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***Besides* exceptives**[1]

1. Introduction

Exceptive constructions (like the one in (1)) have received a large amount of attention in the semantic literature (Hoeksema 1987, von Fintel 1994, Gajewski 2008, Hirsch 2016, Moltmann 1995, Garcıa Alvarez 2008 etc). The superficially similar 'additive construction' in (2), however, has received very little discussion or attention. This is despite the fact that it shares many features in common with exceptives.

(1) Every girl **except** Jane and Ann was there.
(2) Some girls **besides** Jane and Ann were there.

Besides additive in (2) comes with the following inferences:

- **domain subtraction** (some girls who are not Jane and Ann were there)

- **containment** (Jane and Ann are girls)

(3) # Some girls besides Mark were there.

- **positive entailment** (Jane and Ann were there)

(4) Jane and Ann were not there. # Some girls besides Jane and Ann were there.

I will present the formal compositional analysis of such additives that accounts for those entailments as well as the following distributional facts.

2. Distribution of additives:

- **Existentials**

(2)

- **Questions**

(5) Which girls besides Jane and Ann were there?

- **Focus**

(6) a. Besides Jane and Ann, John danced with Kate$_F$
b. Besides Jane and Ann, John$_F$ danced with Kate

- **Not universal quantifiers** (at least not the additive reading)[2]

(7) *Every girl besides Jane and Ann was there.

3. General description of the approach

I build on insights of von Fintel's (1994) approach to exceptives.

[1] I am grateful to Seth Cable, Rajesh Bhatt, Kyle Johnson, Barbara Partee, Peter Alrenga, Roumyana Pancheva for useful comments and suggestions.

[2] Some but not all speakers get the exceptive reading in this context. For an account of that see Vostrikova 2018 WCCFL36 presentation 'Exceptive-Additive ambiguity'. Also, e-mail me for my dissertation on this topic evostrikova@umass.edu

Contribution of *besides*:

Presuppositions:
-Containment
-Positive entailment

At-issue:
-Domain subtraction

Questions: the most general case. Other cases can be reduced to this one.

The question in (5):

- **Presupposes** that Jane and Ann are girls who were there (**positive entailment and containment**). Those inferences are contributed by **ADDITIVITY**
- **Is about** girls who are not Jane or Ann (**domain subtraction**).

ADDITIVITY: quantification over sets restricting a domain of an operator. When applied to a question or an existential it gives containment and a positive entailnement.

6. A Question with *Besides*: the Meaning

Following Hamblin (1973)-Karttunen (1977), I assume that questions denote sets of propositions.

(8) [[which girls were there]] ={**λw. Ann was there in w, λw. Jane was there in w**,
λw. Mary was there in w, λw. Kate was there in w}

***Besides* in (5):**

- **removes the first two propositions from the set in (8)**
- **adds the presupposition 'Jane & Ann are girls who were there' into each of the remaining propositions**

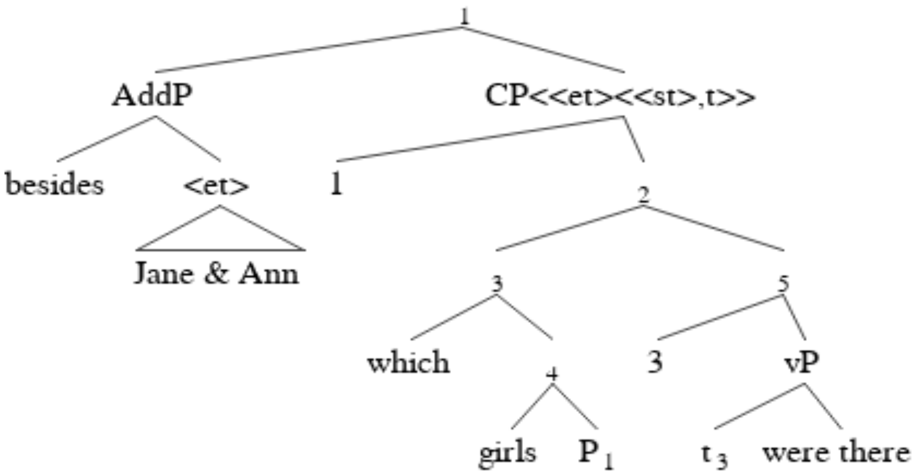
(9) [[(5)]] ={λw: Jane & Ann are girls who were there. Mary was there in w,
λw: Jane & Ann are girls who were there. Kate was there in w }

in other words…

(10) [[(5)]] = λp.∃x[x is a girl & x∉{J,A} &
p=[λw**:** Jane & Ann are girls who were there in w**.** x was there in w]]

7. Compositional Treatment of *Besides* in Wh-questions

(11)



The additive phrase QRs out of its connected position leaves a trace of type <et>. This trace is bound by the lambda abstractor 1.

(12) $[[CP]]= \lambda Y_{<et>}.\lambda p_{<st>}.\exists x[x \text{ is a girl } \& \ x\in Y \ \& p=[\lambda w'.\ x \text{ was there in } w']]$

(13) $[[besides]]=\lambda Z_{<et>}.\lambda M_{<et><<st>t>}.\boldsymbol{\lambda q_{<st>}}.\ \exists m[M\ (\lambda x.x\notin Z)(m)$
$\& \ \mathbf{q}=[\lambda w:\forall Y[Y\cap Z\neq\varnothing\rightarrow\exists p[M(Y)(p)\ \& p(w)]]\ .m(w)]$

domain subtraction

(14) $[[11]]=\boldsymbol{\lambda q_{<st>}}.\ \exists m[\exists x[x \text{ is a girl } \& \ x\notin\{J,A\}\ \& m=[\lambda w'.\ x \text{ was there in } w']]\ \&$
$\mathbf{q=[}\lambda w\mathbf{:}\forall Y[Y\cap\{J,A\}\neq\varnothing\rightarrow\exists p[\exists x[x \text{ is a girl}\&\ x\in Y\&p=[\lambda w'.x \text{ was there in } w']]\&p(w)].m(w)\mathbf{]}$
ADDITIVITY

(15) $\forall Y[Y\cap\{J,A\}\neq\varnothing\rightarrow\exists p[\exists x[x \text{ is a girl } \& \ x\in Y \ \& \ p=[\lambda w'.x \text{ was there in } w']]\&p(w)]$ **=**
Jane & Ann are girls who were there in w

Here is why (15) holds. Lets take the singleton set {Jane}. Since $\{Jane\}\cap\{J, A\}\neq\varnothing$, (16) must be true by ADDITIVITY. Therefore, Jane has to be a girl who was there. The same goes for {Ann} in (17).

(16) $\exists p[\exists x[x \text{ is a girl}\&\ x\in\{Jane\}\ \&\ p=[\lambda w'.x \text{ was there in } w']]\ \&\ p(w)]$
(17) $\exists p[\exists x[x \text{ is a girl}\&\ x\in\{Ann\}\ \&\ p=[\lambda w'.x \text{ was there in } w']]\ \&\ p(w)]$

(14) =(10)=(9)!

8. Existentials

The additive phrase in (2) is looking for an argument of type < <et><<st>t>>.
The sister of the AddP in (18) is a function from <et> to <st>.
This type-clash is resolved by the type-shifter IDENT (Partee 1986).

(18) [[AddP besides Jane and Ann] [CP 1 **[IP ^some girl $\mathbf{P_1}$ was there]**]]

(19) IDENT(**IP**)= IDENT(λw. $\exists$x[x is a girl & x$\in$g(P_1) & x was there in w]) =
$\lambda p_{<s,t>}$.p=[λw. $\exists$x[x is a girl & x$\in$g(P_1) & x was there in w]]

Then the sister of the additive phrase is of type <<et><pt>> and the additive phrase can combine with it.

(20) [[18]]=$\lambda q_{<st>}$.q=[λw:$\forall$Y[Y$\cap${J,A}$\neq\emptyset\rightarrow\exists$p[p=[$\lambda$w'.$\exists$x[x is a girl & x$\in$Y& x was there in w]]&p(w)]]. $\exists$x[x is a girl & x$\notin${J,A} & x was there in w]]

The result in (20) is the singleton **set** containing one proposition. To get back a **proposition** I apply the type-shifter IOTA (Partee 1986).

ADDITIVITY
(21) IOTA(20)= λw**:**$\forall$Y[Y$\cap${J,A}$\neq\emptyset\rightarrow\exists$x[x is a girl& x$\in$Y& x was there in w]]**.**
$\exists$x[x is a girl & x$\notin${J,A} & x was there in w]
at-issue

(21) captures the meaning of (2)!

9. No Additive Meaning with Universals

ADDITIVITY
(22)[[**7**]]= λw**:**$\forall$Y[Y$\cap${J,A}$\neq\emptyset\rightarrow\forall$x[x is a girl & x$\in$Y$\rightarrow$x was there in w]]**.**
$\forall$x[x is a girl & x$\notin${J,A}$\rightarrow$x was there in w]]
at-issue

This meaning is ill-formed because whenever ADDITIVITY is satisfied the at-issue is true. Here is why. Lets take U: the universal set containing every object in the world. U$\cap${Jane, Ann}$\neq\emptyset$, therefore (23) must be true by ADDITIVITY.

(23) $\forall$x[x is a girl & x$\in$U$\rightarrow$x was there in w]

The presupposition in (22): every girl was there.
The at-issue content in (22): every girl who is not Ann or Jane was there.

The presupposition is stronger than the assertion and the sentence is ill-formed.

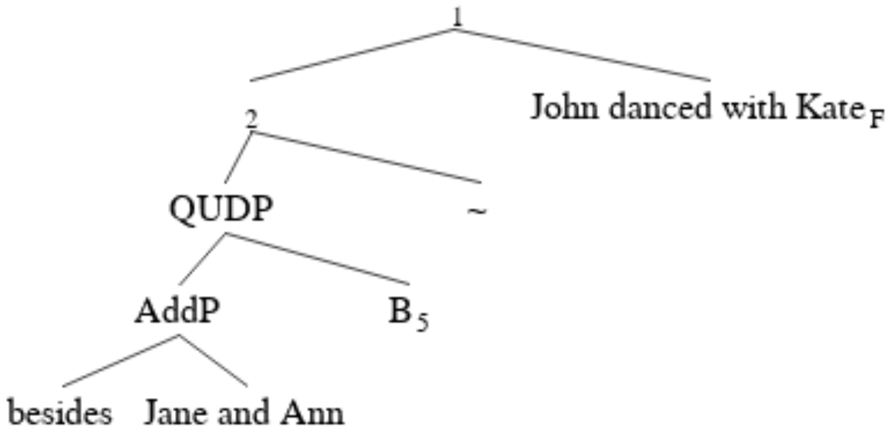
10. Additive Readings with Focus Associates

This approach extends to cases like (6a) under Rooth's (1992) theory of focus, where focus necessitates an implicit variable of question type. The structure of the focus construction assumed by this theory is as shown in (24), where B_4 is a variable of the question type. ~ relates this silent question to the focus value of the sentence. This silent question is a QUD (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).

(24) [[B_4~][John danced with $Kate_F$]]

In (6a) the QUD is ‘who besides J&A did John dance with?’ and ~ relates this question to the focus value of ‘John danced with Kate_F’.

AddP is looking for an argument of type <<et>,<<st>t>> (a function from domain restriction to a question). This is the type I give to silent variable B_5. QUDP is of the type <<st>t> (a question).



We know from ~ that eventually the value of the QUD should match the focus value of the sentence. Thus, the sister of the additive phrase will have the denotation shown in (25).
(25) $g(5) = \lambda Y_{<e,t>}.\lambda p.\exists x[x \in Y \,\&\, p=[\lambda w.\ \text{John danced with x in w}]]$

The predicted value for the QUDP is in (26) and it can be simplified and reduced to (27).

(26) $\boldsymbol{\lambda q_{<st>}.}\ \exists m[\exists x[x \notin \{J,A\} \,\&\, m=[\lambda w.\ \text{John danced with x in w}]] \,\&$
$\mathbf{q=[}\lambda w{:}\forall Y[Y \cap \{J,A\} \neq \varnothing \rightarrow \exists p[\exists x[x \in Y \,\&\, p=[\lambda w.\ \text{John danced with x in w}]] \,\&\, p(w)].m(w)\mathbf{]}$

=

(27) $\lambda q_{<st>}.\exists x[x \notin \{J,A\} \,\&\, q=[\lambda w{:}\ \text{John danced with J \& A in w. John danced with x in w}]]$

Focus value of the CP is as shown in (28). There is no exact match here because each proposition in (27) carries a presupposition that the propositions in (28) do not have.
Therefore the standard definition of ~ (29) will not work here:

(28) $[[CP]]^F=\lambda q_{<st>}.\exists x[q=[\lambda w.\ \text{John danced with x in w}]\ ]$

(29) $[[\ (\gamma \sim)\phi\ ]]= [[\phi]]^O$ and is defined only if $\forall p[p \in [[\gamma]] \rightarrow p \in [[\phi]]^f$

Solution: ~ does not care about presuppositions. It checks if for every proposition in the question denotation there is a proposition in the focus value of a sentence that has the same at-issue meaning.

(30) $[[\ (\gamma \sim)\phi\ ]]= [[\phi]]^O$ and is defined only if $\forall p[p \in [[\gamma]] \rightarrow \exists q[q \in [[\phi]]^f \,\&$
$\forall w[w \in Dom(p) \rightarrow q(w)=p(w)]$

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