Exceptives and Exhaustification

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1. Introduction

The semantic contribution of exceptives like *except Dina* in *every student except Dina* appears at first glance to vary across their occurrences, as illustrated by the different exceptive inferences in (1)–(2). Moreover, exceptives are famously restricted in what environments they may occur, as illustrated by the contrast between acceptable (1)/(2) and unacceptable (3).

(1) Every student except Dina read 'War & Peace'.
Subtractive inference: ($\forall$x: x student $\wedge$ x$\neq$Dina $\rightarrow$ x read WP)
Exceptive inference: $\neg$(Dina read WP)

(2) No student except Dina read 'War & Peace'.
Subtractive inference: ($\neg\exists$x: x student $\wedge$ x$\neq$Dina $\wedge$ x read WP)
Exceptive inference: (Dina read WP)

(3) #Some student except Dina read 'War & Peace'.

This complex behavior has been insightfully captured by von Fintel (1993). He assigned the exceptive sentences the schematic meaning in (4), which is split into what may be called a subtractive and an exhaustive component. This characterization in one fell swoop captures both facets of the behavior of exceptives: the apparently varying meaning across their occurrences with universals and negative indefinites, (1)/(2), and their unacceptability in sentences like (3). We leave it to the reader to rehearse this (see von Fintel 1993 for a detailed derivation and a specific compositional implementation).

(4) $[\![\text{[[Det NP except XP] ZP]}]\!]^{g,w}$ =
$[\![\text{Det}]\!]^{g,w}([\![\text{NP}]\!]^{g,w} \backslash [\![\text{XP}]\!]^{g,w})([\![\text{ZP}]\!]^{g,w}) \wedge$ (subtractive component)
$\forall \text{S}\big([\![\text{Det}]\!]^{g,w}([\![\text{NP}]\!]^{g,w} \backslash \text{S})([\![\text{ZP}]\!]^{g,w}) \rightarrow [\![\text{ZP}]\!]^{g,w} \subseteq \text{S}\big)$ (exhaustive component)

One family of implementations of von Fintel's insight takes the semantic import of exceptives to come from two separate elements that may take split scope (henceforth, the distributed analyses). On one such implementation, these elements are a simple subtractive operator and an exhaustification operator (henceforth, the exhaustification analysis) (e.g., Gajewski 2013; Hirsch 2016; Crnič 2018). These two elements are then jointly responsible for the inferences and the restricted distribution of exceptives exemplified in (1)–(3). This paper aims at the following:

1. To further strenghten the case for the distributed analyses of exceptives by showing that their contribution <u>can</u> be systematically weaker than what is stated above. This observation is shown to follow straightforwardly from the exhaustification analysis.

2. To provide an argument that a specific type of distributed analysis is required also by the so-called clausal exceptives (see, e.g., Potsdam & Polinsky 2019; Vostrikova 2021 on clausal exceptives). A natural extension of the exhaustification analysis is then outlined that adequately captures the previous and new observations (in contrast to the existing theories).

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3. To hint at (i) how the analysis may be constrained in face of potential overgeneration (intervention), and (ii) at how the main conclusions of the paper can be transposed to *only*, which exhibits suggestively similar behavior to exceptives (esp., von Fintel & Iatridou 2007; Ippolito 2008).

2. Three observations

We present some observations that call into question the generality of the exceptive inferences as described in (1)–(2). They are derived in the subsequent section.

i. Modalized suspension. Consider the sequences in (5)–(6). They show that the exceptive inference (respectively, that Dina did not arrive and that Dina arrived) can be suspended by modalized continuations, (5-a)–(6-a), but not by non-modalized continuations, (5-b)–(6-b).

(5) Every student except Dina arrived ...
 a. ... and perhaps even she did!
 b. #... and even she did!

(6) No student except Dina arrived ...
 a. ... and perhaps even she didn't!
 b. #... and even she didn't!

In contrast, such a suspension is not possible with subtractive inferences, as shown by the infelicitous sequences in (7)–(8). In these examples, the continuations are meant to suspend the subtractive inference that the quantification described is true once one removes the excepted element from the domain of the quantification (respectively, that every student who is not Dina arrived and that no student who is not Dina arrived). Rather than suspensions, the continuations yield contradictions.

(7) Every student except Dina arrived ...
 a. #... and perhaps (even) some other student didn't (either).
 b. #... and (even) some other student didn't (either).

(8) No student except Dina arrived ...
 a. #... and perhaps (even) some other student did (too).
 b. #... and (even) some other student did (too).

ii. Sufficiency Modal Construction. The sentence in (9) contains an NPI that is modified by an exceptive. As shown by Gajewski (2008), this is unexpected on the schematic truth-conditions in (4), and already calls for a distributed analysis. More importantly for the purpose of this paper, however, von Fintel & Iatridou 2007 observe that the sentence fails to convey the exceptive inference that one might expect given the renditions of exceptive inferences above, namely, that to get good cheese, you need to go to the North End. Rather, we obtain a weaker inference: to get good cheese, it is enough that you go to the North End, as provided in (10).

(9) To get good cheese, you don't need to go anywhere except to the North End.

(10) a. $\not\Rightarrow$ To get good cheese, you need to go to the North End.
 b. $\Rightarrow$ To get good cheese, it is enough to go to the North End.

iii. Missing presuppositions. Similarly to the preceding example, there are further occurrences of exceptives that may be accompanied by weaker exceptive inferences than what one would expect given the above discussion. For example, sentence (11) fails to convey an exceptive inference pertaining to Dina, namely, that I am not surprised that Dina arrived. This is supported by the felicitous continuations of the sentence provided in (12), which should be incompatible with (me learning about) Dina arriving and thus me not being surprised that Dina arrived.

(11) I am surprised that any student except Dina arrived.
 $\not\Rightarrow$ I am not surprised that Dina arrived.

(12) a. ... and I am surprised that Dina didn't arrive.
b. ... and I don't know whether Dina arrived.

Nonetheless, the sentence does seem to convey that Dina arriving was compatible with my expectations – or perhaps even entailed by them. (The parenthesized material in (13) is meant to indicate the weaker reading involving compatibility with my expectations.)

(13) (11) $\Rightarrow$ I expect that Dina (may have) arrived.

We now turn to the derivation of these facts on the exhaustification analysis.

3. The exhaustification analysis

The exhaustification analysis of exceptives takes the exhaustive component of exceptive sentences to be leached from the exceptive itself (see Gajewski 2013; Hirsch 2016; Crnič 2018 for details). The meaning of *except* is merely subtractive and is provided in (14): it takes a predicate as its first argument (that is, the set of individuals corresponding to the denotation of the excepted expression) and subtracts it from its second argument, another predicate (the set of individuals denoted by the nominal phrase). The exhaustivity is encoded in the operator *exh*: the operator combines with a sentence and conveys that all relevant formal alternatives to the sentence that can be excluded are excluded (see Fox 2007; Bar-Lev & Fox 2020 for details and a more sophisticated treatment).

(14) $[\![\text{except}]\!]^{g,w}(\text{Q}_{(et)})(\text{P}_{(et)}) = \lambda\text{x. P(x)} \wedge \neg\text{Q(x)}$

(15) a. $[\![\text{exh}_R \text{ S}]\!]^{g,w} = 1 \text{ iff } [\![\text{S}]\!]^{g,w} \wedge \forall\text{S'} \in \text{Excl(S)} \cap \text{R}: \neg[\![\text{S'}]\!]^{g,w}$
b. $\text{Excl(S)} = \bigcap\{\text{M} \mid \text{M is a maximal subset of ALT(S)}$
$\text{such that } \{\neg[\![\text{S'}]\!]^{g,w} \mid \text{S'}\in\text{M}\} \cup \{[\![\text{S}]\!]^{g,w}\} \text{ is consistent}\}$

Finally, following Katzir's (2007) general proposal about alternatives, we assume that the alternatives to exceptive sentences consist of their counterparts in which the complement of *except* is replaced by its alternatives, and their counterpart in which the exceptive is altogether deleted. (For brevity, we ignore the alternatives induced by the other expressions in the sentence, though see Sect. 5.1.)

(16) ALT(Every student except Dina arrived) =
$\{\text{Every student arrived, Every student except X arrived} \mid [\![\text{X}]\!]^{g,w} \in \text{D}_e\}$

Which of these alternatives are relevant is determined by the context and is subject to independent constraints on relevance (e.g., Fox & Katzir 2011; Crnič et al. 2015; Bar-Lev 2018).

With these preliminaries in place, we can now explain the observations from the preceding sections. Our account of them builds on two planks:

- The predicted ability of *exh* and the quantifier hosting the exceptive to take split scope (Sect. 3.1).
- The assumption that what alternatives are relevant can be restricted by the context (Sects. 3.2–3.3).

3.1. Modalized suspension

The exhaustification analysis has to initially account for three facts: (i) the exceptive inferences exemplified in (1)–(2), (ii) the suspendability of these inferences with modalized but not with non-modalized continuations, exemplified in (5)–(6), and (iii) the unsuspendability of the subtractive inferences, exemplified in (7)–(8). (See Gajewski 2013; Hirsch 2016; Crnič 2018 for a more in-depth discussion of the distribution of exceptive sentences.)

Ad (i). The structures of (1)–(2) are provided in (17)–(18), respectively: *exh* attaches at the matrix level, while *except* occurs within the quantifier phrases (see Penka 2011 on negative indefinites).

(17) [exh$_R$ [every [student except Dina] arrived]]

(18) [exh$_R$ [neg [a [student except Dina] arrived]]]

The meanings of these structures are provided in (19)–(20). They entail the exceptive inferences described in (1)–(2): respectively, that Dina did not and that she did arrive. (It follows on pragmatic grounds that Dina must be a student since otherwise the exceptive would be redundant.)

(19) $(\forall$x: x student $\wedge$ x$\neq$Dina $\rightarrow$ x arrived) $\wedge$ ($\neg\forall$x: x student $\rightarrow$ x arrived)

(20) ($\neg\exists$x: x student $\wedge$ x$\neq$Dina $\wedge$ x arrived) $\wedge$ ($\exists$x: x student $\wedge$ x arrived)

Ad (ii) and (iii). Since the exhaustive and the subtraction component of exceptives were teased apart into separate morphemes, one of which may in principle attach to any clausal site, we expect them to be able to take split scope, all else equal. We put forward that this is the case in (5)–(6). Specifically, following Meyer (2013); Fox (2016), among others, we assume that *exh* may take scope above a grammatically represented speech act operator ASSERT.

(21) [exh$_R$ [ASSERT [every [student except Dina] arrived]]

(22) [exh$_R$ [ASSERT [neg [a [student except Dina] arrived]]]

The interpretations of the structures in (21)-(22) are provided in (23)-(24), respectively, where we assume that all formal alternatives are relevant and where ASSERT is taken to denote a universal modal that quantifies over worlds compatible with what the speaker believes ($\Box_{sp}$).

(23) $\Box_{sp}$($\forall$x: x student $\wedge$ x$\neq$Dina $\rightarrow$ x arrived) $\wedge$
$\neg\Box_{sp}$($\forall$x: x student $\rightarrow$ x arrived) $\wedge$ $\forall$z$\neq$Dina: $\neg\Box_{sp}$($\forall$x: x student $\wedge$ x$\neq$z $\rightarrow$ x arrived)

(24) $\Box_{sp}$($\neg\exists$x: x student $\wedge$ x$\neq$Dina $\wedge$ x arrived) $\wedge$
$\neg\Box_{sp}$($\neg\exists$x: x student $\wedge$ x arrived) $\wedge$ $\forall$z$\neq$Dina: $\neg\Box_{sp}$($\neg\exists$x: x student $\wedge$ x$\neq$z $\wedge$ x arrived)

The meaning in (23) entails that it is compatible with what the speaker believes that Dina did not arrive, while (24) entails that it is compatible with it that she did arrive. Now, these meanings are compatible with the modalized continuations of the sentence in (5)–(6). However, they are incompatible with the non-modalized continuations. Finally, since the subtraction inferences must hold in all the worlds compatible with what the speaker believes (see the first lines of (23)-(24)), they cannot be suspended.

Finally, how does our result under (i) follow on the assumption of ASSERT and *exh* taking scope over it? The sentences in which *exh* occurs in the scope of ASSERT, (25), generate the inferences computed in part (i). The meaning of (25) is computed in (26). (For reasons of brevity, we do not represent ASSERT in the following representations where *exh* takes scope below it.)

(25) [ASSERT [exh$_R$ [neg [a [student except Dina] arrived]]]

(26) $\Box_{sp}\big($($\neg\exists$x: x student $\wedge$ x$\neq$Dina $\wedge$ x arrived) $\wedge$ ($\exists$x: x student $\wedge$ x arrived)$\big)$

3.2. Sufficiency modal constructions

In sentence (9), repeated below, *exh* must take scope above negation, while the NPI *anywere except the North End* must take scope below it, as provided in (27). If this were not the case, the exceptive would not be admitted as acceptable (as carefully discussed for related examples in Gajewski 2008, 2013).

(9) To get good cheese, you don't need to go anywhere except to the North End.

(27) [exh$_R$ [neg [$\Box$ [anywhere except NE$_x$ you go x]]]]

If we assume that all the alternatives to the exceptives are relevant, we obtain the meaning along the lines of (28), where we assume that there are only three locations in the domain of the NPI: M(arketplace), N(orth End) and O(ttolenghi's).

(28) If all alternatives are relevant: $\neg\Box$(M $\vee$ O) $\wedge$ $\Box$(M $\vee$ N) $\wedge$ $\Box$(O $\vee$ N) $\wedge$ $\Box$N

While this may be a possible reading of the sentence, it does not correspond to the preferred sufficiency reading described above. This weaker reading can be derived on the assumption that only the alternative based on the deletion of the exceptive is relevant, which conveys that you do not need to go anywhere, that is, $\neg\Box(M \vee N \vee O)$. In this case, we obtain the exhaustified meaning in (29).

(29) If only the deletion alternative is relevant: $\neg\Box(M \vee O) \wedge \Box(M \vee N \vee O)$

This meaning entails that if you go to neither M or O, then you must go to N. And since there are worlds in which you go neither to M or O (as asserted), it is possible that you go to N to get good cheese. This is the basis of the sufficiency modal reading; see von Fintel & Iatridou (2007: Sect. 4) for further intricacies in fully deriving this reading.

(30) (29) $\Rightarrow \neg\Box(M \vee O) \wedge \Diamond N$

3.3. Missing presuppositions

The logic behind the weak exceptive inferences of sentences like (11), repeated below, is the same as the one employed in the preceding subsection. First: the sentence in (11) must be assigned the structure in (31) to obtain a licit interpretation.

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

(31) [exh$_R$ [I am surprised that any [student except Dina] arrived]]

Second: if we assume that only the deletion alternative is relevant, we obtain the meaning in (32). The presupposition of the negated alternative (that a student arrived) is thereby entailed by the presupposition of the asserted sister of *exh* (that a student other than Dina arrived) – thus, no additional presuppositions are induced due to the exhaustification.

(32) $\text{SURPRISED}_I(\hat{}\exists x\text{: x student} \wedge x \neq \text{Dina} \wedge \text{x arrived}) \wedge \neg\text{SURPRISED}_I(\hat{}\exists x\text{: x student} \wedge \text{x arrived})$

Now, the assertive meaning of the exhaustified sentence is that I did not expect some student other than Dina to come, and that I expected some student to come, (33). This entails that it was compatible with my expectations that Dina arrived. (If the modal were neg-raising, we would obtain a stronger reading, namely, that I expected that Dina arrived.)

(33) $\neg\Box_E(\hat{}\exists x\text{: x student} \wedge x \neq \text{Dina} \wedge \text{x arrived}) \wedge \Box_E(\hat{}\exists x\text{: x student} \wedge \text{x arrived})$
$\Rightarrow \Diamond_E(\text{Dina arrived})$

Summary. This concludes our derivation of the three empirical observations about weak exceptive inferences. The derivation relied on an interaction of the mechanisms involved in the interpretation of the exceptives, the structures in which they occur, and the context. More specifically, we accounted for the observations by relying on the two features of the exhaustification analysis:

- The exhaustification operator may take a different scope than the quantifier hosting the exceptive.
- The context may constrain what alternatives are relevant (what exceptive inferences are generated).

4. Clausal exceptives and exhaustification

Several arguments have been put forward recently that at least some exceptives, perhaps even those that were studied above, have an underlying clausal structure, with their distribution and their semantic contribution being the same as those discussed above (cf. Potsdam & Polinsky 2019; Vostrikova 2021). For example, on this view, the exceptive in a sentence like (34) has a full clausal structure: there is movement of the PP out of a clausal constituent within the exceptive phrase, which is subsequently deleted. We do not introduce any new arguments for the clausal structures of exceptives, and take the existing arguments for such structures at face value.

(34) I am surprised that Dina danced with any student [except with Tal <...>].

Where does the exceptive phrase attach? And what is the precise structure of the elided constituent? We provide an argument that the answer to the first question should be different than usually assumed, and that the answer to the second need not postulate an optional covert negation operator in some elided constituents (*contra* Potsdam & Polinsky 2019; Vostrikova 2021). We sketch a proposal that conservatively extends the exhaustification analysis and that satisfies the desiderata brought up here (see Vostrikova 2021 for the many intricate issues left aside in this paper).

4.1. The argument

By zooming in on the behavior of exceptives with NPIs, we argue that the attachment site for the exceptive phrase is in the embedded clause in (34). The argument is based on two assumptions: that NPIs must occur at LF in a constituent that is DE with respect to them, (35) (e.g., Crnič 2019 for a recent review), and that parallelism is necessary for ellipsis licensing, (36) (e.g., Rooth 1992; Fox 2000).

So what is the structure of the sentence in (34), where the exceptive phrase occurs with a clause containing an NPI? (33) and (34) restrict our options. First: The NPI must occur in the scope of *surprise* due to the NPI Licensing Condition. Second: Given the Parallelism Condition, the first fact conditions the structure of the elided constituent, which is provided in (35): only the material that parallels the material in the embedded clause in the antencedent sentence can be elided – specifically, scoping the PP *with Tal* out of the embedded clause in the exceptive phrase would lead to a violation of parallelism. Finally, we assume that the attachment site of the exceptive phrase is below *surprise* for semantic reasons that will become clear shortly.

(35) I am surprised $\Big[\underbrace{\text{[[with any boy]}_z \text{ [Dina danced z]]}}_{NPI\ Licensing} \text{ [except } \underbrace{\text{[[with Tal}_F]_z \text{ [Dina danced z]]]}}_{Parallelism}\Big]$

If (35) represents the structure of the sentence in (34), what is the contribution of *except* so that we obtain, first, the correct exceptive and subtractive inferences as well as, second, its limited distribution?

4.2. The extension

In extending the exhaustification analysis of exceptives from the predicate to the propositional level, we are faced with several choice points, in particular in relation to how to define subtraction (see, e.g., Yablo 2014 for an extensive discussion of logical subtraction). We opt here for perhaps the most conservative extension. We switch to situation semantics (which was avoided in the preceding section for reasons of simplicity), and make one addition to the exhaustification analysis from the preceding section: we introduce an exceptive head that combines with predicates of situations, provided in **??**, rather than with predicates of individuals, provided in (14). As before, the exhaustivity is induced by *exh*, and the alternatives are obtained by replacing the pronounced element in the sister of *except* with its alternatives and by deleting the exceptive phrase.

(36) $[\![\text{except}]\!]^{g,w}(\text{q}_{\langle st\rangle})(\text{p}_{\langle st\rangle}) = \lambda\text{s. p(s)} \wedge \neg\text{q(s)}$

Let us now check how this extension captures the above data.

Negative indefinites. Our starting point will be a simpler variant of the example in (34)/(35), provided in (37). We hypothesize that the exceptive phrase in (37) contains a clause that has undergone ellipsis.

(37) No student arrived except Dina.

The sentence may be assigned the structure in (38): the exceptive phrase combines in the scope of negation with a sentence that contains an existential quantifier; *exh* attaches at the matrix level. (What is elided in the exceptive phrase is the TP out of which the subject moves. For brevity, we do not represent this fully in the following.)

(38) [exh$_R$ [neg [a student arrived] [except Dina$_F$ arrived]]]

The interpretation of the sister of *exh* is provided in (39): every situation is such that no student arrived in it or Dina did (see, e.g., Schein 2019 for a more sophisticated treatment of negation).

(39) $[\![$[neg [a student arrived] [except Dina$_F$ arrived]]$]\!]^{g,w}$ = 1
$\neg\exists$s: ($\exists$x: x student $\wedge$ x arrived in s) $\wedge$ $\neg$(Dina arrived in s)
$\Leftrightarrow$ $\forall$s: ($\neg\exists$x: x student $\wedge$ x arrived in s) $\vee$ (Dina arrived in s)

The exhaustified meaning of the sentence is computed in (40). This meaning entails that no student other than Dina arrived (due to every situation without Dina being such that no student arrived in it) and that Dina arrived (due to not every situation being such that no student arrived), as desired.

(40) $[\![$[exh$_R$ [neg [a student arrived] [except Dina$_F$ arrived]]]$]\!]^{g,w}$ = 1 iff
($\forall$s: ($\neg\exists$x: x student $\wedge$ x arrived in s) $\vee$ (Dina arrived in s)) $\wedge$
($\neg\forall$s: ($\neg\exists$x: x student $\wedge$ x arrived in s))

The inference that Dina is a student, which is conveyed by the sentence, follows because every situation is either such that no student arrived in it or that Dina did. Accordingly, every (minimal) situation in which a student arrived (and there are such situation due to the inference generated by exhaustification) must be one in which Dina arrived. This means that Dina must be a student. Thus, we derive all the desired inferences.

Weak exceptive inference examples. The observations described in the first part of the paper can be reproduced with clausal exceptives, including the one related to missing presuppositions, which may obtain with the example in (34)/(35) used to motivate our extension. Their derivation proceeds in a parallel fashion – relying on the scopal abilities of *exh* and on the contextual restriction of alternatives. For illustration, take the LF in (41) of the clausal exceptive variants of sentence (8).

(41) [exh$_R$ [ASSERT [neg [a student arrived] [except Dina$_F$ arrived]]]]

The interpretation of (41) is provided in (42). If it is not the case that the speaker thinks that every situation is one in which no student arrived, but does think that every situation is one in which either no student arrived or Dina arrived, they must take it to be possible that Dina arrived. This corresponds to the observed weak exceptive inference.

(42) $\Box_{sp}\big($^$\forall$s: ($\neg\exists$x: x student $\wedge$ x arrived in s) $\vee$ (Dina arrived in s)$\big)$ $\wedge$
$\neg\Box_{sp}\big($^$\forall$s: ($\neg\exists$x: x student $\wedge$ x arrived in s)$\big)$ $\wedge$
$\forall$z$\neq$Dina: $\neg\Box_{sp}\big($^$\forall$s: ($\neg\exists$x: x student $\wedge$ x$\neq$z $\wedge$ x arrived in s)$\big)$
$\Rightarrow$ $\Diamond_{sp}$(Dina arrived)

Universal quantifiers. The derivation of the behavior of exceptives with universal quanitifiers is slightly more involved than that with negative indefinites and NPIs. In particular, if the sentence in (43) is assigned the simple structure in (44), it has either a contradictory meaning (if Dina is a student) or the the exceptive modification is vacuous (if Dina is not a student, in light of the equivalence in (45)).

(43) Every student arrived except Dina.

(44) [exh$_R$ [[every student arrived] [except Dina$_F$ arrived]]]

(45) $\exists$s: ($\forall$x: x student $\rightarrow$ x arrived in s) $\wedge$ $\neg$(Dina arrived in s)
$\Leftrightarrow$ $\exists$s: ($\forall$x: x student $\rightarrow$ x arrived in s)

However, relying on independent mechanisms from situation semantics, there does exist a parse of (44) that does yield a licit result (see, e.g., Büring 2004; Kratzer 2007; Elbourne 2013 on the situation semantics framework). The parse provided in (46): the modification of (44) consists of attaching a situation extension operator $\leq$ to the sister of the exceptive phrase. The definition of the operator $\leq$ is provided in (47) (for simplicity, (47) collapses separate ingredients from Büring 2004; Elbourne 2013).

(46) [exh$_R$ [[≤ every student arrived] [except Dina$_F$ arrived]]]

(47) $[\![\leq]\!]^{g,w}$ = $\lambda p_{(st)}$. λs. $\exists s'$: $s \leq s' \wedge$ min(s')(p)
(where min(s')(p) = 1 iff p(s') $\wedge \neg\exists s<s'$: p(s))

The interpretation of (46) is in (48). It is consistent if only the alternatives based on the substitution of *Dina* with expressions denoting students are relevant, that is, all alternatives in which this is not the case are obligatorily irrelevant (see Buccola & Haida 2019 on obligatory irrelevance). In that case, the sentence describes situations in which every student who is not Dina arrived and Dina did not arrive. Finally, if Dina were not a student, the exceptive modification would be vacuous, and thus ruled out.

(48) λs. $\exists s'$: $s \leq s' \wedge$ min(s')(every student arrived) $\wedge \neg$(Dina arrived in s) $\wedge$
$\forall p \in \{$x arrived | x individual $\wedge$ x$\neq$Dina$\} \cap$ R: p(s)

4.3. A prediction about NPIs

We conclude the discussion of clausal exceptives by deriving an observation involving the distribution of NPIs in exceptives: NPIs are acceptable when they parallel universal quantifiers, as exemplified in (49), but not when they parallel (negative) indefinites, as exemplified in (50) (Vostrikova, 2021).

(49) Every student arrived except any lazy student.

(50) #No student arrived except any hardworking student.

The derivation builds on our extension of the exhaustification analysis and some independent assumptions about NPI licensing: that (i) an NPI must occur at LF in a constituent that is DE with respect to them, see **??** above, and that (ii) this constituent must dominate at least the minimal PolP that dominates the NPI (Homer, 2021). Let us see how. The sentence in (49) can be assigned the structure in (51). The interpretation of the PolP is in (52). The PolP is DE with respect to the NPI (replacing *any lazy student* with a stronger expression yields a weaker proposition).

(51) [exh$_R$ [$_{PolP}$ [every student arrived] [except any lazy student arrived]]]

(52) λs. $\exists s'$: $s \leq s' \wedge$ min(s')(every student arrived) $\wedge \neg$($\underline{\text{a lazy student}}$ arrived in s)

The sentence in (50) has the structure in (53). The interpretation of the PolP and the matrix sentence are provided in (54) and (55), respectively. Neither constituent is DE with respect to the NPI.

(53) [exh$_R$ [$_{PolP}$ [neg [a student arrived] [except any lazy student arrived]]]]

(54) ($\forall s$: ($\neg\exists x$: x student $\wedge$ x arrived in s) $\vee$ ($\underline{\text{a lazy student}}$ arrived in s))

(55) ($\forall s$: ($\neg\exists x$: x student $\wedge$ x arrived in s) $\vee$ ($\underline{\text{a lazy student}}$ arrived in s)) $\wedge$
($\neg\forall s$: ($\neg\exists x$: x student $\wedge$ x arrived in s))

Although the exhaustification analysis of clausal exceptives straightforwardly accounts for the distribution of NPIs in them, many other issues have been raised in the recent work on clausal exceptives that still remain to be studied on the proposal put forward here (see, esp., Vostrikova 2021).

5. Outlook

The paper presented new arguments for (i) the distributed analyses of exceptives and (ii) for the context-sensitivity of their interpretation. We showed that an exhaustification analysis is able to capture the observed facts, but could not investigate any potential alternative analyses. Finally, an argument for (iii) an extension of the exhaustification analysis to clausal exceptives was provided. It goes without saying that the paper falls a long way short of addressing the various issues that have been raised in this domain. We flag some of them in the remainder of the paper.

5.1. Intervention

A question arises in light of the proposal that *exh* can be separated from the quantifier hosting the exceptive by ASSERT: What else can split their scope? While Gajewski (2008) noted that universal nominal quantifiers cannot do so, it does at first glance seem possible to obtain split scope readings with a range of modals: the continuation in (56) appears to be felicitous – it would be incompatible with the first sentence if the exceptive inference were computed in the scope of *hope* (cf. Crnič 2018). A consistent interpretation of the sentence would be obtained if *exh* took scope above *hope*, while the universal quantifier takes scope below it, as in (57).

(56) As a kid, I hoped to eventually pet every unicorn except Snickers. I was pretty much indifferent to petting Snickers.

(57) [exh$_R$ [I hope [every unicorn except Snickers$_x$ [PRO$_I$ pet x]]]]

The aspiration is that the difference between modal and nominal quantifiers with respect to admitting split scope for exceptives falls out from the potentially different alternatives these give rise to in the scope of exhaustification, and how these alternatives may feature in the exhaustification of exceptives (see Chierchia 2013; Bar-Lev & Fox 2020 for related discussion).

5.2. Indefinites more generally

Gajewski (2008) observes that while exceptives can modify NPIs, as in many examples in this text, they cannot modify other indefinites, as exemplified in (58). This is unexpected, all else equal.

(58) #Gal did not read a book except 'War & Peace'.

While Gajewski suggests one possible explanation for this state of affairs, in which he ties the availability of split scope readings of exceptives to NPI licensing, the explanation is not compatible with the data and the analysis in this paper, where split scope readings obtain with exceptives modifying non-NPIs. More to the point, the puzzle of indefinites resurfaces in sentences like (59), which should in principle be able to have the representation in (60). The output of the exhaustification in (60) is consistent and non-vacuous, and is provided in (61).

(59) #A student except Dana arrived.

(60) [exh$_R$ [ASSERT [a student except Dana arrived]]]

(61) $\Box(\exists$x: x student $\wedge$ x$\neq$Dana $\wedge$ x arrived) $\wedge$ $\forall$z$\neq$Dana $\neg\Box(\exists$x: x student $\wedge$ x$\neq$z $\wedge$ x arrived)

Building on Gajewski, one might explore whether there is a different way to implement his intuition that indefinites have to be realized as NPIs when modified by exceptives due to some special licensing property of NPIs, a way that would nonetheless allow modals to intervene between *exh* and other quantifiers hosting exceptives.

5.3. Only

It is tempting to turn with our conclusions to the behavior of *only*. This, namely, to a large extent parallels that of exceptives. First: The factive inference of *only* can be suspended by modalized but non-modalized sentences, as illustrated in (62) (Ippolito, 2008). Second: *Only* participates in the sufficiency modal constructions, as illustrated in (62) (von Fintel & Iatridou, 2007)

(62) a. Only Mary can speak French, and maybe not even she can.
b. #Only Mary can speak French – in fact, not even she can.

(63) To get good cheese, you only have to go to the North End.
$\nRightarrow$ To get good cheese, you have to go to the North End.
$\Rightarrow$ To get good cheese, it is enough to go to the North End.

These parallels can be captured by building on von Fintel & Iatridou's (2007) proposal that *only* should be analyzed as an exceptive (which von Fintel & Iatridou 2007 then apply to the sufficiency modal constructions). For illustration, if the sentence in (62) is assigned the underlying structure in (64), which has the meaning in (65), a modalized continuation in (62-a) should be fine, but not the non-modalized continuation in (62-b).

(64) [exh$_R$ [ASSERT [neg [ANYONE EXCEPT Mary can speak French]]]]

(65) $\Box(\neg\exists$x(x$\neq$Mary $\wedge$ x can speak French)) $\wedge$ $\forall$z$\neq$Mary: $\Diamond(\exists$x(x$\neq$z $\wedge$ z can speak French))
$\Rightarrow$ It is possible that Mary can speak French.

The proposal may also shed light on the observation that the factive inferences of *only* in some respects pattern with presuppositions, but also differ from them in some other respects (Ippolito, 2008). This might be achieved by adopting a slightly different treatment of *exh* than we did in this paper (esp., Bassi et al. 2020). The pursuit of this and many other tasks left aside here awaits another occasion.

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