An unexceptional semantics for expressions of exception[1]

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1. Introduction

- Expressions of exception:

(1) **Anatomy of an exceptive**
a. Every student but John came.
b. quantifier associate (*every*) + exceptive marker (*but*) + complement/thing excepted (*John*)

(2) **Different exceptive markers**
a. I talked to every student *other than* John.
b. I talked to every student *except for* John.
c. I talked to every student *besides* John.

(3) **Different positions**
a. *Except for John* every student came. (initial)
b. Every student *except for John* came. (connected/within DP)
c. Every student came *except for John*. (final)

- **Primary focus:** *but* when it occurs as a connected exceptive, as in (1a).

- **Three puzzles**

(4) **The entailment puzzle:** (1a) has the entailments in (4a-b).

a. $\forall x$ [student(x) & $x \neq$ John $\rightarrow$ came(x)] *(otherness entailment)*

b. $\neg$came(John) *(negative entailment)*

(5) **The distribution puzzle:** *but* can generally occur only with universal quantifiers.

a. *Some student but John came.
b. *Three students but John came.
c. *Most students but John came.

(6) **The non-locality puzzle:** the distribution of *but* is affected by non-local operators.

a. John didn't talk to anyone but Mary. (occurs with $\exists$-*any* under negation; Gajewski 2008)

Negating an existential yields a universal meaning, but how does *but* "see" the universal?

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- Gajewski (2008): framework to resolve all three puzzles, developing ideas in von Fintel (1993).

> **Gajewski's framework**
>
> **1:** *But* denotes set subtraction — i.e. in (1a), subtracts *John* from {x : x is a student}.
>
> **2:** *But* activates alternatives to its complement.
>
> **3:** *But* obligatorily co-occurs with a higher strengthening operator.
> (cf. Spector 2014 on *soit_soit*; Chierchia 2006, 2013 on NPIs; Ahn at this conference on *either*; among others)

The entailment puzzle: subtraction introduces the entailment in (4a); strengthening (4b).

The distribution puzzle: strengthening results in a problematic meaning with non-universals.

The non-locality puzzle: the strengthening operator can scope non-locally to *but*.

- **Plan for this talk:**

– In Gajewski's framework, exceptives become a testing ground for two general questions:

> **Q1:** How are alternatives computed?
>
> **Q2:** What is the inventory of grammatical strengtheners?

Goal #1: To take up these questions, and argue that the analysis of exceptives is compatible with traditional methods of alternative computation and strengthening:

> **The unexceptional hypothesis**
>
> **Q1:** F-marked constituents are replaced with elements of like semantic type (Rooth 1985, 1992).
>
> **Q2:** The strengthening operator is Exh from e.g. Chierchia (2006), Fox (2007).

This represents a simplification of Gajewki's own implementation of the framework.

– **Goal #2:** To extend the coverage of the framework to account for a further layer of the distribution puzzle: *but* can occur with some universal quantifiers (*every*, *all*), but not all (*all six*, *both*).

– *(Goal #3: To account for differences between but and other than; see Appendix.)*

2. Implementing the framework: the unexceptional hypothesis

- Gajewski considers the unexceptional hypothesis, but rejects it, since it faces a problem in accounting for the distribution puzzle.

> **Gajewski (2008):** a different strengthener
>
> *But* is strengthened by an operator LEAST whose denotation requires structured meanings.
>
> **Gajewski (2013):** a different algorithm for alternative computation
>
> *But* activates alternatives to the plain meaning of its complement, and "second order" alternatives to the plain meaning and its alternatives.

- I review the implementation of the unexceptional hypothesis (this section, after Gajewski's 2013 "first attempt" analysis, with minor differences) — and propose a resolution to the problem it faces with the distribution puzzle (next section).

Step 1: 'but' denotes subtraction

- *But* denotes a form of set subtraction (Hoeksema e.g. 1987, von Fintel 1993, i.a.), and the meaning of *but* itself includes no additional components (Gajewski 2008, 2013).

- Formulation of set subtraction (cf. Thomas 2011 on *other*):

  (7) $[[\text{but}]] = \lambda x . \lambda y . \neg \text{Overlap}(x, y)$ where $\text{Overlap}(x, y)$ iff $\exists z [z \leq x \ \& \ z \leq y]$

- Composition of *every student but John*:

  (8) **Structure for the exceptive phrase**
  [every [student but John]]

  (9) $[[\text{but John}]] = \lambda y . \neg \text{Overlap}(\text{John}, y)$

  (The set of atomic and plural individuals that do not include John.)

  (10) $[[\text{student but John}]]^w = \lambda y .$ y is a student in w & $\neg \text{Overlap}(\text{John}, y)$[2]

  (The set of students who are not John; composition is by Predicate Modification.)

- Meaning of *every student but John came*:

  (11) $[[\text{every student but John came}]] = \lambda w . \forall x [(\text{student}(x)(w) \ \& \ x \neq \text{John}) \rightarrow \text{came}(x)(w)]$

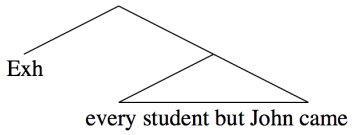
  (Proposition that every student who is not John came.)

[2] In addition to the inferences in (4), (1a) licenses an inference that John is a student. I will take this to be a result of the Gricean Maxim of Manner: if *John* is not a student, subtraction is vacuous, and the exceptive phrase is unnecessarily circuitous.

Step 2: exhaustification

- *But* obligatorily co-occurs with Exh (featural requirement), which takes propositional scope.

(12) **Structure revised from (8)**



- Exh has two arguments: proposition, p ('prejacent'); set of alternatives to the prejacent, ALT:

(13) **Exh as defined in Fox (2007)**
$[[\text{Exh}]](\text{ALT}_{<st,t>})(p_{st})(w) \Leftrightarrow p(w) \,\&\, \forall q\, [q \in \text{IE}(p, \text{ALT}) \rightarrow \neg q(w)]$

- Two meaning components:

1. Exh asserts that its prejacent is true: p(w).

2. Exh asserts that elements in the set of alternatives to the prejacent are false, provided that they are innocently excludable: $\forall q\, [q \in \text{IE}(p, \text{ALT}) \rightarrow \neg q(w)]$.

- Innocent exclusion: Exh does not create contradictions (almost, see Gajewski 2009):

(14) **Defining innocent exclusion** (N.B. Gajewski 2008, 2013 does not assume innocent exclusion)
a. $\text{IE}(p, \text{ALT}) = \cap\{\text{ALT}' \subseteq \text{ALT} : \text{ALT}' \text{ is a maximal set in A s.t. ALT}'^{\neg} \cup \{p\} \text{ is consistent}\}$
b. $\text{ALT}'^{\neg} = \{\neg p' : p' \in \text{ALT}'\}$

Step 3: Roothian (1985, 1992) alternative computation

- Focus structure:

(15) **The complement of *but* is obligatorily F-marked** (Gajewski 2008)
Every student but $[\text{John}]_F$ came.

- Algorithm for alternative computation:

(16) **Replace the F-marked constituent with other elements of type e**
ALT = { every student but **John** came,
every student but **Bill** came,
every student but **John and Bill** came,
(every student but **the table** came), …}

Step 4: Exhaustification resolves the entailment puzzle

- Recall desideratum:

(17) Exh[every student but $John_F$ came]

a. $\forall x$ [student(x) & $x \neq$ John $\rightarrow$ came(x)] *(otherness entailment)*

b. $\neg$came(John) *(negative entailment)*

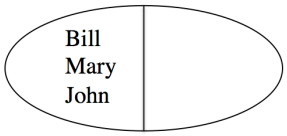
Otherness entailment

- Exh asserts its prejacent, which introduces the otherness entailment.

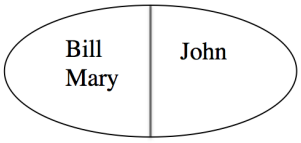
(18) [[every student but John came]](w) $\Leftrightarrow$ $\forall x$ [(student(x)(w) & $x \neq$ John) $\rightarrow$ came(x)(w)]

- Two scenarios compatible with the prejacent:

(19) John came



(20) John did not come.



Negative entailment

- Innocently excludable alternatives to the prejacent include (21a); Exh asserts that (21a) is false.

(21) {(a) every student but Bill came} $\subset$ ALT

- It follows from the prejacent and the falsity of (21) that John did not come.

Every non-John student came	(18)
<u>It is not the case that every non-Bill student came, i.e. some non-Bill student didn't come</u>	($\neg$21a)
John is the one student who did not come — scenario in (20b).	

3. The distribution puzzle: why is 'but' restricted to occur with universals?

- Focus on (22): *but* cannot occur with existentials:

(22) a. *Some student but John came.
b. Exh[some student but $John_F$ came]

- **Proposal:** (22) is ruled out as a conspiracy of pragmatic constraints.

Step 1: no vacuous exhaustification

- Consider (22) in a scenario where there are more than two students: three students (John, Mary, Bill).

- Exh asserts the truth of its prejacent, which introduces an entailment that some student ≠ John came:

(23) a. [[some student but John came]](w) ⇔ ∃x [(student(x)(w) & x ≠ John) & came(x)(w)]
b. ⇒ came(Mary)(w) or came(Bill)(w)

- Exh would negate alternatives — but none are innocently excludable:

(24) **Consider two alternatives to the prejacent**
a. Some student but Bill came.
b. Some student but Mary came.

(25) **If Exh negates (24a)**
¬[some student but Bill came] ⇒ ¬came(Mary)(w) & ¬came(John)(w)

(26) **If Exh negates (24b)**
¬[some student but Mary came] ⇒ ¬came(Bill)(w) & ¬came(John)(w)

(27) **Given the prejacent in (23), (24a) and (24b) cannot be consistently negated.**
a. (23) ⇒ **came(Mary)(w) or came(Bill)(w)**
b. ¬(24a) ⇒ **¬ came(Mary)(w)** & ¬came(John)(w)
c. ¬(24b) ⇒ **¬ came(Bill)(w)** & ¬came(John)(w)
⇝ (24a) and (24b) are not innocently excludable.

(28) **The same reasoning extends to every other alternative** (that is not contradictory[3])
No (non-contradictory) alternatives are innocently excludable.

[3] There is one alternative that is innocently excludable: the alternative which subtracts all three students from *students* (*Some student but John, Mary, and Bill came.)*. However, because this alternative is trivially false in the context, I take it that Exh[some student – Bill came] is still contextually equivalent to [some student – Bill came], per (30) below. Similar issues arise with *three* and *most*.

- A pragmatic constraint restricting the distribution of Exh:

> **NON-VACUITY** (cf. Fox & Spector 2009, Spector 2014)
> Exh[A] is infelicitous if Exh[A] is contextually equivalent to A.

– Under what conditions is NON-VACUITY violated?

(29) $[[\text{Exh}]](\text{ALT})(p)(w) \Leftrightarrow p(w) \,\&\, \forall q\, [q \in \text{IE}(p, \text{ALT}) \rightarrow \neg q(w)]$
$\rightsquigarrow$ If no alternatives are IE, the second conjunct is idle, and Exh simply asserts its prejacent.
$\rightsquigarrow$ NON-VACUITY is then violated.

- So, (22) in the scenario with three students is ruled out by NON-VACUITY:

(30) **In the scenario with three students:**
a. There are no (non-contradictory) innocently excludable alternatives.
b. So, Exh[some student but John came] $\Leftrightarrow_C$ some student but John came

Step 2: the problem (Gajewski 2008, 2013)

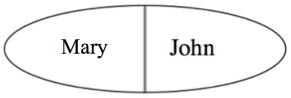
- There is a scenario in which Exh in (22) applies non-vacuously – a scenario with only two students:

(31) **Recall (22):**
Exh[some student but John came]

- Assume scenario: two students (John, Mary).

(32) **Only one alternatives to the prejacent in (22)** (that is not trivially false)
Some student but Mary came.

(33) **Negating (32) is consistent with the prejacent**
Suppose: Mary came, and John didn't.
Then, prejacent is true; (32) is false.



(34) **So, (32) is innocently excludable**
$\rightsquigarrow$ Exh is not vacuous.

- Why is (22) not acceptable in a scenario where there are only students?

- Gajewski (2008, 2013) arrived at this problem, and took it as motivation to pursue non-traditional modes of alternative computation (2013) and strengthening (2008).

Step 3: Re-framing the problem (Gajewski 2008)

- Continue to use as the test case:

  (35) Exh[some student but John came]

- In the problematic scenario, subtraction in the prejacent yields a singleton restrictor for *some*:

  (36) **Recall scenario**
  Two students: John, Mary.

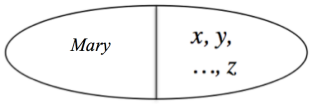
  (37) ***Some* has a singleton restrictor in the prejacent**
  a. {x : x is a student} – {John} = {John, Mary} – {John} = {Mary}
  b. |{Mary}| = 1

- This generalizes:

  (38) **Schema**
  a. Some student but *x, y, …, z* came.
  b. Exh[some student but *x, y, …, z* came]
  c. Context: there is one student (Mary) in addition to *x*, *y*, …, *z*.

  (39) **One alternative to the prejacent** (that is not contradictory)
  Some student but Mary came.

  (40) **The alternative in (39) is innocently excludable**
  a. Suppose: Mary came; x, y, …, z did not come.
  b. Then, the prejacent in (38a) is true; (39) is false.



  (41) ***Some* has a singleton restrictor in the prejacent**
  a. {x : x is a student} – {x, y, …, z} = {Mary, x, y, …, z} – {x, y, …, z} = {Mary}
  b. |{Mary}| = 1

The problem, generalized[4]**:**

Some A but B came is not ruled out by NON-VACUITY in a context where |A – B| = 1.

- I propose a resolution to the problem …

[4] As noted above, Gajewski arrived at this problem. Gajewski assumes a version of Exh which does not have innocent exclusion, and thus is not immune to contradictions. So, the problem appeared for Gajewski in a slightly different way. He found that *Some A but B* comes out as a contradiction except in a scenario where |A – B| = 1, which made it impossible to rule the sentence as ungrammatical due to it being L-analytic (Gajewski 2002), since a sentence must be always false to qualify as L-analytic.

Step 4: Solving the problem

- It is known independently that *some* resists quantifying over a singleton domain:

(42) ***Some* with a singleton restrictor**
a. #A father of the victim testified. (Heim 1991)
b. #A tallest student in the class got an A.

(43) **Though the data are more nuanced** (Heim, cf. Schwarzschild 2002)
John caught a big bass with purple scales.
⇝ Felicitous even if the speaker knows there is only one such bass in the lake.

- A pragmatic constraint restricting existential quantification:

> **ANTI-SINGLETON** *(effects similar to Maximize Presupposition[5])*
>
> Existential quantification is infelicitous when the speaker and hearer can know that the restrictor of the existential is necessarily a singleton without knowing the extension of the restricting NP or the conversationally determined domain of quantification.

- ANTI-SINGLETON rules out *but* with existentials:

(44) a. Some A but B came.
b. Exh[some A but B came]

> **A conspiracy of constraints**
>
> NON-VACUITY rules out (44) in all contexts except one where |A – B| = 1.
>
> ⇒ given NON-VACUITY, the speaker/hearer can know that the restrictor of *some* in the prejacent in (44) is necessarily a singleton without knowing the extension of A or anything about the context.
>
> ⇒ ANTI-SINGLETON applies to rule out (44) entirely.

Extension to numerals

(45) ***Three*[6]**
a. *Three students but John came.
b. Exh[three students but John came]

[5] The effects of this constraint are in general similar to those of Heim's (1991) Maximize Presupposition. Heim suggests that *some* competes with *the*, which carries a uniqueness presupposition. If the uniqueness presupposition is satisfied, Maximize Presupposition requires use of *the*; *some* can thus occur only if the uniqueness presupposition is not satisfied, deriving the result that *some* resists quantifying over a singleton domain. Here, I opt for ANTI-SINGLETON since the application of Maximize Presupposition with exceptive constructions is not clear, as *but* cannot occur grammatically with *the* (**The student but John came.*). It may not be necessary for the competition between *some* and *the* that *the* be grammatical, but the ANTI-SINGLETON formulation makes it possible to remain neutral on this issue.
[6] The reasoning provided here also extends to *exactly three*.

(46) **Analysis: ∃ quantification over three-membered pluralities**
a. [∃ [three students but John]] [came]
b. [[students but John]] = λx . ∀y[y $\leq_{AT}$ x → student(y)] & ¬Overlap(x, John)
c. [[three]] = λx . #(x) = 3
d. [[three students but John]] = λx . #(x)=3 & ∀y[y $\leq_{AT}$ x → student(y)] & ¬overlap(x, John)

(47) **Prediction (not proven)**
(45) violates NON-VACUITY in all contexts except one.
⇝ Relevant context: exactly four students (John, Mary, Bill, Sue)

(48) **In a context with exactly four students, ∃ has a singleton restrictor**
a. {John, Mary, Bill, Sue} – {John} = {Mary, Bill, Sue}
b. [[three student but John]] characterizes the singleton set {Mary+Bill+Sue}
⇝ ∃ in the prejacent in (45) has a singleton restrictor.

(49) **The same conspiracy of pragmatic constraints**
NON-VACUITY rules out (45) except in a scenario where ∃ has a singleton restrictor.
⇒ (45) violates ANTI-SINGLETON, and is thus ruled out.

Extension to 'most':

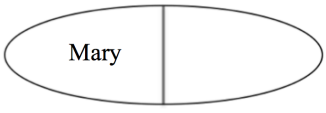
- Although ANTI-SINGLETON is formulated above only for existential quantification, the logic extends.

(50) ***Most***
a. *Most students but John came.
b. Exh[most students but John came]

(51) **Predictions (not proven)**
(50) violates NON-VACUITY in all contexts except one.
⇝ Relevant context: two students (John, Mary).

(52) **Subtraction in the prejacent yields a singleton restrictor for *most* in (51b)**
{x : x is a student} – {John} = {John, Mary} – {John} = {Mary}

(53) ***Most* does not in general tolerate a singleton restrictor**
The scenario below cannot be described *'Most students came'*.



Conclusion:

Exceptives are compatible with traditional methods of alternative computation and strengthening: the unexceptional hypothesis can account for the entailment puzzle – and the distribution puzzle.

4. A further layer to the distribution puzzle: contrasts between universals

- *All six* and *both* are universal; however, *but* is ungrammatical with them — why?

(54) ***But* cannot occur with *all* when a numeral is present**
a. All the students but John came.
b. ?*All six students but John came.

(55) ***But* cannot occur with *both***
*Both students but John came.

- The present analysis offers an account of why *but* cannot occur with *all six* and *both*, once effects of presupposition projection are taken into account … [7]

- **Observe pattern:** *but* cannot occur with universals which introduce a presupposition about the cardinality of the domain over which they quantify.

(56) **Presupposition of *all six*: there are exactly six salient students**
$[[\text{all six}]] = \lambda f : 6!x\,[f(x)] \,.\, \lambda f' \,.\, \forall y\,[f(y) \rightarrow f'(y)]$

(57) **Diagnosing *all six* as a presupposition trigger**
a. All six students came. (⇝ there are exactly 6 salient students)
b. It's not the case that all six students came. (⇝ there are exactly 6 salient students)
c. Did all six students come? (⇝ there are exactly 6 salient students)

(58) **Presupposition of *both*: there are exactly two salient students**
$[[\text{both}]] = \lambda f : 2!x\,[f(x)] \,.\, \lambda f' \,.\, \forall y\,[f(y) \rightarrow f'(y)]$

- Taking *all six* as a test case, what is the presupposition of (59)?

(59) *All six students but John came.

(60) **Presupposition of the prejacent**
Exh[all six[students but John] [came]]
⇝ Presupposition of prejacent: there are exactly six students ≠ John (seven students total).

(61) **The presupposition trigger occurs in each alternative, e.g.**
a. <u>All six</u> students but Mary came.
b. <u>All six</u> students but John and Mary came.

How do presuppositions project out of alternatives?

Proposal: presuppositions project universally out of alternatives in (59).

[7] Previous suggestions rely on semantic (Hoeksema 1991, Lappin 1996), or pragmatic (Moltmann 1995) stipulations. Hoeksema e.g. introduces a stipulation which requires that *but* can only occur with quantifiers that are downward monotonic in their restrictor; *all six* and *both* are not (e.g. *All six students came. =/=> All six linguistics students came.*). Moltmann suggests a pragmatic restriction where "the badness of [(54b)] may be attributed to a pragmatic condition which prohibits entities which are explicitly mentioned as verifiers (at least in number) not to also be specified as exceptions in one and the same NP" (p. 228). It is not clear, however, how Moltmann's constraint could rule out the LF in (60) below, where *John* is subtracted from *students* before *all six* integrates, so *all six* introduces a presupposition that there are six students who are not John; John is not, then, included in the six students.

(62) **Presuppositions project universally out of alternatives with overt *only***
a. Of the five biggest cities in the USA, John only visited [NEW YORK]$_F$ again.
b. ALT = {p | x ∈ {NY, LA, Chicago, Houston, Philadelphia} [p = John visited x again]}
c. Presupposition: John has been to all five of the biggest cities in the USA before.

(63) Of the five biggest cities in the US, John has been to New York and Chicago. Of the five biggest cities, #John has only visited [NEW YORK]$_F$ AGAIN.

- Importantly, the presupposition of *all six* cannot easily be cancelled (i.e. locally accommodated):

(64) **Existence presupposition of *the*: can be cancelled ('soft')**
I won't talk to the king of France because France has no king. (e.g. Heim 1983)

(65) **Additive presupposition of *again*: difficult to cancel ('hard')**
#I won't go to New York again, because I haven't been to New York before.

(66) **Cardinality presupposition of *all six*: difficult to cancel (= hard)**
#I won't talk to all six of the students because there are seven students.

- So, the global presupposition in (59) is the conjunction of the presupposition of the prejacent and the presupposition of each alternative — and that conjunction is contradictory.

(67) **Recall: presupposition of the prejacent**
Exh[all six[students but **John**] [came]]
⇝ Presupposition of prejacent: there are exactly six students ≠ John (seven students total).

(68) **Projected presupposition of an e.g. alternative**
[all six[students but **John and Mary**]] [came]
⇝ Presupposition: there are exactly six students ≠ John, Mary (eight students total).

(69) **The presuppositions are mutually incompatible!**
There cannot be both exactly seven salient students (prejacent) and eight (alternative).

Result: (59) is ruled out due to necessary presupposition failure.

- A related puzzle:

(70) ***But* cannot occur with definites; focus here on plural definites** (cf. Brisson 2003)
a. *The students but John came.
b. Exh[[the [students – John]] [came]]

– Take into account homogeneity presupposition (which makes plural definites universal-like):

(71) **Homogeneity**
a. The students came. ⇝ all the students came
b. The students didn't come. ⇝ no students came

(72) **Homogeneity analyzed as a presupposition** (Löbner e.g. 2000, Schwarzschild 1993)
(71a/b) presuppose that either all the students came or none of the students came.

– Projection of homogeneity out of alternatives leads the sentence to be ruled out by NON-VACUITY:[8]

(73) **Prejacent in (70), given homogeneity**
a. All the students ≠ John came (homogeneity)
b. Suppose scenario: three students (John, Mary, Bill)
c. Prejacent in (70) ⇒ came(Mary) & came(Bill)

(74) **A negated alternative, assuming projection of homogeneity**
a. E.g. alternative: the students but Mary came
b. ¬(74a) = none of the students ≠ Mary came (homogeneity)
c. ¬(74a) ⇒ ¬came(Bill) & ¬came(John)

(75) **Given the prejacent, the alternative cannot be consistently negated**
The prejacent says that Bill came, and the negation of the alternative says that he did not.
The alternative is not innocently excludable—and no other alternative is either (not proven).
⇒ (70) is ruled out by NON-VACUITY!

Conclusion:

Contrasts in the acceptability of *but* within the class of universals receive a unified account once effects of presupposition are taken into account.

5. Conclusions

- Gajewski's framework implemented with the unexceptional hypothesis provides a unified account of:

1. **The entailments of grammatical sentences where *but* occurs with universals.**

   Otherness entailment: *but* denotes subtraction; negative entailment: obligatory exhaustification.

2. **Why *but* is restricted to occur with universals.**

   Exh is constrained by NON-VACUITY, which rules out *but* with non-universals except in singleton scenarios; the sentences are in turn ruled out by constraints against quantification over a singleton domain (ANTI-SINGLETON).

3. **Contrasts within the set of universals: *but* is grammatical with *every* and *all*, but not with *all six* and *both*, or with plural definites (interpreted similar to universals).**

   – The contrasts follow from presupposition, where presuppositions project out of alternatives.

   – With *all six*/*both*: contradictory presuppositions; ruled out by presupposition failure.

   – With plural definites: due to the homogeneity presupposition, no alternatives are innocently excludable; ruled out by NON-VACUITY.

[8] I am grateful to Irene Heim for pointing this out to me.

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Appendix: Comparing 'but' and 'other than'

- **Goal:** to make progress towards accounting for a broader range of exceptives by looking at the properties of exceptives formed with *other than*.

(76) ***Other than* as a connected exceptive**
Every student other than John came.

- Two differences from exceptives formed with *but*:

(77) **No negative entailment**
I'm not sure whether or not John came, but I know everyone other than/#but John came.

(78) ***Other than* is grammatical with non-universal quantifiers**
a. Some students other than John came.
b. Three students other than John came.

Proposal:

Other than has the same core meaning as *but* (i.e. subtraction), but is not obligatorily exhaustified.

(79) ***Other than* denotes subtraction** (e.g. Thomas 2011, Barros 2011, Oikonomou 2015)
[[other than]] = $\lambda x \, . \, \neg$Overlap(John, x)

(80) **Why no negative entailment?**
a. Every student other than John came.
b. Possible LF: [every [student – John]] [came] (no Exh!)
c. Truth-conditions: every student ≠ John came.
$\rightsquigarrow$ Without Exh, there is no entailment about John.

(81) **Why no distributional restriction?**
a. Some student other than John came.
b. Possible LF: [some [students – John]] [came] (no Exh!)
c. Truth-conditions: some students ≠ John came.
$\rightsquigarrow$ Without Exh, there is no violation of NON-VACUITY/conspiracy with ANTI-SINGLETON.

- Can *other than* never occur with Exh, or is exhaustification optional?

(82) **Are both LFs available, or only the one without Exh?**
a. Every student other than John came.
b. LF without Exh: every [student – John] [came]
c. LF with Exh: Exh[every [student – John] [came]]

(83) **Diagnostic: Hurford's (1974) Constraint**
a. A disjunction *S1 or S2* is infelicitous if either disjunct entails the other.
b. #John is from France, or he is from Paris.

(84) **Test sentence**
Either every student other than John came, or every student came including John.

– If S1 in (84) is parsed without Exh, S1 says that every student ≠ John came, which S2 entails.
If S1 is parsed with Exh, S1 also says that John did not come, which S2 does not entail.

– Because (84) is felicitous, the parse with Exh must be available. Otherwise, Hurford's Constraint would be violated and (84) would be infelicitous.

Updated proposal:

Other than has the same core meaning as *but*; it can, but does not obligatorily occur with Exh.

• **Prediction:** Hurford's Constraint violations should be detectable where Exh is blocked.

(85) ***Other than* with an existential**
a. Some students other than John came.
b. LF without Exh: some [student – John] [came]
c. An LF with Exh is ruled out by ANTI-VACUITY/ANTI-SINGLETON as with *but*.

(86) **Test sentence**
#Either some students other than John came, or John and some other students came.

– The only parse predicted for S1 in (85) is the LF without Exh. S1 then says that some student who is not John came, but does not have the negative entailment. S1 is thus entailed by S2.

– As predicted, (85) is infelicitous — ruled out by Hurford's Constraint.

• **Prediction:** if *other than* is forced to be exhaustified, it should pattern like *but*.

– Suggested test case: *other than* in initial position:

(87) **Initial *other than***
Other than John, every student came.

(88) **Initial *other than* has the negative entailment (like *but*)**
I'm not sure whether or not John came. #However, other than John, every student came.

(89) **Initial *other than* is restricted to universals (like *but*)**
*Other than John, some student came.

– **Idea:** when *other than* occurs in initial position, obligatory focus on its complement/exhaustification.

– Initial *other than* may have properties in common with initial frame setters (Krifka 2006):

(90) **Frame setters are focused**
a. In GERMANY, the prospects are good.
b. HEALTHWISE, John is fine.

(91) **Frame setters often invite exhaustive inferences**
a. In GERMANY, the prospects certainly are good.
b. Inference: prospects may not be good elsewhere.

Result:

Other than has the same core meaning as *but*.

Connected *other than* can, but does not obligatorily occur with Exh.

Initial *other than* does obligatorily co-occur with Exh.

- The exceptives discussed differ on a simple dimension: whether Exh is obligatory or optional.

	But	**Connected** ***other than***	**Initial** ***other than***
Negative entailment	✓	×	✓
Restricted to universals	✓	×	✓
Exh	Obligatory (featural requirement of *but*)	Optional	Obligatory