Exceptives and Exhaustification

Luka Crnič

Slides: `http://bit.ly/wccfl39`

(1) <u>Every</u> student <u>except Dina</u> arrived.

   Negative entailment: Dina did not arrive.

(2) <u>No</u> student <u>except Dina</u> arrived.

   Negative entailment: Dina arrived.

(3) #<u>Some</u> student <u>except Dina</u> arrived.

A groundbreaking proposal (von Fintel 1993)

(4) Every student except Dina arrived.

Every student $\boxed{\text{that is not Dina}}$ arrived $\wedge$

$\boxed{\forall C: \text{Dina} \notin C \rightarrow}$ ¬Every student $\boxed{\text{that is not in C}}$ arrived

entails: Dina did not arrive

(5) No student except Dina arrived.

No student $\boxed{\text{that is not Dina}}$ arrived $\wedge$

$\boxed{\forall C: \text{Dina} \notin C \rightarrow}$ ¬No student $\boxed{\text{that is not in C}}$ arrived

entails: Dina arrived

(6) #Some student except Dina arrived.

Some student $\boxed{\text{that is not Dina}}$ arrived $\wedge$

$\boxed{\forall C: \text{Dina} \notin C \rightarrow}$ ¬Some student $\boxed{\text{that is not in C}}$ arrived

contradiction

Compositional derivation

- Arguments have been provided for a distributed analysis of exceptives (e.g., distribution with NPIs, Gajewski 2008, and under ellipsis, Crnič 2018).

(7) Every student except Dina arrived.

[| comp2 | [... [QP ... | comp1 | ...] ...]]

Our first goal

- New support for a distributed analysis of exceptives, and for the dependence of their import on contextual relevance. The data follow naturally on an exhaustification analysis (Gajewski 2013, Hirsch 2016, Crnič 2018).

[| exh_R | [... [QP ... | subtract | ...] ...]]

Structure of exceptive phrases

- Arguments have been provided that some exceptives have an underlying clausal structure (Perez-Jimenez & Moreno-Quiben 2012, Soltan 2016, Potsdam 2019, Potsdam & Polinsky 2019, Vostrikova 2020, i.a).

(8) I got no presents $\boxed{\text{except from my mom} <...>.}$ (Vostrikova 2020)

Our second goal

- Argument for necessity of a distributed analysis of clausal exceptives.
- Proposal of a new syntactic treatment of clausal exceptives, naturally extrapolated from the extant exhaustification analysis of exceptives.

Weak Negative Entailments

(9)   Every student except Dina arrived ...

        a. #... and even she did!

        b.   ... and perhaps even she did!

(10)   No student except Dina arrived ...

        a. #... and even she didn't!

        b.   ... and perhaps even she didn't!

This is unexpected given the above characterization:

(11)   Every student that is not Dina arrived and Dina did not arrive.

        a. #... and even she did!

        b. #... and perhaps even she did!

(12)   To get good cheese, you don't need to go anywhere except to the NE.

   $\approx$ To get good cheese, it suffices that you go to the North End.

(cf. von Fintel & Iatridou 2007)

This is unexpected given the above (for many reasons, cf. Gajewski 2008):

(13)   You don't need to go some place $\boxed{\text{that is not the North End}}$ $\wedge$

   $\boxed{\forall C: \text{North End} \notin C \rightarrow}$ You need to go some place $\boxed{\text{that is not in C}}$

   entails: You need to go to the North End

(14) I am surprised that any student except Dina arrived ...

    a. ... and I am surprised that Dina didn't arrive.

    b. ... and I don't know whether Dina arrived.

(15) Only Gal talked to anyone except Dina ...

    a. ... and only Tal / no one talked to Dina.

This is unexpected given the above (for many reasons, cf. Gajewski 2008):

(16) I am surprised that someone $\boxed{\text{that is not Dina arrived}}$ $\wedge$

    $\boxed{\forall C: \text{Dina} \notin C \rightarrow}$ ¬I am surprised that someone $\boxed{\text{that is not in C}}$ arrived

    entails: ¬I am surprised that Dina arrived

    entails: (I learned that) Dina arrived

A distributed analysis

(17)   Every student except Dina arrived.

1. Exceptive phrase denotes simple subtraction:

(18) $[\![\text{except}]\!](Q_{(et)})(P_{(et)}) = \lambda x.\ P(x) \wedge \neg Q(x)$

(19) $[\![\text{every [student [except Dina]] arrived}]\!] = 1$ iff
                every student that is not Dina arrived

2. Exhaustiveness comes in through a separate exhaustification mechanism:

(20) $[\![\text{exh}_R\ S]\!] = [\![S]\!] \wedge \forall S' \in \text{Excl}(S) \cap R: \neg[\![S']\!]$

(21) a. Every student except Dina arrived.

b. [$\boxed{\text{exh}_R}$ [every student $\boxed{\text{except Dina}}$ arrived]]

(22) Excl(every student except Dina arrived) =
{Every student arrived, Every student except X arrived | $[\![X]\!] \in D_e$}

(23) Every student that is not Dina arrived $\wedge\ \forall$S' $\in$ (22) $\cap$ R: $\neg[\![$S'$]\!]$
= Every student that is not Dina arrived $\wedge\ \neg$Every student arrived
entails: Dina did not arrive

(see Gajewski 2013, Hirsch 2016, Crnič 2018 for details)

(24) a. #Some student except Dina arrived.

  b. [$\boxed{\text{exh}_R}$ [some student $\boxed{\text{except Dina}}$ arrived]]

(25) Excl(some student except Dina arrived) $= \emptyset$ (e.g., Fox 2007)

(26) Some student that is not Dina arrived $\wedge \forall S' \in \emptyset \cap R: \neg[\![S']\!]$

  $=$ Some student that is not Dina arrived

  vacuous exhaustification $\frac{1}{4}$ (cf. Spector 2014)

  (see Gajewski 2013, Hirsch 2016, Crnič 2018 for details)

Deriving weak negative entailments

(27) Every student except Dina arrived ...

        #... and even she did! / ... and perhaps even she did!

Assert in grammar

Many arguments for an *Assert/K* operator in grammar (cf., e.g., Krifka 1995, 2014, Beck 2016) and for *exh* being able to take scope above it, perhaps necessarily (e.g., Chierchia 2013, Meyer 2013, Fox 2016, Buccola & Haida 2019).

(28) Dina talked to at least one student.
    $\Rightarrow$ $\Box_{sp}$(Dina talked to one student)
    $\Rightarrow$ $\neg\Box_{sp}$(Dina talked to exactly one student / two students), etc.

(29) [$\boxed{\text{exh}_R}$ [$\boxed{\text{Assert}}$ [Dina talked to $\boxed{\text{at least one student}}$]]]

                            (Buccola & Haida 2020; cf. Cohen & Krifka 2014)

(30) Every student except Dina arrived …

        #… and even she did!   /   … and perhaps even she did!

(31) a. [$\boxed{\text{Assert}}$ [$\boxed{\text{exh}_R}$ [every student $\boxed{\text{except Dina}}$ arrived]]]

     b. $\Box_{sp}$(Every student that is not Dina arrived $\land \neg$Every student arrived)

       entails: $\Box_{sp}$($\neg$Dina arrived)

       incompatible: #… she arrived. *incompatible:* … perhaps she arrived.

(32) a. [$\boxed{\text{exh}_R}$ [$\boxed{\text{Assert}}$ [every student $\boxed{\text{except Dina}}$ arrived]]]

     b. $\Box_{sp}$(every student that is not D arrived)$\land\neg\Box_{sp}$(every student arrived)

       entails: $\Diamond_{sp}$($\neg$Dina arrived)

       incompatible: #… she arrived. *compatible:* … perhaps she arrived.

(33) To get good cheese, you don't need to go anywhere except to the NE.

    a. [exh$_R$ [neg [□ [you go anywhere except to the North End]]]]

    b. ¬□(you go somewhere that is not the NE) ∧ □(you go somewhere)

    entails: ◇(you go to the NE), *but not:* □(you go to the NE), etc.

(34) I am surprised that any student except Dina arrived.

    a. [exh$_R$ [I am surprised [any student except Dina arrived]]]

    b. suprise(some student that is not D arrived) ∧ ¬surprise(some student arrived)

    entails: I expected D to arrive, *but not:* (I learned that) D arrived

In both cases, it is crucial to assume that <u>only the alternative based on the deletion of the exceptive</u> features in the derivation (i.e., in the domain of *exh*).

Summary so far:

- Modalized suspension → Distributed analysis   ∼ [exh$_R$ [Assert [except

- SMC & Missing presuppositions → Contextual restriction   ∼ exh$_R$

Clausal exceptives

Some exceptives are likely underlyingly clausalal (Perez-Jimenez & Moreno-Quiben 2010, Soltan 2016, Potsdam & Polinsky 2019, Vostrikova 2020, i.a.):

(35) Every boy danced with every girl except Joe with Diane.

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

Two standard assumptions about clausal exceptives (see the above)

(i) The elided material may contain negation that lacks a parallel antecedent.

(ii) The acceptability of the exceptive is determined at its attachment site by its semantics (that is, the approaches are integrated, not distributed).

(37) [every student λx [Dina likes x]] [except [NOT [Tal$_F$ ~~λy [Dina likes y]~~]]]]

(38) [no student λx [Dina like x]] [except [Tal$_F$ ~~λy [Dina likes y]~~]]]

> **Parallelism and ellipsis:** An ellipsis of a clause is licit only if it has an antecedent clause that is structurally isomorphic to it.   (e.g., Rooth 1992, Fox 2000, i.a.)

> **NPIs:** An NPI is licensed only if it occurs in a (Strawson) downward-entailing environment wrt it at LF. NPIs like *any* in (39) denote existential quantifiers.

(39)   I am surprised that Dina likes any student except Tal.

(40)   I am ⎡surprised⎤ ⎡[⎡any student⎤ λx [Dina likes x]]   ← NPI Licensing

Parallelism →   [except [Tal$_F$ ~~λx [Dina likes x]~~]]

Since existential quantification is unacceptable with exceptive modification, the mechanism governing the acceptability of exceptives <u>cannot</u> be wholly encoded in the exceptive phrase. We need a distributed analysis of clausal exceptives.

A simple extension

Recall our earlier characterization of *except*

(41) $[\![\text{except}]\!](Q_{(et)})(P_{(et)}) = \lambda x.\ P(x) \wedge \neg Q(x)$

Natural extension to situations

(42) $[\![\text{except}]\!](q_{(st)})(p_{(st)}) = \lambda s.\ p(s) \wedge \neg q(s)$

(43) a. Every student arrived except Dina.

  b. [$\boxed{\text{exh}_R}$ [every student arrived $\boxed{\text{except Dina arrived}}$]]

Prior to exhaustification: mere subtraction

(44) ∃s: (∀x: student x ∧ x∈D → x arrived in s) ∧ ¬(Dina arrived in s)

  entails: Every student that is not Dina arrived

  (i.e., Dina is not in domain D of the quantifier)

Exhaustified meaning: negative entailment

(45) ∃s: (∀x: student x ∧ x∈D → x arrived in s) ∧ ¬(Dina arrived in s)

  ∧ ¬(∀x: student x ∧ x∈D∪{Dina} → x arrived in s)

  entails: Dina did not arrive

A simple extension: Negative indefinites

(46) a. No student arrived except Dina.
b. [$\boxed{\text{exh}_R}$ [$\boxed{\text{neg}}$ [a student arrived $\boxed{\text{except Dina arrived}}$]]]

Prior to exhaustification: mere subtraction (simplified, cf. Krika 1989)

(47) ¬(∃s: (∃x: student x ∧ x∈D ∧ x arrived in s) ∧ ¬(Dina arrived in s))
⇔ ∀s: ¬(∃x: student x ∧ x∈D ∧ x arrived in s) ∨ (Dina arrived in s)

entails: No student that is not Dina arrived

Exhaustified meaning: negative entailment

(48) ∀s: ¬(∃x: student x ∧ x∈D ∧ x arrived in s) ∨ (Dina arrived in s)
∧ ¬∀s: ¬(∃x: student x ∧ x∈D ∧ x arrived in s)

entails: Dina arrived

If PolP is the minimal domain for NPI licensing (Homer 2020), the above analysis correctly derives the distribution of NPIs in exceptives (cf. Vostrikova 2020).

(49) Every student arrived except any first year.

[exh$_R$ [$_{PolP}$ every student arrived [except any first year arrived]]]

DE with respect to the NPI

∃s: (∀x: student x ∧ x∈D → x arrived in s) ∧ ¬(any f.y. arrived in s)

(50) #No student arrived except any first year.

[exh$_R$ [$_{PolP}$ neg [a student arrived [except any first year arrived]]]]

not DE with respect to the NPI

∀s: ¬(∃x: student x ∧ x∈D ∧ x arrived in s) ∨ (any f.y. arrived in s)

All the derivations described above are inherited. For example:

(51) You don't have to go anywhere except to the NE.
      [exh$_R$ [neg [□ [anywhere$_x$ [you go x]] [except to the NE$_x$ [you go x]]]]]

Prior to exhaustification

(52) ¬(□: (∃s: you go somewhere in s ∧ ¬(you go to NE in s)))
      entails: ¬□(you go somewhere that is not the North End)

Exhaustified meaning: weak negative entailment

(53) ¬(□: (∃s: you go somewhere in s ∧ ¬(you go to NE in s)))
           ∧ □: (∃s: you go somewhere in s)
      entails: ◇(you go to the North End)

Conclusion

- Modalized suspension of negative entailments
  - Argument for a distributed analysis
  - Proposal: An exhaustification analysis of exceptives

- Sufficiency modal constructions, Missing presuppositions
  - Argument for sensitivity to contextual relevance
  - Proposal: Pruning of alternatives in exhaustification

- Clausal exceptives, parallelism, and NPIs
  - Argument for a distributed analysis of clausal exceptives
  - Proposal: A natural extension of the exhaustification analysis

Some to-dos

- Comparison with alternative distributed analyses

- Fully pronounced exceptives clauses (cf. Potsdam & Polinsky 2019)

- Behavior of indefinites with exceptives (cf. Gajewski 2008)

  (54) I don't think Dina read any/#a/#some book except War & Peace.

  (55) a. #Dina read a/some book except War & Peace.
       b. #Every student read a/some book except War & Peace.

- Intervention between *exh* and the exceptive (cf. Chierchia 2013)

  (56) You are allowed/required to read every book but War & Peace.

  (57) Every student read every book but War & Peace.

Outlook

(58) Only Dina arrived ...   (Ippolito 2007)

    #... and even she didn't!

     ... and perhaps even she did!

(59) To get good cheese, you only need to go to the North End.

<div align="right">(von Fintel & Iatridou 2007)</div>

These patterns may be accounted for if

- we treat *only* as an exceptive (von Fintel & Iatridou 2007),
- adopt an exhaustification analysis of the exceptives, and
- admit the deletion alternative to the focused associate of *only*.

<div align="right">(but see Alonso-Ovalle & Hirsch *to appear*)</div>

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