Anatomy of an Exceptive+Modal Construction

Sukchan Lee

Dec 13, 2024

SNU Workshop on Empirical and Laboratory Linguistics 2024, Department of Linguistics, SNU

Introduction

Exceptive *pakkey*

(1) John-*pakkey* an w-ass-ta.
John-PAKKEY NEG come-PST-DECL
'No one but John came. (= Only John came.)'

(2) $\text{came}(\text{JOHN}) \wedge \forall x \in D_e : x \neq \text{JOHN} \rightarrow \neg\text{came}(x)$

Korean *pakkey* has a semantics of an exceptive, similar to Japanese *sika*, French *que*, Greek *para*, etc.

The licensing condition of *pakkey*

pakkey is licensed by clausemate negation (Choe, 1988) and negation-containing expressions, as shown below:

(3) John-*pakkey* mot w-ass-e.
John-PAKKEY ABIL.NEG come-PST-DECL
'No one but John was able to come. (= Only John was able to come.)'

(4) John-*pakkey* moll-a.
John-PAKKEY know.NEG-DECL
'No one but John knows. (= Only John knows.)'

(5) John-*pakkey* eps-e.
John-PAKKEY be.NEG-DECL
'No one but John is here. (= Only John is here.)'

Sufficiency modal *myen toy*

(6) John-i o-*myen toy*-n-ta.
John-NOM come-IF GOOD-PRES-DECL
'It suffices if John comes.'

(7) $\forall w' \in \text{BEST}_{t(w)}(\text{come}(\text{JOHN})) : \text{BEST}_{d(w)}(ALT)(w') = 1,$ (Chung, 2019)
where t is a totally realistic ordering source,
d a deontic ordering source,
and ALT the union of minimal prejacent worlds and alternative worlds

The puzzle: when *pakkey* meets *myen toy*

(8) a. *John-pakkey o-myen toy-n-ta.
John-PAKKEY come-IF GOOD-PRES-DECL

b. *John-pakkey an o-myen toy-n-ta.
John-PAKKEY NEG come-IF GOOD-PRES-DECL
Intended: 'It suffices if no one but John comes.' Why ungrammatical?

c. *John-pakkey o-myen an toy-n-ta.
John-PAKKEY come-IF NEG GOOD-PRES-DECL

d. John-pakkey an o-myen an toy-n-ta.
John-PAKKEY NEG come-IF NEG GOOD-PRES-DECL
'It is insufficient if no one but John comes.' ($\rightsquigarrow$ 'Someone else also has to come.')

Schema

(9) a. *[JOHN-pakkey come] → GOOD
b. *[JOHN-pakkey ¬come] → GOOD
c. *[JOHN-pakkey come] → ¬GOOD
d. [JOHN-pakkey ¬come] → ¬GOOD

The ungrammaticality of (9a) and (9c) is predicted: there is no clausemate negation for *pakkey* to be licensed.

On the other hand, the ungrammaticality of (9b) is unexpected and puzzling.

A closer look at the semantics of exceptives

Exceptive *but*

Hirsch (2016): two puzzles posed by exceptive phrases formed with *but*

- entailment puzzle
- distribution puzzle

The entailment puzzle

(10) Every student *but* John came.

a. $\neg$came(JOHN) (negative entailment)

b. $\forall x \in D_e : (\text{student}(x) \wedge x \neq \text{JOHN}) \rightarrow \text{came}(x)$ (otherness entailment)

The distribution puzzle

(11) { Every / No / *Some / *Three / *Most } student *but* John came.

(12) Mary didn't see anyone *but* Bill.

The semantics of *but*

Hirsch (2016), building on von Fintel (1993) and Gajewski (2008):

- *but* as subtraction
- strengthening by an exhaustivity operator (Chierchia, 2006; Chierchia et al., 2009; Fox, 2007)

$[\![\textit{but}]\!] = \lambda X.\lambda A.\lambda Q.\lambda P.Q(A - X)(P)$
$[\![\textit{but John}]\!] = \lambda A.\lambda Q.\lambda P.Q(A - \{\textsc{John}\})(P)$
$[\![\textit{student but John}]\!] = \lambda Q.\lambda P.Q([\![\text{student}]\!] - \{\textsc{John}\})(P)$
$[\![\textit{every student but John}]\!] = \lambda P.[\forall x \in D_e : (\text{student}(x) \wedge x \neq \textsc{John}) \rightarrow P(x)]$
$[\![\textit{every student but John came}]\!] = \forall x \in D_e : (\text{student}(x) \wedge x \neq \textsc{John}) \rightarrow \text{came}(x)$

Strengthening

However, (13) is merely an *otherness* statement, i.e. it says nothing about John's whereabouts.

(13) $[\![\textit{every student but John came}]\!] =$
$\forall x \in D_e : (\text{student}(x) \wedge x \neq \textsc{John}) \rightarrow \text{came}(x)$

To derive the *negative* entailment, we employ **exhaustivity**.

(14) a. $[\![\text{student}]\!] = \{\textsc{John}, \textsc{Mary}, \textsc{Bill}\}$
b. $\forall x \in D_e : (\text{student}(x) \wedge x \neq \textsc{John}) \rightarrow \text{came}(x)$
$= \text{came}(\textsc{Mary}) \wedge \text{came}(\textsc{Bill})$

Strengthening, cont.

(15) LF of (10): EXH [Every student but $[\text{John}]_F$ came]

EXH negates non-weaker alternatives.

(16) $$\text{ALT} = \left\{ \begin{array}{c} [\![\text{every student but John came}]\!] \\ [\![\text{every student but Mary came}]\!] \\ [\![\text{every student but Bill came}]\!] \end{array} \right\} = \left\{ \begin{array}{c} \text{came}(\textsc{Mary}) \wedge \text{came}(\textsc{Bill}) \\ \text{came}(\textsc{John}) \wedge \text{came}(\textsc{Bill}) \\ \text{came}(\textsc{John}) \wedge \text{came}(\textsc{Mary}) \end{array} \right\}$$

(17) Strengthened meaning:
$(\text{came}(\textsc{Mary}) \wedge \text{came}(\textsc{Bill})) \wedge \neg(\text{came}(\textsc{John}) \wedge \text{came}(\textsc{Bill})) \wedge \neg(\text{came}(\textsc{John}) \wedge \text{came}(\textsc{Mary}))$
$= \text{came}(\textsc{Mary}) \wedge \text{came}(\textsc{Bill}) \wedge \neg\text{came}(\textsc{John})$

Exhausitivity is key

Hirsch's (2016) assumption that *but* obligatorily co-occurs with the exhaustivity operator not only gives us the right semantics for *but* but also explains its distribution.

- scope of *every, no, any*: exhaustivity leads to strengthened meaning
- scope of *some, three, most*: exhaustivity leads to contradiction

Exhaustivity and NPIs

Chierchia (2013): NPIs are equipped with an uninterpretable feature [uσ,D], which obligatorily introduces all its domain and scalar alternatives and which at surface structure must be checked by a covert c-commanding exhaustifier that carries an interpretable feature [iσ,D] (cf. Zeijlstra, 2024)

(18) a. [I read [any book]$_{[u\sigma,D]}$]
b. [EXH$_{[i\sigma,D]}$ [I read [any book]$_{\sout{[u\sigma,D]}}$]]

In non-DE contexts like (18a), exhaustification leads to contradiction.

Exhaustivity and NPIs, cont.

(19)
a. $\exists x : x \in \{a, b, c\} \wedge \text{read}(\text{I}, x)$
b. $\exists x : x \in \{a, b\} \wedge \text{read}(\text{I}, x)$
c. $\exists x : x \in \{a, c\} \wedge \text{read}(\text{I}, x)$
d. $\exists x : x \in \{b, c\} \wedge \text{read}(\text{I}, x)$
e. $\exists x : x \in \{a\} \wedge \text{read}(\text{I}, x)$
f. $\exists x : x \in \{b\} \wedge \text{read}(\text{I}, x)$
g. $\exists x : x \in \{c\} \wedge \text{read}(\text{I}, x)$

Apart from (19a), all domain alternatives in (19) are stronger than $\exists x : x \in \{a, b, c\} \wedge \text{read}(\text{I}, x)$.

Japanese *sika* as a strong NPI

Sauerland and Yatsushiro (2023), building on Chierchia (2013):

- Japanese *sika* is a strong NPI while English *but* is a weak NPI
- exceptives in the two languages select different exhaustification operators

(20) Every player *but* Susi has access to the ocean.

(21) *Dono pureeyaa-mo Susi-*sika* umi-ni akusesu-ga aru.
which player-MO Susi-SIKA ocean-to access-NOM exists.
Intended: 'Every player but Susi has access to the ocean.'

Weak NPIs vs. Strong NPIs

Chierchia (2013): Weak NPIs look just at the truth-conditional component of meaning, while strong NPIs may consider meaning in *all* its dimensions.

- The restrictor of *every* is traditionally analyzed as a DE environment.
- However, when the existential presupposition associated with *every* is taken into account, it is no longer DE.

(22) a. $(\forall x : R(x) \rightarrow S(x)) \wedge (\exists x : R(x))$

b. $(\forall x : R'(x) \rightarrow S(x)) \wedge (\exists x : R'(x))$, *where* $R' \subseteq R$

Attempt #1

Exhaustification and Contradiction

(9) a. *[JOHN-pakkey come] → GOOD
b. *[JOHN-pakkey ¬come] → GOOD
c. *[JOHN-pakkey come] → ¬GOOD
d. [JOHN-pakkey ¬come] → ¬GOOD

Hypothesis: Maybe *pakkey* is just not licensed in (9b), i.e. exhaustification leads to contradiction.

pakkey in plain conditionals

No polarity sensitivity of the same kind is observed in plain conditionals:

(23) John-pakkey an o-myen coh-keyss-e.
John-PAKKEY NEG come-IF good-FUT-DECL
'I'd like if no one but John comes.'

(24) John-pakkey an o-myen sulphu-l kes kath-a.
John-PAKKEY NEG come-IF sad-might-DECL
'I might feel sad if no one but John comes.'

(25) John-pakkey an o-myen hoyuy-lul ye-l swu eps-e.
John-PAKKEY NEG come-IF meeting-ACC open-cannot-DECL
'We can't have this meeting if no one but John comes.'

The syntactic position of EXH

Therefore, it seems reasonable to conclude that EXH is introduced in the antecedent of the conditional.

(26) LF of (9b): [EXH [[JOHN]$_F$-pakkey ¬come]] → GOOD

However, in such a configuration, EXH will successfully derive strengthened meaning without contradiction.

Comparison with other exclusives

The semantics of (26) is expected to be a sufficiency claim about a condition where no one but John comes, which is precisely what we get in the examples below (without running into ungrammaticality):

(27) John-*man* o-myen toy-n-ta.
John-only come-IF GOOD-PRES-DECL
'It suffices if only John comes.'

(28) John-*ppayko* amwuto an o-myen toy-n-ta.
John-except anyone NEG come-IF GOOD-PRES-DECL
'It suffices if only John comes.'

Attempt #2

Things to consider

- *John-pakkey an o-myen toy-n-ta* is ungrammatical.
- *John-pakkey an o-myen an toy-n-ta* is grammatical.
- When *John-pakkey an o-myen…* is combined with consequents other than *toy* 'GOOD', there is no polarity sensitivity.
- If *pakkey* is replaced by *man* 'only' or *ppayko* 'except' in the antecedent, there is no polarity sensitivity.

Scalarity

What sets *pakkey* apart from *man* and *ppayko*?

(29) a. *sey sal-*man* tw-ayss-e.
three year-only become-PST-DECL

b. *sey sal-*ppayko* amwukesto an tw-ayss-e.
three year-except anything NEG become-PST-DECL

c. sey sal-*pakkey* an tw-ayss-e.
three year-PAKKEY NEG become-PST-DECL
'(She's) only$_{\text{scalar}}$ three.'

Scalarity, cont.

Contextually defined scales can also associate with *pakkey*.

(30) a. TV-*man* pw-ass-e.
TV-only see-PST-DECL
'I only$_{\text{logical}}$ watched TV.'

b. TV-*ppayko* amwukesto an pw-ass-e.
TV-except anything NEG see-PST-DECL
'I only$_{\text{logical}}$ watched TV.'

c. TV-*pakkey* an pw-ass-e.
TV-PAKKEY NEG see-PST-DECL
'I only$_{\text{logical/scalar}}$ watched TV.'

More things to consider

The choice of the conditional morpheme also matters.

(31) a. *John-pakkey an o-*myen* toy-n-ta.
John-PAKKEY NEG come-IF GOOD-PRES-DECL
'If no one but John comes, good.'

b. ?*John-pakkey an w-*aya* toy-n-ta.
John-PAKKEY NEG come-ONLY.IF GOOD-PRES-DECL
'Only if no one but John comes, good.'

c. John-pakkey an w-*ato* toy-n-ta.
John-PAKKEY NEG come-EVEN.IF GOOD-PRES-DECL
'Even if no one but John comes, good.'

Scalarity is key?

Hypothesis:

- *pakkey* introduces a scalarity presupposition, namely that its complement is significantly low in the relevant scale.
- The (in)compatibility of conditional morphemes with *pakkey* is governed by MAXIMIZE PRESUPPOSITION (Lauer, 2016; Schlenker, 2012; Singh, 2011).

Problems:

- The controversial status of MAXIMIZE PRESUPPOSITION & formalization of conditional-based modal semantics
- What about *John-pakkey an o-myen an toy-n-ta*?

Q & A

References

Alonso-Ovalle, Luis and Aron Hirsch (2022). **“Keep only strong.”** In: *Semantics and Pragmatics* 15, pp. 6–1.

Chierchia, Gennaro (2006). **“Broaden your views: Implicatures of domain widening and the “logicality” of language.”** In: *Linguistic Inquiry* 37.4, pp. 535–590.

— (2013). ***Logic in grammar: Polarity, free choice, and intervention.*** Oxford University Press.

Chierchia, Gennaro, Danny Fox, and Benjamin Spector (2009). **“The grammatical view of scalar implicatures and the relationship between semantics and pragmatics.”** In: *Semantics: An International Handbook of Natural Language Meaning*. Ed. by C. Maienborn, K. von Heusinger, and P. Portner. De Gruyter, pp. 2297–2332.

Choe, Hyon-Sook (1988). ***Restructuring Parameters and Complex Predicates: A Transformational Approach.***

Chung, WooJin (2019). **“Decomposing deontic modality: Evidence from Korean.”** In: *Journal of Semantics* 36.4, pp. 665–700.

Condoravdi, Cleo and Itamar Francez (2022). **“A minimally sufficient analysis of sufficiency modal constructions.”** In: *23rd Amsterdam Colloquium*, p. 77.

References

Von Fintel, Kai (1993). **“Exceptive constructions.”** In: *Natural language semantics* 1.2, pp. 123–148.

Von Fintel, Kai and Sabine Iatridou (2007). **“Anatomy of a modal construction.”** In: *Linguistic Inquiry* 38.3, pp. 445–483.

Fox, Danny (2007). **“Free choice and the theory of scalar implicatures.”** In: *Presupposition and implicature in compositional semantics*. Springer, pp. 71–120.

Gajewski, Jon (2008). **“NPI *any* and connected exceptive phrases.”** In: *Natural Language Semantics* 16, pp. 69–110.

Guerzoni, Elena and Dongsik Lim (2007). **“Even if, factivity and focus.”** In: *Proceedings of Sinn und Bedeutung*. Vol. 11, pp. 276–290.

Hirsch, Aron (2016). **“An unexceptional semantics for expressions of exception.”** In: *University of Pennsylvania Working Papers in Linguistics*.

Kaufmann, Magdalena and Stefan Kaufmann (2015). **“Conditionals and modality.”** In: *The handbook of contemporary semantic theory*, pp. 237–270.

Klinedinst, Nathan (2005). **“Scales and only.”** In: *Unpublished generals paper, UCLA*.

References

Lauer, Sven (2016). **“On the status of ‘Maximize Presupposition’.”** In: *Semantics and Linguistic Theory*, pp. 980–1001.

Phillips-Brown, Milo (2019). **“Anankastic conditionals are still a mystery.”** In: *Semantics & Pragmatics* 12.13, pp. 1–19.

Sauerland, Uli and Kazuko Yatsushiro (2023). **“Domain size matters: An exceptive that forms strong NPIs.”** In: *The size of things II*, p. 363.

Schlenker, Philippe (2012). **“Maximize presupposition and Gricean reasoning.”** In: *Natural language semantics* 20, pp. 391–429.

Singh, Raj (2011). **“Maximize Presupposition! and local contexts.”** In: *Natural Language Semantics* 19, pp. 149–168.

Zeijlstra, Hedde (2024). **“Two varieties of Korean: Rightward head movement or polarity sensitivity?”** In: *Linguistic Inquiry* 55.3, pp. 622–641.