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Lecture 2: Unexceptional treatment of *but*-exceptives in English

1. Recap from the last time.

But-exceptives occur with universal and negative quantifiers

(1) Every girl but Mary was there.
The domain subtraction: Every girl who is not Mary was there.
The containment inference: Mary is a girl.
The negative inference: Mary was not there.

(2) No girl but Mary was there.
The domain subtraction: No girl who is not Mary was there.
The containment inference: Mary is a girl.
The positive inference: Mary was there.

But-exceptives are not compatible with existential quantifiers and *most*;
This has something to do with the sentence meaning

(3) *Some girls but Mary were there.
(4) *Most girls but Mary were there.

Last time we discussed the motivation for separating domain subtraction step and the step deriving the positive or negative inference syntactically.

- We do not want to predict that *but* is ungrammatical with existential 'any': applying OP above negation allows avoiding this prediction.

(5) [OP [NEG I eat any vegetables but cucumbers]]

- We want to predict that any is licensed in the scope of *no one* even in cases it comes with *but*;
- The positive inference disrupts the monotonicity pattern;
- By separating the OP that contributes the positive inference from the domain subtraction step, we account for NPI licensing in (6);
- It is licensed in the highlighted syntactic constituent.

(6) [OP [no one but John ate any cucumbers]]

The question we asked the last time: what this OP should be?

The answer we will explore today: it is EXH (Hirsch 2016; Crnič, 2021)

2. Treatment of *but* exceptives in terms of EXH

Hirsch 2016; Crnič, 2021

2.1. The compositional treatment

Hirsch 2016; Crnič, 2021

(1) Every girl but Mary was there.

(2) $[_{IP2}\, \text{EXH}_{\text{ALT}}\, [_{IP1}[\text{every}\, [\, \text{girl}\, [\, \text{but Mary}_F\,]]]\, \text{was there}\,]]$

but:

- introduces the presupposition of containment (the inference that Mary is a girl);
- does domain subtraction;
- thus, it is responsible for the 2 inferences out or 3;
- the last inference (the positive or negative inference) comes from EXH

Previously, when discussing von Fintel's approach, we took the complement of *but* to be a set of individuals.

In this approach, it is taken to be a plural or an atomic individual.

(3) $[\![\text{but}]\!]^{g,w} = \lambda x_e.\lambda f_{<et>}: f(x).\ \lambda y_e.\ f(y)\ \&\ \neg x\ ^{o}\ y$

It is a function that:

- takes an atomic or plural individual (provided by the DP that follows *but*);
- a predicate of individuals (represented by the restrictor of the quantifier, girl in (2));
- and creates a new predicate of individuals (plural or atomic).

This new predicate is true of individuals that do not overlap with the individual introduced in the exceptive phrase.

The symbol ^{o} stands for 'overlap'(two individuals overlap if they have a subpart in common)

(4) $x\,^{o}y$ iff $\exists z[z \leq x\ \&\ z \leq y]$

With these assumptions, the resulting restrictor in (2) is as shown below:

(5) $[\![\textit{girl but Mary}]\!]^{g,w}$ = λy_e. y is a girl_w & ¬y o Mary
$[\![\textit{girl but Mary}]\!]^{g,w}$ is defined only if Mary is a girl_w

The prejacent of EXH gets the following interpretation:

(6) $[\![IP_1]\!]^{g,w}$ = T iff ∀x[(x is a girl_w & ¬x o Mary) → x was there_w]

The exception inference is contributed by *EXH*, which asserts the prejacent and negates the relevant focus alternatives.

A crucial element of this theory is the way alternatives are constructed.

- The complement of *but* is marked with focus.
- The alternatives are formed by making a substitution in the position following *but*.
- The alternatives are no more complex than the original sentence (Katzir, 2007; Fox and Katzir, 2011)

(7) The alternative LFs – structural alternatives:
$[_{IP_1}$ [every [girl [but Mary]]] was there]
$[_{IP_1}$ [every [girl [but Ann]]] was there]
$[_{IP_1}$ [every [girl [but Jane]]] was there]
$[_{IP_1}$ [every [girl [but Ivy]]] was there]

The set ALT containing propositions derived from these structural alternatives that EXH will operate on.

(8) { λw.∀x[(x is a girl_w & ¬y ° Mary) → x was there_w] ;
λw.∀x[(x is a girl_w & ¬y ° Ann) → x was there_w] ;
λw.∀x[(x is a girl_w & ¬y ° Jane) → x was there_w] ;
λw.∀x[(x is a girl_w & ¬y ° Ivy) → x was there_w] }

We employ the conventional denotation for *EXH* as provided in (17).

EXH asserts its prejacent while negating innocently excludable alternatives (IE).

(9) $[\![EXH_{ALT}\ \varphi\ ]\!]^{g,w}$ = $[\![\varphi]\!]^{g,w}$ & ∀q [q ∈ IE(λw'.$[\![\varphi\ ]\!]^{g,w'}$, ALT) → ¬q(w)]

(10) IE(p, ALT) = ∩{ALT' ⊆ALT: ALT' is a maximal subset of ALT s.t. ALT'$^{\neg}$ ∪ {p} is consistent}
ALT'$^{\neg}$ ={¬p': p'∈ALT'}

(11) a. $[\![\text{Exh}_{\text{ALT}}\ \varphi]\!]^{g,w}$ is defined only if ALT⊆{λw'. $[\![\varphi']\!]^{g,w'}$: φ' ∈ ALTstr(φ)}

b. $ALT_{str}(\varphi)$= {φ': φ' is derived from φ by replacing the focus marked x by y such that y≲x }

- ALT is a set of propositions corresponding to the sentences in the set of structural alternatives in 0.
- An alternative is innocently excludable if it occurs in every maximal set of alternatives that can be negated consistently with the assertion of the prejacent.
- For us, for this case, essentially, EXH negates all alternatives that are not entailed by the prejacent.

In this case, negation of all alternatives is compatible with the prejacent. Let's again assume that the girls are Mary, Ann, Jane, Ivy.

(12) $[\![(2)]\!]^{g,w}$ = T iff ∀x[x∈ {Ann, Jane, Ivy} → x was there$_w$] &
¬∀x[x∈ {Mary, Jane, Ivy} → x was there$_w$] &
¬∀x[x∈ {Mary, Ann, Ivy} → x was there$_w$] &
¬∀x[x∈ {Mary, Ann, Jane} → x was there$_w$]

(13) $[\![(2)]\!]^{g,w}$ = T iff ∀x[x∈ {Ann, Jane, Ivy} → x was there$_w$] &
∃x[x∈ {Mary, Jane, Ivy} & ¬x was there$_w$] &
∃x[x∈ {Mary, Ann, Ivy} & ¬x was there$_w$] &
∃x[x∈ {Mary, Ann, Jane} & ¬x was there$_w$]

But* and *no

This semantic approach captures the interaction between *but* and *no* without additional assumptions

It captures the fact that *but* can apply to both universal and negative quantifiers in a unified manner

(14) [$_{IP_2}$ EXH$_{Alt}$ [$_{IP_1}$ [no [girl [but Mary$_F$]]] was there]]

(15) $[\![(14)]\!]^{g,w}$ = T iff ¬∃x[x∈ {Ann, Jane, Ivy} & x was there$_w$] &
∃x[x∈ {Mary, Jane, Ivy} & x was there$_w$] &
∃x[x∈ {Mary, Ann, Ivy} & x was there$_w$] &
∃x[x∈ {Mary, Ann, Jane} & x was there$_w$]

2.2. The distribution puzzle

2.2.1 The ungrammaticality of but +some

We start by discussing a general case

(16) *Some girl but Mary *was there*.

(17) [$_{IP_2}$ EXH_{Alt} [$_{IP_1}$ [some [girl [but $Mary_F$]]] was there]]

The prejacent:

(18) $[\![IP_1]\!]^{g,w}$ = T iff ∃x[x∈ {Ann, Jane, Ivy} & x was there$_w$]

Among the alternative propositions distinct from the prejacent in (19), maximum one can be negated together with the assertion of the prejacent.

(19)
a. λw. ∃x[x∈{Mary, Jane, Ivy} & x was there$_w$]
b. λw. ∃x[x∈{Mary, Ann, Ivy} & x was there$_w$]
c. λw. ∃x[x∈{Mary, Ann, Jane} & x was there$_w$]

For example, the prejacent is consistent with the negation of the alternative in (19)a:

(20) ∃x[x∈ {Ann, Jane, Ivy} & x was there$_w$] & ¬∃x[x∈ {Mary, Jane, Ivy} & x was there$_w$]

Negating another alternative along with the first one, creates a contradiction:

(21) ∃x[x∈ {Ann, Jane, Ivy} & x was there$_w$] &
¬∃x[x∈ {Mary, Jane, Ivy} & x was there$_w$] &
¬∃x[x∈ {Mary, Ann, Ivy } & x was there$_w$]

None of the alternatives is innocently excludable: none of them is in every maximal set of alternatives that can be negated together with the assertion of the prejacent:

The procedure:
Step 1: form maximal set of alternatives that can be negated together with the assertion of the prejacent:

Remember, the prejacent:
∃x[x∈ {Ann, Jane, Ivy} & x was there$_w$]

Max 1 = { λw. ∃x[x∈{Mary, Jane, Ivy} & x was there$_w$] }

Max 2 = { λw. ∃x[x∈{Mary, Ann, Ivy} & x was there$_w$] }
Max 3 = {λw. ∃x[x∈{Mary, Ann, Jane} & x was there$_w$] }

Step 2: find all alternatives that appear in every of the sets. If found negate. If did not find, just assert the prejacent.

None of the alternatives is in every set, none of the alternatives are IE. EXH has nothing to negate.

(22) NON-VACUITY: *EXH[A]* is infelicitous if *EXH[A]* is equivalent to *A*.

We also need to rule out the LF without EXH.

We will say that *but* must be c-commanded by EXH.

(23) [$_{IP1}$ [some [girl [but Mary$_F$]]] was there]

- There is no other possible LF for this sentence.
- This explains its ungrammaticality

A problem with a small domain

Something special has to be said about a context that involved only two salient girls, such as Mary and Ann

(24) [$_{IP2}$ EXH$_{Alt}$ [$_{IP1}$ [some [girl [but Mary$_F$]]] was there]]

The only alternative to the prejacent in this case will be innocently excludable

(25) $[\![(24)]\!]^{g,w}$ = T iff ∃x[x∈{Ann} & x was there$_w$] & ¬∃x[x∈{Mary} & x was there$_w$]
The resulting truth conditions are consistent.

Can we rule this situation out?

(Hirsch, 2016): this situation is disallowed by a principle that prevents the use of an existential quantifier when the conditions for using a definite article are met (Heim, 1991).

(26) #Yesterday, I talked to a wife of John's (Alonso-Ovalle, Menéndez-Benito, Schwarz 2011)
(27) #I interviewed a father of the victim. (Hawkins 1991)
(28) #A weight of our tent is under 4 lbs. (Heim 1991)

- Yet, we still need an explanation for why a definite article cannot be used in this situation:

(29) *The girl but Mary was there.

2.2.2 The ungrammaticality of but +most

(30) *Most girls but Ann were there.

(31) [EXH_{Alt} [most girls but_F Ann were there]]

The prejacent means:

(32) more than half in {Ann, Jane, Ivy} were there

(33) Alt:
a. more than half in {Mary, Jane, Ivy} were there
b. more than half in {Ann, Mary, Ivy} were there
c. more than half in {Ann, Jane, Mary} were there

We can negate maximum 2 alternatives together with the assertion of the prejacent:

If Mary was not there and Ann and Jane were there:

(34) more than half in {Ann, Jane, Ivy} were there &
not more than half in {Mary, Jane, Ivy} were there
not more than half in {Ann, Mary, Ivy} were there

Adding the last alternative will lead to a contradiction:

(35) not more than half there: {Ann, Jane, Mary}

If Mary was not there and Ann and Ivy were there:

(36) more than half in {Ann, Jane, Ivy} were there &
not more than half in {Mary, Jane, Ivy} were there
not more than half in {Ann, Jane, Mary} were there

Adding the negation of the last alternative will lead to a contradiction:

(37) not more than half there: {Ann, Mary, Ivy}

The same goes for the last option:
If Mary was not there and Jane and Ivy were there:

(38) more than half in {Ann, Jane, Ivy} were there &
not more than half in {Ann, Mary, Ivy} were there
not more than half in {Ann, Jane, Mary} were there

Adding the negation of the last alternative will lead to a contradiction:

(39) not more than half there: {Mary, Jane, Ivy}

- None of the alternatives is in every maximal set;
- None of them is innocently excludable.
- EXH has nothing to negate
- this LF is ruled out by the non vacuity constraint

A problem with a small domain

EXH can be non-vacuous in a context where there are only 2 or 3 girls, say Mary, Ivy and Jane

(40) [EXH_{Alt} [most girls but_F Ann were there]]

- If Jane was there, then it is true that if we do not consider Mary 'most girls were there' (the only remaining individual Jane)

- The alternative can be negated together with the assertion of the prejacent:

(41) more than half in {Jane, Ivy} were there &
not more than half in {Mary, Ivy } were there
not more than half in {Mary, Jane } were there

- This kind of scenario have to be excluded by restrictions on using 'most' when the domain contains only two individuals

(42) *Most of my parents work at the hospital.

Modal suspension?

Crnič, 2021

The exceptive inference (respectively, that Mary did not arrive and that Mary arrived) can be suspended by modalized continuations.

(43) Every student but Mary arrived ...
a. ... and perhaps even she did!
b. #... and even she did!

(44) No student but Mary arrived ...
a. ... and perhaps even she didn't!
b. #... and even she didn't!

Solution:

(45) [EXH_{ALT} [ASSERT [every [student but Mary] arrived]]

(46) □sp(∀x[x student & x ≠Mary → x arrived]) &
◊sp (∃x[x student & x ≠Ann & ¬x arrived])&
◊sp (∃x[x student & x ≠Jane & ¬x arrived])&
◊sp (∃x[x student & x≠Ivy & ¬x arrived])

A problem for this idea: by allowing ASSERT to come between EXH and the prejacent, we lose the solution to the distribution puzzle:

(47) *Some girl but Mary arrived.

(48) [EXH_{ALT} [ASSERT [some [student but Mary] arrived]]

This LF gets a consistent interpretation:

(49) □sp(∃x[x student & x ≠Mary & x arrived]) &
◊sp (¬∃x[x student & x ≠Ann & x arrived])&
◊sp (¬∃x[x student & x ≠Jane & ¬x arrived])&
◊sp (¬∃x[x student & x≠Ivy & ¬x arrived])

The sentence is predicted to mean: I am sure that some student who is not Mary arrived, I am not sure that someone other than Ann arrived, I am not sure that someone other than Jane arrive, I am not sure someone other than Ivy arrived.

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