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## Cardinal determiners and the clausal analysis of exceptives

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### ABSTRACT

This note presents a novel observation and proposes a modification of an existing analysis to account for it. The novel observation is that an exceptive, i.e. an adverbial phrase headed by the word “except”, gives rise to oddness when the noun phrase containing it as an adjunct is combined with a cardinal determiner, i.e. one which comes with a presupposition about the number of elements in the denotation of its complement. Thus, there is a contrast between the sentence “all members of the Beatle except John Lennon gave an interview”, which is perfectly acceptable, and the sentence “all four members of the Beatles except John Lennon gave an interview”, which is odd, the difference between “all” and “all four” being that the latter presupposes that its complement NP denotes a set containing four members. The existing analysis of exceptives which I propose to modify in order to account for such contrasts is that presented in Vostrikova (2021). According to this analysis, exceptives are elliptical clauses. Thus, Vostrikova claims that the logical form of the sentence “all members of the Beatles except John Lennon gave an interview” would be something like “all members of the Beatles gave an interview except John Lennon did not give an interview”. The modification I make to Vostrikova’s analysis consists in minimally changing one part in the three-part truth condition which she assigns to exceptive constructions. This minimal change results in undefinedness when noun phrases containing exceptives combine with cardinal determiners. I also present a brief discussion of the analysis of exceptives proposed by von Stechow (1993) which takes exceptives to be NP modifiers, and one proposed by Moltmann (1995) which takes exceptives to be DP modifiers.

### KEYWORDS

exceptives; cardinal determiners; clausal analysis

## 1. Introduction

### 1.1 Inferences and distribution of exceptives

This paper is about sentences of the kind exemplified by (1).

- (1) All students except John came to the party.

Here are some descriptive terms: (i) *except John* the “exceptive phrase” (EP), or simply “exceptive”; (ii) *John* is the exception; (iii) *student* is the “noun phrase” (NP); (iv) *all* is the “determiner” (D); (v) *all student except John* is the “determiner phrase” (DP); and (vi) *came to the party* is the “verb phrase” (VP). Thus, the sentences we are investigating are of the form given in (2).

- (2) D NP [<sub>EP</sub> except X] VP

It is generally agreed that theories of exceptives, at a minimum, must account for three inferences associated with these grammatical constructions and one fact about their distribution. Let us discuss the three inferences first. It can be observed that (1) is true iff all three claims in (3) below are true.

- (3) a. John is a student  
 b. John did not come to the party  
 c. All other students came to the party

Using familiar jargon, I will call (3a) the “containment” inference, (3b) the “negation” inference, and (3c) the “otherness” inference. Containment, Negation, and Otherness are described more generally in (4), where  $X \setminus Y$  is the complement of Y in X, i.e. the set of things that are X but not Y.

- (4) a. Containment: NP is true of the exception  
 b. Negation: VP is not true of the exception  
 c. Otherness: VP is true of every element in  $NP \setminus \{\text{exception}\}$



Now let us turn to the distributional fact. Consider the contrast between the acceptable (5a), where the determiner, *all*, is universal, and the unacceptable (5b), where the determiner, *some*, is existential.<sup>1</sup>

- (5) a. All students except John came to the party.
- b. #Some students except John came to the party.

The distributional fact is stated generally in (6).

- (6) Exceptives tolerate universal but not existential determiners

## 1.2 Exceptives as NP and DP modifiers

### 1.2.1 Von Stechow (1993)

Theories of exceptives are expected to account for the inferences in (4) and the distributional fact in (6). One analysis which fulfils this expectation quite elegantly is that proposed in von Stechow (1993), which assigns to exceptive constructions the syntactic structure in (7a), and assigns to the word *except* the semantic interpretation in (7b), where  $P, P', P'', P'''$  are variables of type  $\langle e, t \rangle$  (predicate type) and  $D$  a variable of type  $\langle \langle et, et \rangle, t \rangle$  (determiner type).<sup>2</sup>

- (7) a.  $[_s [_{DP} D [_{NP} P' [_{EP} \text{except } P]]] [_{VP} P'']]$
- b.  $[[\text{except}]] = [\lambda P. \lambda P'. \lambda D. \lambda P''. [D(P'-P)(P'') = 1] \ \& \ [\forall P'''. D(P'-P''')(P'') = 1 \rightarrow P \subseteq P''']]$

According to this analysis, the exceptive is a modifier of NP and *except* has a ‘subtractive semantics’: it means something like ‘that are not’. The truth condition which is derived from (7) for (1) would be (8).<sup>3</sup>

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1 I will use the symbol # to indicate oddness (unacceptability).  
 2 I assume that *John* can be lifted from type  $e$  to type  $\langle e, t \rangle$ , i.e. that *John* can denote the person John or the function  $[\lambda x. x = \text{John}]$ , depending on which interpretation is needed to avoid type-mismatch (Partee 1986). Note that (7) is a simplified presentation of von Stechow’s analysis, which I borrow from Gajewski (2003) and Vostrikova (2021).  
 3 The locution *is part of X* in (8b) is an informal way to say *is a member of the set X*.

- (8) [[all students except John came to the party]] = 1 iff
- all students that are not John came to the party
  - if all students that are not X came to the party, then John is part of X, for any X

It is clear that (8) gives us Otherness: this is (8a). It is a bit less clear that (8) also gives us Containment and Negation. To see this, suppose (8a) holds and that John is not a student. In this scenario, (9) must be true.<sup>4</sup>

- (9) all students that are not  $\emptyset$  came to the party & John is not part of  $\emptyset$

But if (9) is true then (8b) is false, since there is an X, namely  $\emptyset$ , such that all students that are not X came to the party and John is not part of X. This means that (8a) and (8b) cannot both be true if Containment does not hold. Thus, (8a) and (8b) together guarantee Containment. Negation then follows straightforwardly: if John did come to the party, then all students came, given that John is a student. But if all students came, then all students that are not  $\emptyset$  came, and (8b) is false.

It turns out that (8) not only accounts for the inferences licensed by exceptives but also for their distribution, specifically their incompatibility with existential quantifiers. Applying (7) to (5b), we predict this sentence to have the truth condition in (10).

- (10) #[[some students except John came to the party]] = 1 iff
- some students that are not John came to the party
  - if some students that are not X came to the party, then John is part of X, for any X

Now, since (10b) is a claim about every possible set X, it must be true of  $\emptyset$  also. In other words, if some students that are not  $\emptyset$  came to the party, then John is part of  $\emptyset$ . Since John is not part of  $\emptyset$ , it is not the case that some students that are not  $\emptyset$  came to the party, which is to say that it is not the case that some students came to the party. But then it is also not the case that some students that are not John came to the party, which means (8a) is false.

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4 Following standard practice, I write “ $\emptyset$ ” for the empty set. Note that if John is not a student, then *all students that are not John* just means ‘all students’, which is the same as ‘all students that are not  $\emptyset$ ’. And since nothing is part of  $\emptyset$ , John is trivially not part of  $\emptyset$ .

### 1.2.2 Moltmann (1995)

The analysis proposed in von Fintel (1993) takes the exceptive to be an NP modifier.<sup>5</sup> Moltmann (1995) provides an account of exceptives which takes these to be DP modifiers. The syntactic structure Moltman assigns to exceptive constructions is presented in (11).

(11) [<sub>S</sub> [<sub>DP</sub> [<sub>DP</sub> D NP] EP] VP]

The exceptive, EP, does not combine with NP to the exclusion of D, but combine with DP whose daughters are D and NP. In other words, EP modifies not a predicate (NP) but a quantifier (D+NP). The explanatory force of Moltmann's theory comes from the procedure it specifies for interpreting a quantifier which is modified by an exceptive. Here is an informal presentation of this procedure which suffices for our present purposes.<sup>6</sup>

(12) To interpret *Q except X*

- a. Take the set of predicates in *Q*
- b. Remove *X* from each of those predicates
- c. The result is *Q except X*

Thus, Moltmann also assumes a 'subtractive semantics' for exceptives. The difference between her account and von Fintel's pertains to the level at which this subtraction takes place. For von Fintel, *except X* removes *X* from one predicate, the unmodified NP. For Moltmann, *except X* removes *X* from each predicate in a quantifier, the unmodified DP. Let us apply (12) to the specific example in (1), reproduced in (13).

(13) All students except John came to the party.

The sentence is interpreted in the regular way: it is true iff the predicate denoted by the VP is an element of the quantifier denoted by the DP (cf. Heim – Kratzer 1998). Let *P* be the predicate *came to the party*. What (13) says is

5 Other accounts which build on von Fintel (1993) include Gajewski (2008), Hirsch (2016), Crnić (2018).

6 There is mixing of meta and object language in (12), but I hope no confusion arises from this informality.

that P is an element of *all students except John*. Given (12), P must have been derived by taking a predicate from *all students* and remove John from it. This means that P must contain all students that are not John. Since P is, by hypothesis, the predicate *came to the party*, it follows that all students that are not John came to the party and John did not come to the party. Thus, Otherness and Negation are guaranteed. Does the analysis also guarantee Containment? Yes it does. Suppose John is not a student. Then there will be a predicate P' in *all students* which does not contain John. But then John cannot be removed from each predicate in *all students*. Thus, *all students except John* is uninterpretable if John is not a student. Containment is guaranteed.

It remains to show that Moltmann's analysis also accounts for the distribution of exceptives. Does it predict the deviance of (5b), reproduced in (14) below?

(14) #Some students except John came to the party.

The answer is yes: the existential quantifier *some student* cannot be modified by *except John*. Here is why. The elements of *some student* are predicates which have a non-empty intersection with *students*. Thus, there will be at least one predicate in *some student* which does not contain John.<sup>7</sup> But then John cannot be removed from each predicate in *some student*, which means *some student except John* is uninterpretable. Thus, (14) is ruled out in the same way (13) would be if John is not a student.

## 2.1 The problem of cardinal determiners

Cardinal determiners come with a presupposition about the number of elements, i.e. the cardinality, of the set denoted by their NP complement. The well-known example is *both*, which has the same assertive meaning as that of *all*, but which presupposes that its domain is a set with two elements. Consider the contrast in (15).

7 Assuming, of course, that John is not the only student, in which case (14) is infelicitous due to the use of *some* (cf. Heim 1991), in addition to being false.

- (15) a. I don't know how many friends John has, but I know he called all of his friends.  
 b. #I don't know how many friends John has, but I know he called both of his friends.

The oddness of (15b) is due to the presupposition of the second conjunct, which is that I know John has two friends, and thus conflicts with the assertion of the first conjunct, which is that I don't know how many friends John has. I will assume that such presuppositions as those of cardinal determiners come about by way of definedness conditions. The interpretation of *all* and *both* are given in (16), where P, Q are variables of type  $\langle e, t \rangle$  and x a variable of type e.

- (16) a.  $[[\text{all}]] = [\lambda P. \lambda Q. \forall x. Px \rightarrow Qx]$   
 b.  $[[\text{both}]] = [\lambda P: |P| = 2. \lambda Q. \forall x. Px \rightarrow Qx]$

Are there cardinal determiners which require the number of elements in its domain to be some number n that is different than 2? Well, it depends on whether we consider expressions such as *all three*, *all four*, etc., determiners. If we do, then the answer is obviously *yes*. In this paper, I will call such expressions 'determiners'. Nothing hinges on this choice of terminology. The paper is about these expressions, specifically about the fact that they do not tolerate exceptives. Which label we decide to give them is not important. I opt for '(cardinal) determiners', because these expressions are presuppositional in the same way *both* is. Thus, (17a) is odd in the same way (15b) is, and *all four* can be assigned the meaning in (17b).

- (17) a. #I don't know how many friends John has, but he called all four of his friends  
 b.  $[[\text{all four}]] = [\lambda P: |P| = 4. \lambda Q. \forall x. Px \rightarrow Qx]$

I just said, in the previous paragraph, that cardinal determiners do not tolerate exceptives. Let me now illustrate this claim. Consider the paradigm in (18).

- (18) a. All members of The Beatles gave an interview.  
 b. All four members of The Beatles gave an interview.  
 c. All members of The Beatles except John Lennon gave an interview.  
 d. #All four members of The Beatles except John Lennon gave an interview.

What (18) shows is that there is no problem with *all four* per se, nor is there a problem with *except John Lennon* per se. The problem arises only when *all four* and *except John Lennon* co-occur! Here is another example, which shows that *all three*, just like *all four*, is incompatible with exceptives.

- (19) a. All members of the Beaux Arts Trio went to Paris.  
 b. All three members of the Beaux Arts Trio went to Paris.  
 c. All members of the Beaux Arts Trio except Menahem Pressler went to Paris.  
 d. #All three members of the Beaux Arts Trio except Menahem Pressler went to Paris.

Can any of the two analyses we discussed above derive these contrasts? At first, the NP modifier by von Fintel (1993) seems obviously equipped to do this. Recall that according to this analysis, the exceptive modifies the NP complement of D, removing the exception from the set denoted by the NP. Thus, (20a) denotes the set in (20b).

- (20) a. members of The Beatles except John Lennon  
 b.  $\{x: x \text{ is a member of The Beatles}\} \setminus \{\text{John Lennon}\} = \{\text{McCartney, Harrison, Starr}\}$

Similarly, (21a) denotes the set in (21b).

- (21) a. members of Beaux Arts Trio except Menahem Pressler  
 b.  $\{x: x \text{ is a member of the Beaux Arts Trio}\} \setminus \{\text{Pressler}\} = \{\text{Guillet, Greenhouse}\}$

But doesn't this mean that (18d) and (19d) are presupposition failures? In (18d), the determiner is *all four*, but the NP denotes a set with three members, namely that in (20b). In (19d), the determiner is *all three*, but the NP denotes a set with two members, namely that in (21b). Thus, von Fintel's analysis predicts (18d) and (19d) to be odd, just as observed. It works!

Well, it doesn't. Specifically, it overgenerates, because it predicts that if we change the determiner in (18d) to *all three*, and change the determiner in (19d) to *both*, the results should be perfectly acceptable, but they're not, as evidenced by the oddness of (22a) and (22b).

- (22) a. #All three members of The Beatles except John Lennon gave an interview.  
b. #Both members of the Beaux Arts Trio except Menahem Pressler went to Paris.

In (22a) and (22b), the modified NP denotes a set whose cardinality satisfies the presupposition of the determiner, but the sentences are as odd as (18d) and (19d). What we learn from these examples is then that cardinal determiners just do not tolerate exceptives, no matter how many elements the set denoted by NP has. We have discussed cases where the cardinality of NP might be common ground: we know The Beatles has four members, and the Beaux Arts Trio, being a trio, has three members. But the fact is that all co-occurrences of cardinal determiners and exceptives are odd. Consider the contrast in (23).

- (23) a. All students except John came to the party.  
b. #All seven students except John came to the party.

In this case, there is no common ground assumption as to how many students we are talking about, but the oddness of *all seven* co-occurring with *except John* is still perceived. The generalization is stated in (24).

- (24) Cardinal determiners do not tolerate exceptives.

Can Moltmann's (1995) analysis derive (24)? The answer, as it turns out, is also no. In fact, Moltmann predicts both (18d) and (19d) to be fine. Take (18d), for example. The interpretation of the modified DP *all four members of The Beatles except John Lennon* would proceed as follows: (i) first, take the set of predicates denoted by *all four members of The Beatles*; (ii) then, remove John Lennon from each of those predicate; (iii) the result is the denotation of *all four members of the Beatles except John Lennon*. More generally, Moltmann's account allows an exceptive to modify any DP headed by a cardinal determiner, as long as within that DP itself the NP denotes a set whose cardinality fulfills the requirement of D.

So here is our dialectical situation. We started with some basic facts about exceptive constructions. We then discussed two analyses both of which account for these facts. After that we turn to the observation that cardinal determiners do not tolerate exceptives. We go back to the two

analyses to check if they also derive this observation, and see that they do not.

In what follows I will present Vostrikova's (2021) analysis of exceptive constructions and argue that with a minimal change this analysis will be able to account for both the basic facts and the generalization in (24).

### 3. The clausal analysis of exceptives

#### 3.1 The original proposal

The syntax which Vostrikova (2021) assigns to exceptive constructions departs radically from that assumed by von Stechow (1992) and Moltmann (1995). Specifically, Vostrikova takes the exceptive to be the spell-out form of a full-fledged sentence whose various constituents have been elided. The structure of (25a) which inputs pronunciation would be (25b), where strikethrough represents phonological deletion, and the structure which inputs its interpretation, i.e. its Logical Form, would be (25c).

- (25) a. all students except John came  
 b. [<sub>A</sub> [<sub>B</sub> all students [<sub>C</sub> ~~except~~ [<sub>D</sub> John ~~did not come~~]]] came]]  
 c. [<sub>A</sub> [<sub>B</sub> all students *t<sub>C</sub>* came]] [<sub>C</sub> except [<sub>D</sub> John did not come]]

It should be noted here that I am presenting a simplified version of Vostrikova's analysis. The Logical Form she assumes for (1) is actually much more complex than (25). This complexity is needed for a compositional, i.e. bottom-up, interpretation of the structure. In this note, I will abstract from the issue of compositionality. In other words, I will be content with describing the truth condition of whole sentences while assuming, and asking the reader to believe, that compositional interpretation is in principle possible by supplying the syntactic structure with enough indexed traces and world variables, as is done in the full version of Vostrikova's analysis. Now, let us turn to the truth condition that Vostrikova associates with (25c) which is the Logical Form of (25a). It has three components, listed in (26a), (26b), and (26c), where *w*<sub>0</sub> is the actual world and *j* is the person John.

- (26)  $[[ [_{A} [_{B} \text{all students } t_c \text{ came}]_{c} \text{ except } [_{D} \text{John did not come}] ] ]^{w0} = 1$  iff
- $[[D]]^{w0} = 1$
  - $\forall w. [[D]]^w = 1 \rightarrow [[\text{all}]^w([[students]]^{w0})([[came]]^w) = 0$
  - $\forall w. ([[D]]^w = 0 \ \& \ [[came]]^w \setminus \{j\}) = [[came]]^{w0 \setminus \{j\}}$   
 $\rightarrow [[\text{all}]^w([[students]]^{w0})([[came]]^w) = 0$

The first clause, (26a), is Negation: it says that John did not come. The second clause, (26b), is Containment: it says that if John did not come, then it has to be the case that not all actual students came, i.e. that one actual student did not come. For (26b) to hold, then, John has to be an actual student. The third clause, (26c), is Otherness. What it says is the following: suppose John did come and the people who came and who are not John remain the same, then it would have to be the case that all actual students came. This, of course, amounts to saying that all other students came. Vostrikova’s analysis, then, accounts for the three inferences of exceptive constructions. Does it account for their distribution, i.e. the fact that exceptives are incompatible with existential determiners? The answer is yes. Suppose we change *all* in (26) to *some*, and calculate the truth condition according to the recipe that Vostrikova provides. The results will be (27) below.

- (27)  $\#[ [ [_{A} [_{B} \text{some students } t_c \text{ came}]_{c} \text{ except } [_{D} \text{John did not come}] ] ]^{w0} = 1$  iff
- $[[D]]^{w0} = 1$
  - $\forall w. [[D]]^w = 1 \rightarrow [[\text{some}]^w([[students]]^{w0})([[came]]^w) = 0$
  - $\forall w. ([[D]]^w = 0 \ \& \ [[came]]^w \setminus \{j\}) = [[came]]^{w0 \setminus \{j\}}$   
 $\rightarrow [[\text{some}]^w([[students]]^{w0})([[came]]^w) = 0$

Consider what (27b) and (27c) entail. The first says that if John did not come then no actual student came. The second says, basically, that if John did come then some actual student came. The two clauses together entail that John is the only student. But in a context where John is the only student, the expression *some students* incur oddness due to Maximize Presupposition (Heim 1991), as the use of the definite *the student* is licensed.

### 3.2 Problem with cardinality and a modification

Vostrikova's (2021) clausal analysis of exceptives, as it turns out, is not able to predict the fact that exceptives are incompatible with cardinal determiners. To see this, consider (28), which is just like (26) except that *all* has been replaced with *all seven*, a cardinal determiner.

- (28) #[[<sub>A</sub> [<sub>B</sub> all seven students  $t_c$  came]<sub>C</sub> except [<sub>D</sub> John did not come]]]<sup>w0</sup> = 1 iff
- [[D]]<sup>w0</sup> = 1
  - $\forall w. [[D]]^w = 1 \rightarrow [[\text{all seven}]]^w([[students]]^{w0})([[came]]^w) = 0$
  - $\forall w. ([[D]]^w = 0 \ \& \ [[came]]^{w\setminus\{j\}} = [[came]]^{w0\setminus\{j\}})$   
 $\rightarrow [[\text{all seven}]]^w([[students]]^{w0})([[came]]^w) = 0$

As we can see, there is nothing wrong with the three clauses of the truth condition that Vostrikova would associate with (28). The function  $[[\text{all seven}]]^w$  occurs in (28b) and (28c), each time taking  $[[students]]^{w0}$  as argument. Assuming *all seven* is a functional item whose meaning is world-independent, the semantic value of these expressions are (29a) and (29b).

- (29) a.  $[[\text{all seven}]]^w = [\lambda P: |P| = 7. \lambda Q. \forall x. Px \rightarrow Qx]$   
 b.  $[[student]]^{w0}$  = the set of actual students

This means that as long as there are seven actual students,  $[[\text{all seven}]]^w$  ( $[[students]]^{w0}$ ) is defined, and (28) is perfectly interpretable and asserts the same proposition as (26). What is to be done? I will now propose a minimal revision of Vostrikova's analysis which retains all the virtues of the original and which, in addition, accounts for the oddness of (28), i.e. for the fact that exceptives do not tolerate cardinal determiners. Let us go back and look again at (26), reproduced in (30) below.

- (30) [[<sub>A</sub> [<sub>B</sub> all students  $t_c$  came]<sub>C</sub> except [<sub>D</sub> John did not come]]]<sup>w0</sup> = 1 iff
- [[D]]<sup>w0</sup> = 1
  - $\forall w. [[D]]^w = 1 \rightarrow [[\text{all}]]^w([[students]]^{w0})([[came]]^w) = 0$
  - $\forall w. ([[D]]^w = 0 \ \& \ [[came]]^{w\setminus\{j\}} = [[came]]^{w0\setminus\{j\}})$   
 $\rightarrow [[\text{all}]]^w([[students]]^{w0})([[came]]^w) = 0$

I propose to change (30) to (31).

- (31)  $[[[_A [_B \text{ all students } t_c \text{ came}]_c \text{ except } [_D \text{ John did not come}]]]^{w0} = 1$  iff
- a.  $[[D]]^{w0} = 1$
  - b.  $\forall w. [[D]]^w = 1 \rightarrow [[\text{all}]]^w([[students]]^{w0})([[came]]^w) = 0$
  - c.  $\forall w. ([[students]]^w = [[students]]^{w0}\setminus\{j\} \ \& \ [[came]]^w = [[came]]^{w0})$   
 $\rightarrow [[\text{all}]]^w([[students]]^w)([[came]]^w) = 0$

As we can see, the revision I proposed to be made to Vostrikova’s truth condition pertains only to the last clause. In other words, the change from (30) to (31) is really a change from (30c) to (31c). Here is what this change amounts to. What (30c) says, again, is that in every possible world where John did come and the set of people who are not John and who came remains the same as in the actual world, everyone who is a student in the actual world came in that world. Thus, (30c) guarantees that every student other than John came. In contrast, what (31c), the revised version of (30c), says is that in every world where *came* has the same denotation as in the actual world but the denotation of *student* is minimally different in that it does not contain John, the sentence *all students came* is true. Thus, (31c) also guarantees that every actual student other than John came.

The crucial difference between (30c) and (31c) is that in the former,  $[[\text{all}]]^w$  takes  $[[students]]^{w0}$ , the set of actual students, as argument, whereas in the latter,  $[[\text{all}]]^w$  takes  $[[students]]^w$ , the set of hypothetical students, as argument. Given that the other two clauses remain unchanged, (31) ends up with  $[[\text{all}]]^w$  taking  $[[students]]^{w0}$  as argument in (31b) and  $[[students]]^w$  as argument in (31c). This property of (31) is what accounts for the intolerance of exceptives against cardinal determiners. Let us replace *all* in (31) with *all seven* and see what happens. Consider (32).

- (32)  $[[[_A [_B \text{ all seven students } t_c \text{ came}]_c \text{ except } [_D \text{ John did not come}]]]^{w0} = 1$  iff
- a.  $[[D]]^{w0} = 1$
  - b.  $\forall w. [[D]]^w = 1 \rightarrow [[\text{all seven}]]^w([[students]]^{w0})([[came]]^w) = 0$
  - c.  $\forall w. ([[students]]^w = [[students]]^{w0}\setminus\{j\} \ \& \ [[came]]^w = [[came]]^{w0})$   
 $\rightarrow [[\text{all seven}]]^w([[students]]^w)([[came]]^w) = 0$

Suppose that there are seven students, i.e.  $|[[students]]^{w0}| = 7$ . It follows from (32b), as before, that John is a student, and consequently, that  $|[[students]]^{w0}\setminus\{j\}| = 6$ . Now look at (32c). Since  $[[students]]^w = [[students]]^{w0}\setminus\{j\}$ , it follows that  $|[[students]]^w| = 6$ , which means  $[[\text{all seven}]]^w([[students]]^w)$  is

undefined, which means (32c) is undefined. Now suppose that there are not seven students, i.e. that  $|[[students]]^{w0}| \neq 7$ . Then  $[[all\ seven]]^w([[students]]^{w0})$  is undefined, which means (32b) is undefined. Thus, (32) is uninterpretable if there are seven students, and uninterpretable if there are not seven students. In other words, (32) is uninterpretable. And since the numeral *seven* was picked at random, we can conclude that replacing *all seven* in (32) with any other cardinal determiner will also result in uninterpretability. Or in other words, exceptives do not tolerate cardinal determiners.

## 4. Conclusion

I presented a novel observation: exceptives do not tolerate cardinal determiners. I then discussed two analyses of exceptives, von Fintel (1993) and Moltmann (1995). The first takes exceptives to be NP modifiers, while the second takes them to be DP modifiers. I show that neither of these analyses can account for the intolerance of exceptives against cardinal determiners. I then discuss the analysis proposed in Vostrikova (2021), which takes exceptives to be elliptical clauses, and show that a minimal revision of this analysis is possible which retains all of its virtues and, in addition, accounts for the fact that exceptives do not tolerate cardinal determiners.

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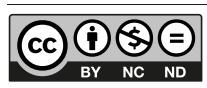
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