposition) and (143) (the assertive content).

(139) *Some girl came except Eva ~~did not come~~.

(140)



(141) $[[\text{IP}_2]]^g = \lambda s.\exists x[\text{x is a girl in s \& x came in s}]$

(142) $[[(140)]]^g(s_0)$ is defined only if
$\neg$Eva came in s_0
&
$\forall$s[s is most similar to s_0 among the situations s' such that $\neg$Eva came in s' & $\forall$p[p$\neq$[[Eva$_F$ did not come]]^g & p$\in$[[Eva$_F$ did not come]]$^{g,F}\rightarrow$ p(s')=0])$\rightarrow$ $\neg\exists$x[x is a girl in s & x came in s]]
&
$\forall$s[s is most similar to s_0 among the situations s' such that $\neg$Eva came in s' & $\forall$p[p$\neq$[[Eva$_F$ did not come]]^g & p$\in$[[Eva$_F$ did not come]]$^{g,F}\rightarrow$ p(s')=1])$\rightarrow$ $\neg\exists$x[x is a girl in s & x came in s]]

(143) $[[(140)]]^g(s_0)$=1 iff
$\forall$s[s is most similar to s_0 among the situations s' such that Eva came in s' & $\forall$p[p$\neq$[[Eva$_F$ did not come]]^g & p$\in$[[Eva$_F$ did not come]]$^{g,F}\rightarrow$ p(s_0)=p(s')]) $\rightarrow$ $\exists$x[x is a girl in s & x came in s]]

The presupposition tells us that Eva did not come and that she is either the only girl in s_0 or there are no girls. The second inference comes from the part of the presupposition that is in bold. From it we learn that in all situations (among the most similar to s_0) where Eva did not come and where everybody else came no girl came. This is only possible if Eva is the only girl or if there are no girls at all. The first option is ruled out because the use of the existential signals that the speakers does not believe that the restrictor of the existential denotes a singleton set. The second option is not compatible with the asserted content from which we learn that in all most similar situations where Eva came and the rest of the coming facts are the same as in s_0 some girl came. Thus, we got the same result as in Chapter 3: the story correctly predicts that existentials are not compatible with existential quantifiers.

5.3 Existentials and Exceptive-Additive Phrases

One observation that came up in Chapter 1 is that not in all languages exceptive-additive phrases can operate on existential quantifiers and deliver the additive meaning with containment. The availability of the additive reading with containment with existential quantifiers also depends on the position of the exceptive-additive phrase. For example, in English, there is a contrast between (144) and (145) for most speakers. (145) becomes completely acceptable if we add *other* after girls as in (146) or substitute *Anna* by a male name *John* as in (147).

(144) Some girls besides Anna came.

(145) #Besides Anna, some girls came.

(146) Besides Anna, some other girls came.

(147) Besides John, some girls came.

I suggested that in those cases exceptive-additive phrases operate on a salient question under discussion ‘Who came?’. After the exceptive-additive phrase applies to the silent question in (145), it becomes ‘Who besides Anna came?’ – the question that presupposes that Anna came. I suggested that the anti-containment inference arises here due to some general pragmatic restriction that requires that the presupposed content and the asserted content have to be independent of each other (in (145) the asserted content is ‘some girls came’). The same principle rules out (148). If Anna is a girl, then we already know from the presupposition that some girl(s) came.

(148) #Anna came. Some girls also came.

As was pointed out in Chapter 1, in some languages where exceptive-additive phrases cannot operate directly on existentials (like in Hindi and Turkish), exceptive-additive phrases always precede the quantificational claim they operate on. Thus, in those language the word order in (144) is unavailable at all. Perhaps for this reason exceptive-additive phrases in those languages cannot operate on existentials directly.

The question here is why when an exceptive-additive phrase precedes an existential it has to operate on a salient question under discussion and cannot operate directly on an existential like it does in (144), where it comes after the existential. Note, that no such restriction exists for exceptives. An exceptive can appear in the sentence initial position (like in (149)) and operate on a universal quantifier.

(149) Except for Anna, every girl came.

In order to create a unified treatment of the interaction of exceptive-additive phrases with questions and regular proposition I proposed a denotation of the exceptive-additive phrase where it always outputs a question. In order to get a proposition, the resulting question denotation has to undergo type-shifting. It is possible that the QUD interpretation is preferred in cases like (145) as in this case there is no need to type-shift from a question denotation to a proposition. For an expression that is unambiguously exceptive like the one in (149) the exceptive meaning is the only option, so we could say that this meaning is forced.

However, for an exceptive-additive phrase that appears in a sentence initial position both the exceptive reading (with containment as in (150)) and the additive reading (with anti-containment as in (151)) are available.

(150) Besides Anna, every girl came.
(Interpretation: Anna did not come, every other girl came)

(151) Besides John, every girl came.
(Interpretation: John came and in addition every girl came)

If the reason why in (145) the exceptive-additive phrase cannot operate on the existential is some kind of economy principle that requires us to go for the reading with less type-shifting, the question is why the additive reading with the anti-containment inference is not forced in (150): why is the sentence felicitous under the exceptive reading. Here I can only offer a speculation. Perhaps, the two competing additive meanings in (145) are not distinct enough unlike the two readings of (150). Perhaps, the fact that there is an option of adding *other* and saving the sentence in (145) without doing the extra type-shifting plays a role here.

5.4 Conclusions

In this Chapter I have discussed three unrelated issues that I would like to leave for the future research. The first one is the problem of creating a unified approach to clausal and phrasal exceptive constructions. I have proposed in Chapter 3 that clausal exceptive constructions introduce quantification over possible situations. Traditional approaches to the semantics of phrasal exceptives do not make such assumption. I explored the possibility that phrasal exceptive constructions also introduce quantification over possible situations and construct the restriction for this quantification by getting access to the main predicate of the sentence. I have shown that this idea runs into the problem with exceptive constructions operating on NPIs. In those cases, a part of the meaning of an exceptive has to be interpreted above the licenser (as was shown by Gajewski (2008)). I showed that it is possible to solve this problem under the assumption that the meaning of an exceptive item is distributed between two silent operators. One of them is essentially the leastness operator. Thus, this approach appears to be unnecessarily complex: the quantification over possible situations seems to be a redundant element that is introduced just to bring the clausal and phrasal cases closer together. The real job is done by Leastness and it does not need quantification over situation.

I have also considered the relationship between the exceptives that introduce exceptions to quantificational elements and clausal exceptives that seem to introduce second thoughts. I have discussed an idea of creating a unified treatment of those constructions and talked about some of the difficulties this project faces. Essentially in order to unify the two uses of *except*, we need to restrict the quantification over possible situations to situations that are most like the actual topic situation. If we introduce such a restriction, we lose some of the properties of regular exceptives operating on quantificational DPs. I proposed a modification of the approach to clausal exceptives presented in Chapter3 that potentially can apply to both uses of *except* in English.

Another topic addressed here is why in some languages additive meaning is not available with existentials and in some other languages it is. I offered some thoughts on this matter.

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