# *Just* and its Meanings:
# Exclusivity and Scales in Alternative Semantics and Speech Act Theory*

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## Abstract

This paper examines multiple uses of the word *just* in the context of the range of possible meanings of exclusive operators in general. Based on previous accounts of exclusive operators like *only*, I propose a base semantics of exclusives which can account for the distribution of *just* as an exclusive operator. I take this basic exclusive meaning as the underlying semantic expression for a wider variety of meanings, some of which seem non-truth-conditional. Despite the fact that these readings do give rise to different truth conditions, I argue that the range of meanings can be attributed to a combination of the level at which *just* is interpreted, contextual information determining the relevant set of alternatives, the choice of ordering over the set of alternatives, and the type of alternative set, in the sense of Orenstein 2015.

To demonstrate this, I identify and analyze a use of *just*, which I have called 'unexplanatory *just*' that serves to distance the speaker from the reason, evidence, or cause of the prejacent proposition. I propose that this use should be analyzed as a high-level exclusive operator over 'internal' alternatives involving causation. This analysis thus reduces a number of the 'polysemous' meanings of *just* to an emergent property resulting from the combination of type of alternative set and ordering on that set, restrictions that can be lexically encoded for other exclusive operators. Furthermore, this analysis provides a basic notion of exclusivity and valid alternative sets, accounting for the variation both within a single language and cross-linguistically in the semantic distributions of different exclusives in terms of varying restrictions on scales and alternatives. Within this framework, *just* is seen as relatively unrestricted, which accounts for the breadth of its polysemous behavior.

## 1 Introduction

English *just* is special in that, in various contexts, it can be paraphrased with almost every other exclusive operator, each of which is more restricted than *just* in terms of distribution and meaning. I attribute these differing restrictions to differences in allowable alternative sets and orderings. In this paper, I examine these multiple meanings available to *just*, proposing a compositional account of these readings in terms of basic exclusivity. I propose that at their core, all exclusive operators have the same semantics, but that they can be further restricted along several different axes, resulting in the wide array of exclusive operators both in English and cross-linguistically. I compare two frameworks of analysis: availability of covert elements for quantification and quantification over speech acts. Ultimately, I conclude that these two frameworks make many of the same predictions, but each has its own conceptual and empirical benefits.

Uses of *just* have been broken down into roughly six distinct categories in the literature. Lee, in his discussion of its multiple potential meanings, identifies four broad categories of meaning for *just*: depreciatory,

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restrictive, specificatory, and emphatic (Lee 1987). In their psycholinguistic study of the polysemy of *just*, Kishner & Gibbs identify two additional categories of meaning: comparative and exact (Kishner & Gibbs 1996). I provide an overview of these basic categories,[1] as well as some additional meanings, one of which I refer to as 'unexplanatory' *just*, below. I will go into more detail in terms of distribution and analysis in §3.2. I argue that these are not separate polysemous meanings of *just*; rather, they are the result of different alternatives over which *just* can quantify, which depend often on the contextual factors surrounding the utterance.

## 1.1 Data Preliminaries

What Lee calls the 'restrictive' meaning corresponds to what we normally think of as the exclusive interpretation and is semantically equivalent to exclusive operator *only*. Examples of this 'non-scalar' (Beaver & Clark 2008; Coppock & Beaver 2011a) exclusive *just* are shown below in (1).

(1) Exclusive *just*

    a. Just $[\text{Bill}]_F$ went to the party. (No one else went to the party.)

    b. Bill just $[\text{went to the party}]_F$. (Bill did nothing besides go to the party.)

    c. Bill just went to the $[\text{party}]_F$. (Bill went nowhere besides the party.)

As can be seen above, this exclusive *just* follows the patterns described for exclusive *only* in Rooth 1992, among others. As such, it associates with focused elements in a sentence, and quantifies over the alternatives generated by that focused element, resulting in the different interpretations of each of the sentences in (1), all of which have the same prejacent sentence, *Bill went to the party*.[2]

The second category I will include under the description 'exclusive' is what Lee (1987) calls 'depreciatory' *just*. He characterizes this use by the speaker intent to minimize the asserted content. This corresponds to what Coppock & Beaver 2011a, among others, have described as the scalar interpretation of an exclusive operator. Some examples are given below in (2).

(2) Depreciatory (Scalar) *just*

    a. It was just Bill on the phone, nobody important.

    b. He's just an employee, not a manager.

    c. They're not serious, just a nuisance.           (Lee 1987: 379)

As shown in these examples, this use coincides with a minimization or depreciation of the element being modified. However, while this use can be distinguished from the 'restrictive' use above, this can be explained as quantification over scalar alternatives, triggered either lexically or by the context (Beaver & Clark 2008; Coppock & Beaver 2011a; Orenstein 2015). Thus, regardless of the fact that this meaning is notably different from the (non-scalar) exclusive use described in (1), I will still refer to this use as an exclusive interpretation of *just*. More will be discussed on this use and how it affects our assumed semantics for *just*, as well as how the two exclusive uses differ in their distribution, in §2.

Another noted use for *just* in the literature has been labelled 'emphatic' *just*. This use is quite distinct from either of the two exclusive uses described, and is not easily describable in terms of quantification over alternatives, regardless of how those alternatives might be construed.[3] In this case, *just* appears to serve to highlight the extremity of a particular predicate, i.e., to 'emphasize' that predicate. As such, it has been described as synonymous with other 'emphatic' adverbs like *really* and *very* (Lee 1987; Kishner & Gibbs 1996), though I will call into question the notion that these are actually suitable paraphrases for *just*. Examples of emphatic *just* are given in (3) below.

(3) Emphatic *just*

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[1]The present study is not concerned with the homophonous *just* related to morality or justice. While it is possible that this meaning is etymologically related, it bears very little resemblance to any of the categories under discussion in this paper.

[2]Following Horn 1996, among others, I use the term 'prejacent' to refer to the base sentence in which *just* or *only* appears. More will be discussed on the status of the prejacent in terms of at-issue content in §2.

[3]I will actually discuss just such a potential analysis for emphatic *just* in §3.4.

    a. It was just impossible!

    b. That fish was just gigantic!

    c. That roller coaster was just incredible!

This use seems to be preferred at extreme ends of scalar predicates, and certainly cannot be said to imply the typical exclusive "and nothing more" meaning like the previous two uses. For example, it would be infelicitous to utter something like "That fish was just gigantic, and no bigger".[4] However, I will discuss how we can include this use under the same analysis as the previous two, despite its obvious differences. I will go through one avenue for analyzing this in §3.4, as well as a possible alternative in §4.

Additionally, I have identified another category of use for the adverb *just*, which bears some resemblance to both the exclusive uses of *just* described in (1) and (2) and the emphatic use shown above in (3). I have labeled this use 'unexplanatory' *just*, as it seems to occur in contexts where the speaker is attempting to distance herself from a reason, explanation, cause, or evidence for the prejacent proposition. Examples of this use are given below in (4).

(4) Unexplanatory *just*

    a. I was sitting there and the lamp just broke!

    b. I just feel that it's going to rain.

    c. He just stopped texting me.[5] (I don't know why.)

    d. A: Why do you like Buffy the Vampire Slayer so much?
       B: I just do!

Unlike the examples in (3), these examples above in (4) all come with a sense of unexplainability, spontaneity, or 'gut feeling'. This unexplanatory use of *just* will be the central focus of this paper, and I will argue that it can be analyzed using the same basic framework as the exclusive uses of *just*; it simply is associated with a different type of alternative set (or can be said to be interpreted at different semantic sites, namely at the level of the speech act).

The remaining categories of meaning for *just* (which do not constitute a primary focus of my argument in this paper) that have been noted in the literature are the specificatory, exact, and comparative uses. The specificatory use usually serves to delimit some spaciotemporal adjacency and can be paraphrased variously with *right* or *barely*, and can occur with overt spacial or temporal references, as in *just now* or *just there*.[6] The exact use can be paraphrased with *exactly* and usually precedes *wh*-words.[7] The comparative use often precedes *like* or *as* and serves to introduce a comparison (Quirk 1972; Lee 1987; Kishner & Gibbs 1996), and can also be paraphrased with *exactly*. Examples of each of these three uses are given below in (114–117).

(5) Specificatory *just*

    a. I'm just finishing my homework.

    b. I've just heard that you are leaving us.           (Lee 1987: 390, ex. 72–73)

    c. You have something just below your eye.

(6) Exact *just*

    a. Just where do you think you're going?         (Kishner & Gibbs 1996: 19, ex. 5)

    b. I want to know just how he got in here.

(7) Comparative *just*

    a. I love cookies, just as you love cake.         (Kishner & Gibbs 1996: 19, ex. 6)

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[4]Note also that this 'emphatic' *just* is intonationally distinct from the exclusive uses mentioned above, and likewise does not associate with an intonationally focused element (though certainly does associate with a particular part of the sentence, in this case *gigantic*). As such, uttering a sentence like this is actually quite difficult, as the "and no bigger" addition seems completely unnatural with the usual emphatic intonation on the first conjunct. Essentially, it forces us to produce the first sentence with an exclusive intonation, which is quite infelicitous even without the follow-up.

[5]Thanks to Dorit Abusch for providing this example.

[6]This use could actually be analyzed in the covert modification framework in this paper; an extension to these uses will be discussion briefly in §6.3.

[7]This use arguably most closely corresponds to the historical meaning of *just* as 'exactly' (Oxford English Dictionary).

b. Just like the previous example, this is an example of comparative *just*.

Lee (1987) discusses the connections between specificatory *just* and the other meanings at length, though proposes no definitive or formal semantic connection between them. It seems plausible that there is some connection between these three uses and those discussed earlier, but for the main parts of this paper, I will not include these in my compositional semantics of exclusive operators. See §6.3 for a brief discussion of how these meanings might be incorporated into this analysis.

## 1.2 Theoretical Framework & Analysis Overview

My analysis will consist of a truth-conditional semantics, following analyses of focus alternatives in Rooth 1992; Chierchia 2013; Beaver & Clark 2008; Orenstein 2015 and others. However, I will demonstrate that in order to account for the data with a single semantic representation for exclusivity, we will need to modalize the alternatives over which *just* quantifies. Otherwise, we could appeal to a framework like that developed in Cohen & Krifka 2011, where they present an analysis of the phenomenon of scoping over speech acts. I will provide both the modal analysis for unexplanatory *just* and how it would be implemented in the speech act framework. For the latter, it modifies the speech act associated with the proposition in question, rather than the proposition itself.

One of the general research goals of the paper is to delineate the possible meanings of *just*, identifying which of these meanings can reasonably be said to be compositionally related synchronically. Once these meanings have been identified, I will provide an explanation of how they can be derived from the assumed base meaning of *just* in conjunction with differences in the alternative set it quantifies over. I will also explore the possibility that *just* can scope out of speech acts, in the sense of Cohen & Krifka 2011; Krifka 2012, as it appears to have some discourse functions, as well as an intimate connection to speaker stance and speaker commitments.

# 2 Exclusive Uses: Lee's 'restrictive' and 'depreciatory' *just*

As mentioned in §1.1, two of the uses noted in the literature on *just* can easily be described as exclusive operators, in the sense of Rooth 1992; Chierchia 2013; Beaver & Clark 2008 and many others. These two uses are Lee's (1987) categories of 'restrictive' and 'depreciatory' *just*. Restrictive *just* can always be paraphrased with *only*, and associates with a traditional entailment scale over the set of alternatives, as in Rooth 1992. Depreciatory *just*, on the other hand, quantifies over what Beaver & Clark (2008) refer to as a nonentailment scale, and is best paraphrased with *merely*, though *only* is also a felicitous synonym in many cases.

For the purposes of this analysis, I will combine these two readings under a single lexical entry for *just* (and exclusives generally), where the different interpretations come in from the differing ordering relations on the relevant alternative set (i.e., whether the scale is one of entailment or a contextually/lexically specified ordering of importance or relevance). The categorical distinctions we observe in the uses of *just* are thus an emergent property based on which kind of scale is being utilized in a given utterance, rather than due to separate lexical entries for these two types of exclusive *just*.

Note, however, that while I am arguing that *just* in particular allows either type of scale, I am in no way proposing that all exclusive operators allow such flexibility. Orenstein & Greenberg (2010) make quite a convincing argument that Hebrew unaccented *stam* 'merely'/'just' must associate with a nonentailment scale, unlike *rak* 'only'/'just'. We see a similar restriction with English *merely*, which can only be used as a paraphrase for depreciatory *just*, and not the ordinary entailment scale (restrictive) *just*. As such, I would argue that *merely* has a more precise lexical restriction on the type of alternative set and corresponding ordering than does *just*.[8] I will formalize this in §2.3 as an adverb-specific presupposition involving the type of scale each exclusive operator can quantify over. In the following two sections, I will elaborate on the distribution and interpretation of the these two exclusive uses of *just*, and how they correspond to other exclusive operators, including *only* and *merely*.

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[8]And even *only*, which can also be interpreted in the depreciatory sense.

## 2.1 'Restrictive' (Exclusive Nonscalar) *just*

What has been called the 'restrictive' meaning of *just* corresponds to the exclusive meaning traditionally associated with the focus-sensitive adverb *only*. Essentially, in this exclusive use, *just* gives rise to an alternative set relative to a focused element in a sentence and yields the implication that the original proposition is the only true proposition in that set. Examples of this use of *just* are given below in (9). This exclusive interpretation is clear, given the fact that we can paraphrase *just* with *only* as in (10), with no discernible difference in meaning.[9]

(9) Restrictive/exclusive *just*

    a. Just $[\text{Bill}]_F$ went to the party.

    b. Bill just $[\text{went to the party}]_F$.

    c. Bill just went to the $[\text{party}]_F$

(10) Restrictive/exclusive *only*

    a. Only $[\text{Bill}]_F$ went to the party.

    b. Bill only $[\text{went to the party}]_F$.

    c. Bill only went to the $[\text{party}]_F$

Like *only*, exclusive (Lee's 'restrictive') *just* can be said to have two components to its meaning. The first is the prejacent, or the base proposition without *just*, which corresponds to what Coppock & Beaver (2011a) call the 'positive' meaning. In the case of all of the examples in (9), this would be the proposition "Bill went to the party". The second is the universal quantificational contribution, or the 'negative' meaning, wherein all alternative propositions to the prejacent are denied (Beaver & Clark 2008). This is where the meanings in (9) will differ, as the alternative set will change depending on which constituent is under focus intonation. So (9a) will have as members of its alternative set propositions of the form '$x$ went to the party', for contextually relevant individuals $x$, while (9b) will have 'Bill $y$' for contextually relevant VP properties $y$, and (9c) will have 'Bill went to $z$' for relevant places $z$.

Following the analysis of *only* in Rooth 1992, this exclusive *just* results in a quantified assertion that every member of the alternative set for the prejacent proposition that is true must in fact be the prejacent itself (or entailed by the prejacent). Consider, for example, (9a) above, where the most natural reading of this sentence is an assertion that Bill is the only person who attended the party, as demonstrated with the *only* paraphrase in (10a). Here, the alternative set looks something like {Bill went to the party, Steve went to the party, Lucy went to the party, Bill and Steve went to the party, ... }, i.e., the set of propositions of the form "X went to the party" mentioned above. Given this set of alternatives, (9a) implies that *Bill went to the party* is true, and all other members of the set are false.

The treatment of *only* as an exclusive operator has been quite varied in the literature, with debates about at-issue status of the two aspects of its meaning. It is fairly clear that the quantificational aspect of exclusive operators like *only* and *just* is part of the asserted content, as it is the part that is "asserted by an assertion, negated by a negation, and questioned by a question" (Beaver & Clark 2008: 214). However, the status of the prejacent has been much debated.

Despite the debated status of the prejacent itself, the quantificational part of the meaning of exclusives is fairly straightforward.[10] For example, in Rooth 1992, a formula for a sentence of the form "Mary only VP", with the verb phrase under focus, is given as the following, which only includes the quantificational meaning as part of the asserted content, shown in (11).

(11)    $\forall P[[P \in C \land P(m) \rightarrow P = \text{VP}']]$ (where $C \subseteq [\![\text{VP}]\!]^f$)             (Rooth 1992: 5, ex. 9)

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[9]It is worth noting that there are some distributional differences between *just* and *only*, even for this exclusive meaning alone. An obvious one is that *only* can follow the focused element much more easily than *just* can, as demonstrated by its ability to occur in sentence-final position, a location not licensed for *just*, as shown below in (8)

(8)    a.    Bill went to the party only.                                            (cf. (10c))

     b.    *Bill went to the party just.                                          (cf. (9c))

Despite these differences, which seem to be purely syntactic, I argue that *only* is identical to this exclusive use of *just* in terms of its semantic properties, at least as far as the emergent effects appearing in the exclusive uses of *just*.

[10]With some variation in the exact formulation of these alternatives—see Beaver & Clark 2008.

The above formula for *only*, which can be utilized for *just* as well, involves a quantification over properties from a subset of the focus alternatives of ⟦VP⟧, stating that if a property in that set is true of Mary, then that property must be equivalent to the property denoted by the verb phrase. However, note that as written in (11), the truth of the prejacent proposition is only conditionally implied, i.e., the formula results in an assertion of the form "if Mary did anything, then she went to the party", which at least nominally corresponds to the analysis in Ippolito 2008 of the prejacent as a conditional conventional implicature. However, this analysis potentially gets us into trouble when we attempt to follow it with a direct negation, as cancellation of this "implicature" does not appear to be felicitous, as shown in (12).

(12)    a.  Just Bill went to the party. *In fact, no one did.
        b.  Bill just went to the party. *In fact, he didn't go anywhere.

So, at the very least, for the implicature analysis to hold up, we would need a presupposition that at least one alternative in the set holds true. However, this seems unnecessarily cumbersome as it would result in a conditional whose antecedent is necessarily true. There are reasons to adopt such a theory, though I will not go into them in detail here.

Others have taken the position that the prejacent is presupposed, which is supported by the fact that the prejacent generally survives in the family of sentences tests for presuppositions, including negation and questions. This is demonstrated in (13–15) below, adapted from examples given in Roberts 2011: 23.

(13)    Negation:
        a.  Not just Bill went to the party → Bill went to the party (and someone other than Bill also went to the party).
        b.  Bill didn't just go to the party → Bill went to the party (and Bill also went somewhere other than the party).

(14)    Questions:
        a.  Did just Bill go to the party? → Bill went to the party (asking if anyone other than Bill also went to the party).
        b.  Did Bill just go to the party? → Bill went to the party (asking if Bill also went somewhere other than the party).

(15)    Antecedent of Conditional:
        a.  If just Bill went to the party, it must have been pretty dull. → Bill went to the party (conditional applies if no one other than Bill also went to the party).
        b.  If Bill just went to the party, he must have had a pretty empty weekend. → Bill went to the party (conditional applies if Bill went nowhere other than the party).

As such, it does seem that there is a strong case for the prejacent being presupposed in the lexical entry of both *just* and *only*. However, since my analysis of the polysemous meanings of *just* relies mostly on the quantificational meaning differing, I will leave the question of whether the prejacent is presupposed, implicated, asserted, or some combination, and focus my attention on the quantificational part of the meaning, which is fairly unambiguously at-issue (asserted). I will discuss how the status of the prejacent interacts with the overall meaning where relevant, but my contribution ultimately is orthogonal to this question.

For the quantificational meaning, we could adopt something like the meaning in (11) for *just*, where the assertion would be that all alternatives other than the prejacent are in fact false. However, it also makes sense to only deny the propositions that are not entailed by the prejacent, as this definition allows for a wider range of possible alternatives (without giving rise to some kind of contradiction as a result). As such, I will follow Chierchia 2013 and Beaver & Clark 2008, among others, in claiming that *only* and this exclusive use of *just* involves an assertion that no *stronger* alternative is true.[11] A first pass at formalizing this is given below in (16). This formula is intended to represent an acategorical exclusive, i.e., any sentence involving exclusive *just*, regardless of whether the focused element is function or argument in the semantic representation. The

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[11]For this particular case, 'stronger' refers to strength on an entailment scale; however, as will be discussed shortly, the relevant scale is not always one of entailment.

extension to elements of any category will be useful when discussing some of the later uses of *just* as well. This modification is given below, where $\phi$ represents the prejacent proposition $C$ is the relevant subset of the alternative set for $\phi$ given the focused element in the sentence (following Rooth 1992, I require that $C \subseteq [\![\phi]\!]^f$, where $[\![\phi]\!]^f$ is the set of focus alternatives for $\phi$).

(16)   $[\![\text{EXCL}(\phi)]\!]^{M,w} = \forall q[(q \in C \wedge w \in q) \rightarrow \phi \subseteq q]$

As written, the formula in (16) for a sentence with an element $\alpha$ modified by *just* entails that for all alternatives $q$ for the prejacent $\phi$, $q$ is true only if $q$ is entailed by $\phi$, i.e., if $\phi$ is a subset of $q$. It is required that the elements of $[\![\phi]\!]^f$ (and therefore $C$) involve replacement of the focused element with something of the same semantic category, as in Rooth 1992.[12] As mentioned earlier, this formula in (16) applies regardless of the syntactic position of *just* within the sentence.[13]

Additionally, note that beyond the restriction that $C$ be a subset of the focus alternatives for $\phi$, $C$ is a free variable in the formula in (16). We might instead want to define *just* (and other exclusive operators) as a function that takes both a proposition and a relevant alternative set, as in the general formula for exclusives given in Orenstein 2015, adapted below as (17), where the underlined part represents the assumed presuppositional content of exclusives.

(17)   The lexical entry for exclusives:
      $\lambda C.\lambda p.\lambda w \; \forall q[q \in C \wedge$ q is salient $] \rightarrow q >_s p \wedge w \in p \wedge \forall q \in C[q >_s p \rightarrow w \notin q]$
      Where $C \subseteq [\![p]\!]^F \wedge [\![p]\!]^0 \in C \wedge \exists q \; q \neq p \wedge q \in C$                     (Orenstein 2015: 101)

As shown above, Orenstein takes there to be a presupposition that the only salient alternatives to the prejacent are ones that are stronger than the prejacent itself, as well as that the prejacent is true in the world of evaluation. Note also that the relevant ordering $>_s$ is broader than the purely entailment types of orderings associated with the 'restrictive' reading of *just* under discussion in this section. I will in fact adopt a very similar analysis in §2.3, but for now merely note that the asserted content of $q >_s p \rightarrow w \notin q$ is equivalent to my formulation that $w \in q$ entails that $\phi \subseteq q$, i.e., that $q$ is no stronger than $\phi$. Thus, aside from the presuppositions and the broader notion of ordering, this formula in (17) is the same as the one in (16), except that the alternative set $C$ is bound rather than free in (17). It is not clear that we should prefer one to the other, as there is certainly an intimate relationship between the prejacent (and its focused element) and the set of contextually relevant alternatives $C$.

So, for a sentence like (9a) 'Just Bill went to the party', we would have $[\![\phi]\!]^o$=*Bill went to the party*. For all elements $q$ in the relevant set of propositions from the set of focus alternatives for $\phi$ with respect to focused element *Bill*, if $q$ is true, then $q$ is entailed by $\phi$. With a focused element like *Bill*, there are likely no alternative propositions in the alternative set that are entailed by $\phi$,[14] since these will all be of the form 'X went to the party'.[15] The resulting meaning is that Bill went to the party and Bill is the only individual among the relevant alternatives who went to the party, which is exactly our intuition for the exclusive meaning of *just*.

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[12]Here, I assume that semantic type is sufficient to determine the alternative set. This runs counter to ideas proposed in Fox & Katzir 2011 that the syntactic category is relevant as well. Specifically, they argue that conjunctive categories should be treated separately from simple, non-conjunctive phrases. While there may be some reason to place such a restriction, it is not necessary for my current purposes. Furthermore, as my goal involves a general notion of an alternative set, a syntactic restriction will likely be too confining when we try to apply this notion to other uses of *just*. However, I remain open to the idea that exclusive/restrictive uses do need such a requirement, though I will not put it in the general semantic representation, for reasons that will become clear in my analysis of unexplanatory *just* and the construction of its alternative sets.

[13]This is in accordance with the equivalences $[\![[_S X[OY]Z]\!] = [\![[_S O[_S XYZ]]\!]]$ in Beaver & Clark 2008: 260, (where $O$ is the exclusive). In other words, it is assumed that we can talk about "just $\phi$" or "only $\phi$" when the exclusive operator is actually syntactically embedded within the proposition $\phi$. The particulars of association with focus are not under discussion in this paper, so I simply adopt the analysis provided in Rooth 1985, 1992 without modification, at least with respect to the 'restrictive' exclusives.

[14]This is assuming an analysis that does not "split" individuals into their component parts, i.e., assuming alternatives yielded by "Bill" do not include elements like "Bill's hair". However, this really has no effect on the analysis, because under this entailment definition, "Bill's hair went to the party" would certainly be true in contexts where "Just Bill went to the party" was true.

[15]However, with sentences with conjunctive focused elements, we can see how this entailment requirement would be necessary to capture the truth of 'Bill went to the party' from an assertion of 'Just Bill and Steve went to the party'.

## 2.2 'Depreciatory' (Exclusive Scalar) *just*

Lee defines the depreciatory meaning of *just* as the speaker intent to minimize the significance of the element being modified. However, the truth-conditional content of depreciatory *just* can easily be described in terms of quantification over alternative sets that arise in a way entirely parallel to that given in the previous section for ordinary exclusive *just*. Examples of this 'depreciatory' *just* are given below in (18).

(18)  Depreciatory *just*:
      a.  It was just Bill on the phone, nobody important.
      b.  Bill just went to a party, it's not like he suddenly became a delinquent.
      c.  I just have a small dog, he shouldn't be a problem.
      d.  They're not serious—just a nuisance.                           (Lee 1987: 379)
      e.  It's not a sharp headache…just a dull headache.          (Lee 1987: 379)
      f.  That one's just a cyst.                                     (Lee 1987: 379)

In all of these examples, we see that there is indeed a 'depreciatory' aspect to the meaning; however, this can easily be explained as a pragmatic inference resulting from the exclusive use of *just* over a set of alternatives with a clear positive/negative orientation. In (19d), for example, there is a contrastive focus involving alternatives on a scale of seriousness, whereby the speaker denies the high values on the scale while asserting[16] some lower element on the scale (in this case "a nuisance"). While this use can certainly be said to serve the depreciatory function noted by Lee, this is not substantively different from the ordinary exclusive use of *just*. We can see this clearly, as examples of depreciatory *just* are felicitously replaced with *only*, shown in (19).

(19)  Depreciatory *only*:
      a.  It was only Bill on the phone, nobody important.
      b.  Bill only went to a party, it's not like he suddenly became a delinquent.
      c.  I only have a small dog, he shouldn't be a problem.
      d.  They're not serious—only a nuisance.
      e.  It's not a sharp headache…only a dull headache.
      f.  That one's only a cyst.

As shown above, these examples can easily be replaced with *only* with no change in meaning; and furthermore, the depreciatory stance remains even with the *only* variants. By utilizing a focus-sensitive operator like *just* or *only*, the speaker does indeed minimize the modified content, as it by definition comes with an implication paraphrasable as "and no more". This can, depending on the context, result in a speaker stance of "depreciation", but this does not necessarily mean that we should approach this as a separate meaning of *just* that is categorically distinct from the ordinary 'restrictive' *just*.[17] Regardless of the fact that there may be some additional pragmatic content added in the cases involving depreciatory *just*, the fact that they can be paraphrased equally well with *only* indicates that we can use the same semantics for these two adverbs, at least with respect to the 'restrictive' and depreciatory uses.[18]

As noted in Kishner & Gibbs 1996 however, the depreciatory uses of *just* described above may also be paraphrased with the adverb *merely*, as shown below in (21).

(20)  Depreciatory *merely*:
      a.  It was merely Bill on the phone, nobody important.
      b.  Bill merely went to a party, it's not like he suddenly became a delinquent.

---

[16]Or presupposing, or implicating, depending on your analysis.

[17]Lee acknowledges this by proposing that this speaker attitude meaning belongs to Halliday's "interpersonal component" of the linguistic system rather than the "ideational component", i.e., that the distinctions observed do not affect the propositional meaning of the utterance, only the attitudes of the conversational participants toward those propositional meanings (Lee 1987: 384).

[18]Lee himself notes that several of these meanings tend to overlap, which is a main component in his analysis of these meanings as polysemous rather than merely homophonous.

    c. I merely have a small dog, he shouldn't be a problem.

    d. They're not serious—merely a nuisance.

    e. It's not a sharp headache. . . merely a dull headache.

    f. That one's merely a cyst.

This *merely* paraphrase may in fact be a more faithful paraphrase to the original speaker stance, as *merely* carries this 'depreciatory' index more obviously as part of its ordinary meaning.[19] However, even when *only* is used, as in (19), we see the depreciatory stance appearing, so I do not see a compelling reason to distinguish the restrictive and depreciatory uses in the lexical semantics of *just* (unless we also do that for *only*, which seems to unnecessarily overburden the lexicon). Though, as mentioned earlier, I will posit that other exclusive operators, including *merely* itself, do have some differing selectional requirements on top of the basic meaning I posit for *just* (and to some extent *only*). Regardless, it should be clear that this 'depreciatory' meaning normally associated with *merely* is quite available to both *only* and *just*.

Despite the fact that I do not wish to define depreciatory *just* as a separate lexical entry, there are some notable differences between the traditional (entailment) exclusive *just* described in §2.1 and the depreciatory use here. Unlike 'restrictive' *just*, this depreciatory *just* seems to involve contextually determined (or lexical) scales, such as importance or seriousness. This corresponds with the fact that *merely* can always be substituted for depreciatory *just*. *Merely* has been analyzed as requiring these contextual scales, rather than alternatives ordered by entailment (Coppock & Beaver 2011a; Orenstein 2015).

The fact that depreciatory *just* relies on these scales rather than on strict entailment relationships indicates that the semantic representation given in (16) for exclusive *just*/*only* cannot be simply borrowed and applied to depreciatory *just* carte blanche. For one thing, we can see for a fact that these scales can be unambiguously not entailment relations. Consider, for example, the following sentence, adapted from parallel analysis of the exclusive adjective *mere* in Coppock & Beaver 2011a, shown below in (21).

(21)   This is just a pointless "shoot-em-up" movie.             (Coppock & Beaver 2011a: 8–9)

In their analysis, Coppock & Beaver (2011a) note that the relevant scale in examples like these could be seen as one of "artistic merit", with points along ranging from "utter trash" on the low end to "movie with clever dialogue" on the higher end (and "pointless shoot-em-up" between those two). This scale is quite difficult to analyze as entailment, as it would be very strange to hold that "movie with clever dialogue" in any way entails "utter trash" (in the sense that, for example, "three dogs" entails "one dog"). As such, we will want to allow for a different kind of ordering on elements in the alternative set, which could be lexically or contextually determined.

Given this, we can now reformulate the definition given in (16) to one for *just* that quantifies over alternative sets ordered by nonentailment scales, as shown below in (22). Below, the $\leq_c$ represents a contextually determined ordering on the alternative set, where (following the pattern for entailment $\subseteq$) $x \leq y$ should be read as 'x is stronger than y', or 'x is higher on the scale than y'. And also following the definition for *just* with entailment scales, this nonentailment scale is used to compare propositions.

(22)   $\llbracket \text{EXCL}(\phi) \rrbracket^{M,w} = \forall q[(q \in C \land w \in q) \rightarrow \phi \leq_c q]$

We can apply this to an example like (21), with the previously discussed nonentailment scale of artistic merit. In such an example, the prejacent $\phi$ would be the proposition "This is a pointless 'shoot-em-up'", and two relevant alternatives would be propositions like "This is a movie with clever dialogue" and "This is utter trash". Thus, given the quantification in (22), we end up with the assertion that all stronger alternatives to $\phi$ are false, i.e., q=*This is a movie with clever dialogue* is asserted to be false. Note that as written, this certainly does not entail that weaker alternatives like q=*This is utter trash* are true; it merely requires that *if* they are true, they must be weaker/lower on the scale than the prejacent.

This kind of example also sheds some light on the question of the presuppositional status of the prejacent, at least with respect to the depreciatory use of *just* here. In (23) below, for example, the prejacent is not entailed by the negation of the sentence.

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[19]It should also be noted that there is likely a register difference between *just* and *merely*, which may affect the licensing and felicity of each in particular contexts.

(23)   This isn't just a pointless "shoot-em-up" movie.                    (Coppock & Beaver 2011a: 8–9)

Unlike, for example, a sentence like "Bill didn't just go to the party," which does seem to entail that Bill went to the party, (23) certainly does not entail that the movie *is* a pointless "shoot-em-up".[20] This indicates that the prejacent in these contexts is not presupposed, as it does not survive negation.

While the prejacent is clearly not presupposed, at least on the face of it, the negated sentence in (23) does seem to imply that the movie in question is at least as high on the scale as a pointless "shoot-em-up", which could be argued to be the actual presupposition under both the entailment and nonentailment scale uses, assuming we want to maintain a common base meaning for the two uses of *just*. This falls in line with the analysis in Beaver & Clark 2008: 261 that the presupposed content of exclusives involves a lower bound operator MIN, where the prejacent is presupposed to be the minimum true proposition in the alternative set.[21]

However, as currently formulated, we might expect that there would be other types of movies that are valued equivalently to "pointless shoot-em-up" on the scale of artistic merit. For example, it seems possible to envision a context where a "vapid romance" was seen as no better or worse than a "pointless shoot-em-up".[22] Under an assumption like this, the formula in (22) would come out true in the event that the movie in question was a vapid romance and not a pointless shoot-em-up. As such, we might be tempted to include the prejacent as a conjunct in the asserted content of a proposition modified by *just*.

However, we still would not want to maintain that this use of *just* involves an assertion of the prejacent in the form of a simple conjunction, as in (24), as this will give us the wrong truth values when *just* is under the scope of negation, shown in the derivation in (25) for a sentence like (23) where $\phi$=*This is a pointless "shoot-em-up" movie.*

(24)   $[\![\text{EXCL}(\phi)]\!]^{M,w} = w \in \phi \land \forall q[(q \in C \land w \in q) \rightarrow \phi \leq_c q]$

(25)   Derivation for (23) under conjunctive definition for *just*:

$$
\begin{aligned}
[\![\neg(\text{EXCL}(\phi))]\!] &= \neg(w \in \phi \land \forall q[(q \in C \land w \in q) \rightarrow \phi \leq_c q]) \\
&= \neg(w \in \phi) \lor \neg\forall q[(q \in C \land w \in q) \rightarrow \phi \leq_c q] \quad \text{(DeMorgan Equivalence)} \\
&= \neg(w \in \phi) \lor \exists q[q \in C \land w \in q \land (q >_c \phi)] \quad \text{(Quantifier Equivalences)}
\end{aligned}
$$

As shown above, simply adding the prejacent $\phi$ into the asserted content of *just* results in a disjunctive statement requiring that either the prejacent be false in the actual world *or* that there be some stronger alternative in the set that is true (not solely the latter, which is what we would want, and what we see with the non-conjunctive semantics for *just* in (22) shown earlier). Thus, it would follow that the utterance in (23) would actually come out true in a context where, for example, the movie is *worse* than a "pointless shoot-em-up", as long as the prejacent itself is false. As shown in the infelicity of (26) below compared to (27), this is an undesirable prediction.[23]

(26)   # This isn't just a pointless "shoot-em-up" movie; it's utter garbage![24]

(27)     This isn't just a pointless "shoot-em-up" movie; it's a cinematic masterpiece!

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[20]Interestingly, though, you can force this reading with an intonational emphasis on *just* itself, as in "It's not JUST a pointless shoot-em-up". In cases like this, the entailment scale we saw with restrictive *just* seems to be forced, and we get a reading that the movie is indeed a pointless shoot-em-up, but that it also has some other salient property. This reading does require special intonation, however. The explanation for why intonational emphasis is required for this reading is beyond the scope of the current analysis, but may be developed in future work.

[21]For the entailment cases, this would seem to imply that the elements from the set of focus alternatives $[\![\phi]\!]^f$ for the prejacent $\phi$ that are lower than (entailed by) $\phi$ are excluded from the subset of alternatives $C$ in the actual formula. More work would be needed to determine if this would cause some other problems, but it seems like a harmless assumption at this point.

[22]Thanks to Mats Rooth for pointing this out.

[23]Thanks to Andrea Hummel for these examples.

[24]There are actually contexts/intonations wherein this utterance is felicitous. However, these would involve a different ordering structure over the alternatives. In this particular case, in order for this sentence to be felicitous, for the scalar use of *just*, we would need to be in a context where the "high" end of the scale is one of "awfulness" rather than "artistic merit". Another context where this sentence would be felicitous is one where *just* actually is quantifying over alternatives ordered by entailment. In this case, the interpretation would be that "pointless shoot-em-up" is not the only relevant characteristic of the movie in question (it is also utter garbage). The distinction between the reversed nonentailment scale and the entailment scale interpretations is quite minute, as they correlate with very similar contexts. In either case, this example would have a reversed felicity judgment with that for (27). More will be discussed on order reversals and possible structure of alternatives in the next section.

So, given these two issues, we need a way to ensure that the prejacent itself (and not an equivalently valued proposition, such as the vapid romance example) is somehow entailed by the positive assertion of a *just* sentence, but is not included in the asserted content. The solution to this may be to posit that the scalar alternative set is restricted in such a way that elements like "vapid romance" are not included in the set. There is reason to posit such a restriction, as there does seem to be some background assumption that the movie described in (21) features shooting as a defining characteristic. So, we could be more precise in our choice of scalar alternatives to variants of shooting movies, such that we only have elements like "utter trash shooting movie" and "shooting movie with clever dialogue" in the alternative set $C$.[25]

As long as the alternative sets are properly constrained, we can see that the definition for 'restrictive' *just* via entailment provided earlier is quite parallel to the one using nonentailment scales for depreciatory *just*. As such, in the following section I will provide a common formula for exclusives under a general notion of an alternative set and ordering over that set. I will show how the exclusive uses of *just* both fall out from varying either or both of these parameters, as well as how this can be extended to some of the other uses of *just* mentioned earlier.

## 2.3 Combining the Scalar and Nonscalar Exclusive Uses

While there are some notable and important differences between entailment scale (restrictive) *just* and nonentailment scale (depreciatory) *just*, given the fact that their semantic results are so similar, it seems desirable to combine them into a single lexical entry, which may be contextually or syntactically restricted to one or the other use. In accordance with that goal, I propose a basic general definition for exclusive *just*, regardless of the particular alternative set or ordering structure involved in the implementation to a particular utterance.[26]

First, I will propose some constraints on what can qualify for the set of alternatives for a given prejacent and focused element. These are given below in (28).

(28)   A set $C_{\leq}(\phi)$ constitutes a valid set of alternatives for proposition $\phi$ with focus alternatives $[\![\phi]\!]^f$ iff:
    a. There exists a partial ordering $\leq$ on $C_{\leq}(\phi)$ such that
        i. For all $\psi_1$, $\psi_2$, $\psi_3$ in $C_{\leq}(\phi)$, if $\psi_1 \leq \psi_2$ and $\psi_2 \leq \psi_3$, then $\psi_1 \leq \psi_3$, and
        ii. For all $\psi_1$, $\psi_2$ in $C_{\leq}(\phi)$ if $\psi_1 \leq \psi_2$ and $\psi_2 \leq \psi_1$, then $\psi_1 = \psi_2$.
    b. For all $\psi \in C_{\leq}(\phi)$, $\psi \in [\![\phi]\!]^f$ (i.e., either $\psi = \phi$ or $\phi \sim \psi$, in the sense of Rooth to appear.)

The first clause in the above definition in (28) simply requires that $\leq$ respects transitivity and antisymmetry. The second clause requires that all propositions in the alternative set are also elements of the set of focus alternatives for $\phi$. Note that this is equivalent to the 'Constraint on Scales' given in Rooth 1992: 9; the only difference here is that I require there to be some ordering over the alternatives $C$ in order for $C$ to count as a valid alternative set in the first place.[27] Given this definition of a valid (ordered) alternative set,[28] we can now provide a more general notion of quantification over alternatives for *just*, which applies regardless of whether our alternative set is ordered by entailment, as in 'restrictive' (nonscalar) *just*, or by contextual or lexical scales, as in depreciatory (scalar) *just*. This new definition is given below in (29)

(29)   $[\![\text{EXCL}(\phi)]\!]^{M,w} = \forall q[(q \in C \wedge w \in q) \rightarrow \phi \leq q]$

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[25]The alternative solution would be to require that every element in the alternative be strictly ranked by the ordering relation. This would require that in any given contextual ranking of "artistic merit", either "vapid romance" or "pointless shoot-em-up" is strictly stronger than the other. We might be able to get away with this under an additional assumption that speakers may not have complete knowledge of the ordering of the scales they are utilizing, and so may not actually know or care about the ordering of "vapid romance" and "pointless shoot-em-up" in context. However, the restriction on the relevant set of alternatives seems to be a simpler and less problematic solution to this issue.

[26]This basic definition can be seen to be similar to variations of the covert ONLY exclusive operator (Chierchia 2013; Beaver & Clark 2008). I view it as the core meaning of a variety of different exclusives, which each then combine with other morphological and semantic entities, getting us the differences in distribution and fine meaning between the actual lexical items.

[27]I also adopt the notion that the alternatives in the set of focus alternatives are formed by replacing the syntactic focused element with a constituent of the same semantic type, as mentioned in §2.1.

[28]This can also be viewed as a pair consisting of an alternative set and an ordering $\langle C, \leq \rangle$, rather than an inherently ordered set. The relevant part here is that there must be a specified ordering in a given context over the alternative set $C$ in order for $C$ to be evaluated in a given formula.

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For any given utterance, the relevant ordered alternative set must be provided in order to evaluate the expression in (29). There is no uniqueness restriction on the ordering for a particular alternative set, so in theory we could see ambiguity arising out of different orderings on the same baseline alternative set. In fact, this seems like a desirable result of the theory, as we see examples where, especially with depreciatory uses of *just*, the given scale can flip directions depending on the surrounding context. Examples of this are given below in (30).[29]

(30) Flipped Scales for Depreciatory *just*:
    a. I'm not a philosopher, I'm just a linguist.
    b. I'm not a linguist, I'm just a philosopher.

Regardless of our own predisposition toward some inherent direction of the scale including both philosophers and linguists, it is easy to construct a context where expertise in philosophy would be valued more highly than that in linguistics, and vice versa. It is equally easy to envision that the alternative set involved in both cases might contain identical elements, with the only difference being the contextual scale of importance given by the ordering. Either ordering (linguist≤philosopher or philosopher≤linguist)[30] could be acceptable given the definition of an alternative set, but each of the two sentences in (30) would only be licensed under one of the two orderings for a given context.

This kind of scale flipping really is only licensed for nonentailment scales, which is expected given that these orderings correspond to "stronger than" relationships—entailment has that built in and no amount of contextual information would allow it to flip direction or reverse. For example, in the entailment lattice below, at no point would *Steve* be stronger than *Bill and Steve*.[31]

(31) Entailment Scale for {x went to the party} for individuals $x$:
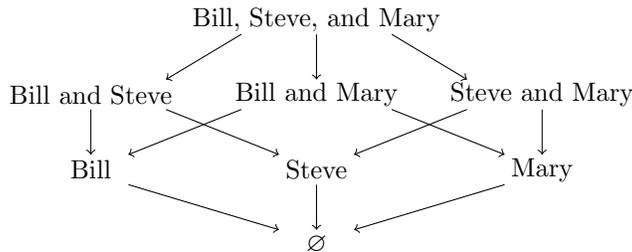


(adapted from (Rooth 1992: 9))

As shown above in (31), with ordinary entailment shown by the arrows, we could certainly mathematically define an ordering that reversed the arrows (namely, the superset ordering $\supseteq$). However, despite the mathematical availability of such an ordering, it seems virtually impossible to construct a context in which a sentence like *Just Bill and Mary went to the party* to entail that Steve also went to the party, given the model above. Even trying to construct these kinds of readings results in some very strange mental contortions, and clearly we do not want to say that this kind of ordering should be available over alternative sets like these.

This is evidence that this is indeed a "less than" relationship, with some reference to the relevant question in a given context of utterance when we construct these alternative sets. I will take the relevant question to correspond roughly to the 'congruent question' (CQ) defined in Roberts 2012; Simons *et al.* to appear and elsewhere, or possibly the weakened variant of 'current question', also abbreviated CQ, in Beaver & Clark 2008. For a sentence like *Just Bill went to the party*, the relevant question would need to be a quantitative question such as "Who are the people who went to the party?", where the prejacent proposition is an element of the set denoted by that question. However, in a different context, we might see a different type of alternative set involving individuals, but that has an evaluative or qualitative focus. For example, in a depreciatory *just* sentence like *It was just Bill on the phone*, the relevant question might be "How important

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[29]Thanks to Mats Rooth for pointing out these kinds of examples.

[30]This is shorthand notation for the propositions involving linguists and philosophers, as alternative sets are sets of propositions in the current framework.

[31]This entailment pattern is extended to the propositions involving these individuals, as alternative sets in this framework are sets of propositions.

was that phone call?" or "How important/scary/etc. is the person on the phone?" These alternatives would be ordered on nonentailment scale of relative importance, given the particular contexts and goals of the conversation.

So, my rough explanation for why entailment scales never flip is that for quantitative or identity-focused questions, the ordinary subset entailment relation is filled in as the ordering over alternatives by default. For evaluative or qualitative questions, we see evaluative scales, which are contextually determined and ordered, and therefore we see more variability in the direction of "importance". This actually corresponds to our general understanding that the nonscalar 'restrictive' uses of exclusives like *just* and *only* are in some sense more basic than the scalar uses, reflected in the fact that they utilize the default scale of entailment. The 'depreciatory'/scalar uses are extensions of the same basic semantic formula for *just* to non-default scales, resulting in a larger degree of flexibility of orderings and direction of ordering on those scales.

Requiring these evaluative alternative sets and their orderings to come from the relevant question also corresponds to the fact that *just* does seem to require that the prejacent be relatively low on the scale in question. Thus, if the scale is one of importance, the prejacent is implied to lack importance in some relevant way. So, if we frame this in such a way that the ordering is generated by the relevant question, where the low end is required to be the least relevant/desirable element with respect to that question, we see why scales like the linguist/philosopher scale are so mutable depending on the context.

Note that it is also possible to envision other orderings over a similar or even identical base alternative set where philosopher and linguist are not crucially ranked with respect to each other (or are ranked equivalently; either would meet the definition in (28) above). For example, consider the context where the relevant scale is one of level of expertise in economics, and neither linguists nor philosophers are seen as inherently better at economics than the other. In such a context, we would imagine that sentences like the following would get similar truth values.[32]

(32) I'm just a linguist.

(33) I'm no better than a linguist.

We certainly do get the same implication that being a linguist is somehow insufficient or less than desirable for the current task for both (32) and (33). However, they differ on the the question of whether the speaker is in fact a linguist. In (32), it seems fairly clear that there is an implication that the speaker is a linguist, while in (33), it would be quite odd if the speaker were actually a linguist. This can be shown in the infelicity of follow-ups like (34) and (35).

(34) I'm just a linguist. ??I'm just a philosopher.

(35) I'm no better than a linguist. I'm just a philosopher.

This seems to indicate that there is indeed a firm implication that the prejacent is true in sentences with exclusive operators, unlike the seemingly reasonable paraphrase with a comparative quantifier in (33).

However, given the problems we saw with the "pointless shoot-em-up" example in the previous section, this presupposition must correspond to a finer-grained notion of possible alternative sets and what is presupposed for each alternative set. The relevant distinction between the *This is just a pointless "shoot-em-up"* example and the *I'm just a linguist* example seems to be the presence of an evaluative modifier in the former but not the latter. This is further demonstrated by the fact that adding a similarly evaluative adjective in the linguist example also results in a lack of presupposition projection under negation, shown in (36).

(36) I'm not just an armchair linguist. ↛ I am an armchair linguist.

Just as we saw with the "pointless shoot-em-up" example presupposing that the movie involves shooting, however, the sentence in (36) *does* appear to come with the presupposition that the speaker is a linguist (but not one of the armchair variety). This may come out as a result of the scalar alternatives that are evoked by an utterance like (36), where each point on the scale answering a question like "How academically rigorous of a linguist are you?" actually excludes all other points on the scale (in both directions). Under such an assumption, we can say that (36) comes with a presupposition that the value of the speaker/subject on this scale is at least as high as that of an armchair linguist; however, the asserted content (due to the negation)

_____
[32]Thanks to Mats Roth for pointing out this contrast.

that there exists a point *higher* on the scale than armchair linguist that is true of the speaker entails (due to world knowledge) that the speaker cannot be described as an armchair linguist. The same kind of analysis could be given to the "pointless shoot-em-up" example.

More still needs to be worked out as to why only prejacents containing evaluative modifiers seem to fail to show presupposition projection of the full prejacent. For example, under this kind of analysis, we would expect the negated variant of (32) to also not project. The entailment patter we do see, demonstrated in (37), shows that the prejacent does not project through negation in the absence of a modifier.

(37)   I'm not just a linguist. → I am a linguist.

However, note that an utterance of (37) does not actually lend itself to the scalar interpretation. In fact, the salient scale over which the exclusive in (37) seems to quantify is an entailment scale, where the assertion something like "'Linguist' is not my only defining characteristic/occupation/etc."[33]   So, an utterance of (37) is not licensed in all of the same contexts, with the corresponding ordered sets of alternatives, as the non-negated variant in (32). This is an interesting puzzle, and one that will be explored in future work. For the moment though, I will leave it aside.[34]

## 2.4   Specific Lexical Restrictions for (some) Exclusive Operators

Now that we have a basic working definition for the common meaning for exclusive *just*, it is important to note that there are other exclusive operators, both in English and cross-linguistically, with additional requirements (which I will formalize morphologically as presuppositions) on the scale or ordering in question.

For example, English *merely* seems to be more restricted in terms of what kinds of scales it can quantify over. Specifically, *merely* seems to require its scale to be an evaluative scale. Note that sometimes evaluative scales can be identical to entailment scales both in membership and abstract ordering; however, *merely* requires that the relevant question giving rise to this scale have a "good" end and a "bad" end that lines up with the high and low ends, respectively, regardless of whether we could also characterize the scale as one of entailment. This can be seen in the following examples, where *merely* is only licensed where it results in a quantificational denial of the "good" options, as in (40). This contrasts with exclusive operator *only*, which is licensed in both (39) and (40).

(39)   Colleges will only look at people who have fewer than five disciplinary infractions, which is great for me, because I #merely/✓only have two!

(40)   Those guys will only let you join their club if you have more than five disciplinary infractions, which is bad for me, because I ✓merely/✓only have two.

Given data like this, I take the lexical entry for *merely* to be more specific than the general definition for exclusives, and instead is more similar to the specific definition for depreciatory *just* given in (22), which requires that it be a contextually or lexically specified evaluative scale rather than one of pure entailment.

In their overview of the Hebrew focus-sensitive operator unaccented *stam* 'merely/just', Orenstein & Greenberg (2010) note some important differences between the distribution of this operator and the more general exclusive operator *rak* 'only/just'. For example, they note that despite the fact that it can quantify over either type of scale, *rak* strongly prefers an entailment scale in its interpretation; in contrast, *stam* is only compatible with nonentailment scales (Orenstein & Greenberg 2010). So, we might want to posit that while *rak* may have a lexical entry similar the general definition we are positing for *just* and *only*, *stam* likely has more restrictions on the type of scale it allows on its alternative sets.

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[33]Though, certainly we could maintain that there is also an evaluative ordering over how many or which characteristic each individual should have. But the scale being quantified over is not the evaluative one in this case; it is the baseline entailment scale.

[34]There is also a sense in which the negated version in (37) could be used in an evaluative context: specifically, when *just* is emphasized as in (38).

(38)   You're not [just]$_F$ a linguist.

In this case, the speaker is directly targeting the use of the word *just* to diminish the importance of being a linguist. This could easily be analyzed as metalinguistic negation on the implication/presupposition that being a linguist is low on the relevant evaualative scale.

In order to account for this kind of phenomenon, I posit that every exclusive operator has as its basic lexical entry the formula given in (29). I continue to leave out the presupposition regarding the prejacent itself, for simplicity. This variant for the basic exclusive operator, written as EXCL, is shown below in (41).

(41) $[\![\text{EXCL}]\!]^{M,w} = \lambda C_{\leq}.\lambda p.\forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow p \leq q]$
Where $C_{\leq}$ is a valid ordered alternative set, according to the definition in (28).

Exclusive operators like *merely* and unaccented *stam* include this basic exclusive meaning with an additional presupposition requiring the $C$ in question to be ordered by an evaluative scale. In order to do this, I will define a MERELY-scale, as (42) below.
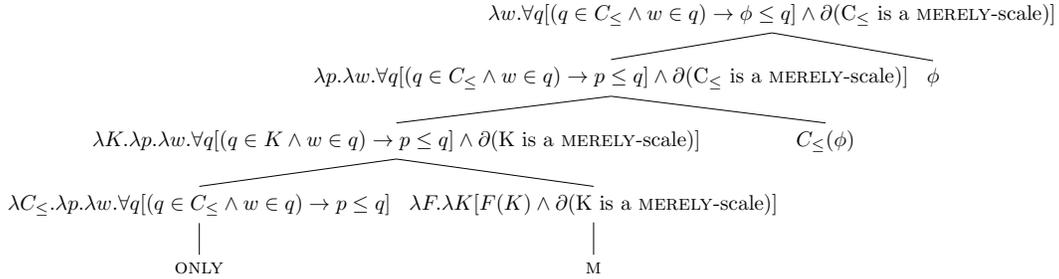
(42) An ordered alternative set $C_{\leq}$ is a MERELY-scale if the scale is ordered such that given a relevant question in the context, for every $\psi_1, \psi_2 \in C_{\leq}$ such that $\psi_1 \leq \psi_2$ (where $\psi_1 \neq \psi_2$), $\psi_2$ is valued as more desirable than $\psi_1$ according to the relevant ordering source (Kratzer 2002).

Given this definition of a MERELY-scale, we can say that exclusives requiring these types of scales result in a combination of the general meaning in (41) with an additional presupposition that $C_{\leq}$ is a MERELY-scale. I formulate this as a separate morphological unit M that combines with EXCL to add this presupposition. The formula for this operator is given below in (43), utilizing the notation from Beaver 2001 of $\partial$ for the presuppositional content.

(43) $[\![\text{M}]\!] = \lambda F.\lambda K[F(K) \wedge \partial(\text{K is a MERELY-scale})]$

So, we can say that exclusives like *merely* and *stam* are the result of composition of the EXCL operator with this M operator, via function application. Here, *merely* can be seen as M(EXCL). We can see how this would work in the following derivation tree for a sentence involving *merely* and prejacent proposition $\phi$ and alternative set $C_{\leq}$ in (44).

(44) merely($\phi$):

$\lambda w.\forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow \phi \leq q] \wedge \partial(\text{C}_{\leq}\text{ is a MERELY-scale})$

$\lambda p.\lambda w.\forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow p \leq q] \wedge \partial(\text{C}_{\leq}\text{ is a MERELY-scale})] \quad \phi$

$\lambda K.\lambda p.\lambda w.\forall q[(q \in K \wedge w \in q) \rightarrow p \leq q] \wedge \partial(\text{K is a MERELY-scale})] \qquad C_{\leq}(\phi)$

$\lambda C_{\leq}.\lambda p.\lambda w.\forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow p \leq q] \quad \lambda F.\lambda K[F(K) \wedge \partial(\text{K is a MERELY-scale})]$

ONLY · · · · · M

Thus, we now have a mechanism by which to add specific requirements on scales and alternatives to exclusive operators whose distribution is more restricted than the more basic ones like *only*, *rak* and *just*. As we encounter new operators, we may need to posit other presupposition-adding operators like M that can be added on top of the basic exclusive meaning. In fact, given the difference in distributional requirements between *only* and *just*, I will argue that *only* also has selectional constraints that are not present in the entry for *just*.

As far as the exclusive uses of English *just* go, however, there is no *just*-specific presuppositional operator involved in the compositional semantics. Instead, *just* is free to combine with a wide variety of different scales, some of which are entailment, and some of which are evaluative MERELY-scales as defined above in (42). The categorical distinctions we see emerging are simply the results of grouping the uses of *just* by the type of scale it combines with in each particular context. Furthermore, as I will discuss in the next section, *just* is licensed in contexts broader than simply the evaluative vs. entailment contexts described thus far.

## 3 Broadening our Notions of Exclusivity

In this section, I will highlight another use of *just*, which I have called 'unexplanatory' *just*, arguing that it should also be viewed as an exclusive operator. Additionally, given this view of unexplanatory *just*, I

will also argue that the use of *just* referred to in the literature as 'emphatic' *just* should be analyzed along similar lines. However, unlike the exclusive uses of *just* we have seen in the previous section ('restrictive' and 'depreciatory'), unexplanatory *just* does not appear to associate with a particular focused element in the proposition it modifies. For this reason, as well as several others to be discussed, we will need to broaden our view of what it means to be an exclusive operator in the first place, especially in terms of what it means to be an alternative over which an exclusive operator can quantify.

## 3.1 Non-Roothian Alternatives

The types of alternatives discussed in the previous section have all been of the standard 'Roothian'/'external' (Orenstein 2015) variety, where each member of the alternative set is identical to the prejacent in form except with the focused element replaced with another constituent of the same semantic type. However, as mentioned by Rooth (to appear), there are a number of other implementations of alternative semantics that do not involve prosodic focus, including scalar implicatures related to negative polarity items, as well as disjunction, as in Aloni 2003, 2007; Alonso-Ovalle 2006, and lexical alternatives, as in Abusch 2002, 2009.

As such, it is not inherently a problem for the current theory that unexplanatory (and 'emphatic') *just* does not appear to associate with a prosodic focus in the same way that the ordinary exclusives do. However, given that we will need to attribute the relevant alternative set to some linguistic mechanism, we will need to determine if the alternatives are lexically, contextually/purely semantically, or syntactically determined (possibly through covert syntactic or morphological elements). Ultimately, I will want to say that any of these may be the source of alternatives; in fact, this is one of the ways that we get polysemy with operators like *just*. But for unexplanatory *just* in particular, I will explore the possibility that they are either purely pragmatic/semantic alternatives as well as the idea that there is a covert syntactic element that gives rise to the relevant alternative set.

In fact, there is some evidence for the latter. As pointed out in Orenstein 2015, it seems that some exclusive operators may operate over different kinds of alternatives, which Orenstein describes as 'internal' alternatives (Orenstein 2015: 103). Rather than being elements of the set of focus alternatives, as we saw with the external alternatives, these internal alternatives can be seen as 'different versions of the prejacent'.

As evidence for the availability of these internal alternatives for quantification by exclusive operators, Orenstein shows that when accented, Hebrew *stam*, henceforth *STAM*, seems to operate over exactly these kinds of alternatives. Consider the following example with *STAM* shown below in (45).

(45)   kibalti Saon, ha-beaya     hi Se-ze  *STAM* shaon!
       Got.I   watch the.problem she that.it *STAM* watch

       'I got a watch. The problem is that it's *STAM* a watch!"            (Orenstein 2015: 103)

According to Orenstein, the implication of an utterance like (45) is that the watch in question is a "simple" or "cheap" watch, and nothing more, and suggests possible alternative sets like {*It's a cheap watch* < *It's an expensive watch*} involving these 'internal' alternatives each describing a different sub-category of *watch* (Orenstein 2015: 103). To explain why we get the truth conditions we do for these uses of *STAM*, Orenstein posits that the alternatives in this sentence come from "covert evaluative modifiers", such that the actual alternative set for (45) would look like the following, shown in (46), where the underlined alternative represents the prejacent that is presupposed.

(46)   *It's* $\text{MOD}_1$ *watch* > *It's* $\underline{\text{MOD}_2\ watch}$                        (Orenstein 2015: 104)

Here, $\text{MOD}_2$ (the actual covert evaluative in the prejacent) would be filled in by the context, and in the particular case of (45) would mean something like "standard". Thus, an alternative set consisting of these internal alternatives yields the correct assertion for (45) that the watch in question is a standard watch, but not a special, expensive, or particularly interesting watch, depending on the contextual evaluative scale corresponding to the relevant question.

This idea that exclusive can quantify over internal alternatives that are not given rise to via prosodic focus will be very useful in categorizing the use of *just* I have labelled unexplanatory *just*. In particular, as will be discussed, unexplanatory *just* does not associate with focus intonation in the standard way, just as we see with Hebrew *STAM*.With *STAM* in particular, Orenstein maintains, following Egg & Zimmerman 2011;

Greenberg 2014, that the accent actually shifts to *stam* "because its associate is given in the context, and hence, de-accented" (Orenstein 2015: 103). A similar explanation cannot be given for English unexplanatory *just*, as it is certainly not systematically produced with intonational emphasis. However, the notion that the actual associate that *would* have been focused is covert and therefore not prosodically marked is worth pursuing. There is evidence that although *just* is not often accented in this way in English, focus can shift to other elements in the sentence when the actual trigger for the alternative set is covert. Specifically, *just* can combine with a focused *any* to force low scope of the universal quantifier. In such cases, *any* is often expressed with prosodic emphasis. More will be discussed on this in §3.4. As such, this seems like a promising starting point for my analysis of English unexplanatory *just*, and will be discussed further in the following section.

## 3.2 Unexplanatory *just*

In this section, I introduce a use of *just* beyond the exclusive ones I have discussed so far, which does not easily fit into any previously identified category. I have labelled this additional meaning the 'unexplanatory' use of *just*, because it tends to occur in contexts where the speaker is distancing himself from the reason, motivation, or cause (explanation) for the prejacent proposition (or eventuality denoted by the proposition).

The following are examples of what I have called 'unexplanatory' *just*, where the speaker in some way distances herself from an explanation, cause, or reason for the phrase modified by *just*.

(47)  Unexplanatory *just*
    a.  I was sitting there and the lamp just broke!
    b.  I walked into the store, saw the necklace, and just took it. I don't know why I did it.
    c.  Steve just knows that Susan is lying.[35]
    d.  I just feel that it's going to rain.
    e.  He just stopped texting me.

Note that, importantly, these examples in (49) cannot be paraphrased with *only*, as shown below in (48). It would be anomalous if the intended reading of, say, (49a) were that the lamp broke but nothing more, or that only the lamp broke. Obviously, there are other contexts where these constructions are felicitous, but with the given setup they seem unlikely for this example. Regardless, the reading I am examining here is the one where the lamp suddenly/for no reason broke; it is under this interpretation that the infelicity markings would appear.

(48)  *Unexplanatory *only*
    a.  # I was sitting there and the lamp only broke!
    b.  # I walked into the store, saw the necklace, and only took it. I don't know why I did it.
    c.  # Steve only knows that Susan is lying.
    d.  # I only feel that it's going to rain.
    e.  # He only stopped texting me.

Instead of the traditional exclusive meaning paraphrasable with *only*, the reading for (49a) is that the lamp broke seemingly spontaneously, or that the speaker does not know (or possibly does not care to say) what caused it to break. This meaning, as with emphatic *just* to be discussed in §3.4, is paraphrased best by substituting *simply* for *just*, as in the following examples.[36]

(49)  Unexplanatory *simply*

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[35]You may have noted that for this example in particular, there does appear to be a prosodic emphasis on *know*. However, this is quite distinct from the kind of focus you see in association with focus or contrastive focus constructions. For example, compare the intonation you would expect for (49c) with the similar sentence "Steve just [thinks]$_F$ that Susan is lying", which does have actual focus intonation. On the other hand, with (49c), the intonation is what we might call 'sarcastic' or 'scare-quote' intonation. There are quite a few interesting correlations of this particular predicate with this intonation, as well as with *just*. See Wiegand 2015 for more details.

[36]Note that this is not a perfect substitution; some examples are better than others with *simply*. This can be explained easily enough by noting different selectional requirements between *just* and *simply*.

a. I was sitting there and the lamp simply broke!

b. I walked into the store, saw the necklace, and simply took it. I don't know why I did it.

c. Steve simply knows that Susan is lying.

d. I simply feel that it's going to rain.

e. He simply stopped texting me.

This unexplanatory use of *just* seems to come from a limitation or restriction on the reason or evidence for the prejacent, rather than the prejacent itself as seen in the other exclusive uses in §2. In other words, the speaker in (49d) is restricting her feeling that it is going to rain to contexts where she does not have a (sufficient) reason to do so. So, the relevant alternative set for this 'explanatory' *just* could be seen as the set consisting of the same prejacent event combined with potential reasons or explanations for that event. Note that this fairly closely mirrors the behavior of Hebrew *STAM* as described in Orenstein 2015.

A similar story can be told for (49c), where *just* serves to limit the evidence for Steve's "knowledge" of Susan's lying. In this case, we can paraphrase the sentence as "Steve believes/knows that Susan is lying, but there is no salient reason or evidence for this belief", or better yet "Steve has some amount of evidence for his belief that Susan is lying, but not more than that particular amount".[37] Again, this second paraphrase bears a striking resemblance to the presumed meaning of *only*, with the restriction applying to the evidence for the proposition rather than the proposition or some element in it.

In order to generate the intuitively correct alternative set, we will need to modify, or at least refine, our notion of alternatives. Given these types of paraphrases, in conjunction with the fact that this unexplanatory *just* does not correspond to focus intonation on an element of its prejacent, I will posit that unexplanatory *just* behaves in a similar way to Hebrew *STAM*. The difference, though, is that instead of a covert evaluative modifier, we have a covert reason/cause clause, the alternatives over which *just* is quantifying. For exposition purposes, we will consider the following simpler variant of (49a), shown below in (50).

(50)    The lamp just broke.

Following the analysis of *STAM*, the alternatives for (50) look something like {The lamp broke $\text{CAUSE}_0$, The lamp broke $\text{CAUSE}_1$, The lamp broke $\text{CAUSE}_2$, ... }, where the 'presupposed' part is that the lamp broke for some minimally ranked reason $\text{CAUSE}_0$ corresponding to the covert modifier present in the prejacent itself. There will be some problems with this formulation, which will be discussed and addressed shortly.

The exact syntactic arrangement of these CAUSE modifiers remains to be determined, but they serve a similar (while not identical) role to a typical focused element in a phrase modified by an exclusive operator like *only*. Given these types of alternatives, along with lowering the restriction that $C \subseteq \llbracket \phi \rrbracket^f$, we can assume for the moment that the same baseline semantics for exclusive operators can be utilized here, represented again below as (51).

(51)    $\llbracket \text{EXCL}(\phi) \rrbracket^{M,w} = \forall q[(q \in C_\leq \land w \in q) \to \phi \leq q]$

We see more evidence that this *just* is quantifying over explanations or causes in the following example, shown in (52). Suppose that the following utterance was said by a store employee to a customer, in response to a question about the return policy for broken or defective electronics.

(52)    If the electronic device just stops working, bring it back and we will repair or replace it. Otherwise, you'll have to buy a new one.[38]

The above example clearly shows that the contribution of *just* is "for no apparent reason" interpretation, where the employee means to communicate that "if you are at fault for the electronic device ceasing to

work, we will not replace it for free". This is made obvious by the continuation *otherwise*. *Otherwise* is usually analyzed as a propositional anaphor that picks out a salient proposition $\phi$ and sets up a hypothetical context "if not $\phi$". In this case, *otherwise* is picking up on the covert quantificational proposition evoked by the proposition $\phi$=*the electronic device just stops working*, i.e., that there is no (discernible) reason or cause for the device not working.[39] When it is negated by the "if not $\phi$" context set up by *otherwise*, we get the resulting hypothetical context "if there is a reason for the electronic device ceasing to work", with the implication that such a reason would imply fault on the part of the consumer. In the context, this is the only salient interpretation, further demonstrating that this use of *just* quantifies over the evidence for the prejacent proposition. This is worked out below in (53).

(53) Derivation for hypothetical context if(not(just($\phi$))):
$[\![\text{if}(\neg(just(\phi)))]\!]^{M,w} =$
$\text{if}(\neg(\forall q[(q \in C_{\le} \wedge w \in q) \to \phi \le q])) =$
$\text{if}(\exists q[(w \in q \in C_{\le} \wedge q > \phi)])$

So, this hypothetical context above requires that there be at least one element of the alternative set $C_{\le}$ that is both stronger than the prejacent and true in the actual world. Since all of these are 'internal' alternatives, they are all of the form "...stopped working CAUSE", which therefore entails in this example that there exists some reason stronger than the covert $\text{CAUSE}_0$ which is also true in the actual world. This is intuitively correct for an example like (52), as long as we restrict the causal modifiers to contextually salient ones, in this case, ones where the customer was somehow at fault for the electronic ceasing to work.

The intuition that these uses of *just* quantify over reason or evidence-related alternatives is further supported by the felicitousness of unexplanatory *just* in answers to *why* questions. These are often (but not always) uttered in a context where the speaker is acting refusing to answer the question. This response often corresponds to a harsh falling tone on the prejacent and, interestingly, a severely phonologically reduced production of *just* (approximately [dʒst], or even [tʃst], with no discernible voicing or vocalic nucleus).[40] Examples of this use are given below in (54).

(54)  a. A: Why did Alison walk backwards all day?
           B: She just did!

      b. A: Why do you like Buffy the Vampire Slayer so much?
           B: I just do!

      c. A: Why did John pet so many rabbits?
           B: He just wanted to!

This use of *just*, again very similar to some of the other uses mentioned, gives a clear piece of evidence that the contribution of *just* can be a statement about distance from reason. In this case, the speaker refuses to answer a request for exactly the information that we have been considering: the reason for some proposition or event. This refusal can be attributed solely to the addition of *just* to the sentence, as its absence would result in infelicity in the cases of (54a) and (54b), and in lack of the 'defensive' connotation in (54c). Examples of this are given below in (55), where the answers to these questions either make no conversational contribution, and are thus are seen as anomalous and noncooperative, or serve as a simple answer without any speaker distance from the reason, as in (55c).

(55)  a. A: Why did Alison walk backwards all day?
           B: #She did!

      b. A: Why do you like Buffy the Vampire Slayer so much?
           B: #I do!

      c. A: Why did John pet so many rabbits?
           B: He wanted to!

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[39]It has been pointed out to me that there is another possible interpretation for the referent of *otherwise* here, where it picks out the event of 'bringing it back'—however, this reading has no bearing on the current discussion.

[40]As mentioned previously, this runs counter to the explanation given for the accenting of Hebrew *STAM*; however, there is no *a priori* reason to think that stress must always shift when the associate is covert. However, it is certainly worth investigating why it occurs in some contexts but not in others.

Thus, we can conclude that at least for these examples in particular, the contribution of *just* is to index that the speaker does not wish to (or cannot) discuss the reason for the prejacent (which itself could be explained by an absence of a reason in the first place, or simply an unwillingness to disclose that reason in this particular context). Even in an example like (54c) where speaker B does actually provide a meaningful answer, the answer carries with it an implication that either the speaker or John himself didn't really have access to the motivation behind the desire to pet rabbits. In the current framework, this would be phrased as John's reason was simply that he wanted to, and no stronger reason. In this case, we actually see an overt reason clause, with a very similar discourse function to the 'covert' reason clauses in the other examples. This seems like good evidence that we are on the right track, and furthermore indicates that this use of *just* is not a separate lexical entry that *requires* covert elements. Rather, it seems that *just*, unlike *only*, merely allows covert associates that give rise to these 'internal' alternative sets.

A question that arises for the proposed internal alternatives here is why these alternatives seem restricted to reason clauses that modify the prejacent $\phi$. Theoretically, given the ability to add cause/reason clauses, we should see other types of conjuncts in our alternative set, such as result/benefit clauses. Even if they don't occur in the same alternative set, we would expect that there would be other readings of *just* that quantify over alternatives involving these other conjuncts.

There are two different possible answers here. The first is that we could actually analyze some uses of depreciatory (scalar) *just* as a reading involving exactly these kinds of result clauses. For example, consider the following example, which is fairly clearly a case we would ordinarily analyze as depreciatory *just*.

(56)   He just hit me. I'm not injured.

For an example like (56) above, it seems possible to modify the set of alternatives in a similar way to the 'unexplanatory' cases, but where the covert modifier represents possible results of such a hitting event. The depreciatory interpretation would be to include alternatives over the verb *hit*, which must include something like *injuriously hit* on the relevant scale. The distinction between these two readings is not an easy one to distinguish in practice; however, it is possible that we could distinguish them using prosody, as depreciatory *just* associates with focus intonation on the verb phrase, while unexplanatory (or 'non-resultative', in this case) *just* occurs with no distinctive focus intonation on a particular element in the proposition. If it is the case that there is a legitimate ambiguity between the interpretation site here, then it seems that the existence of 'result' alternatives seems to be masked by very close meanings for depreciatory *just* that are often quite difficult to disambiguate.

Other examples invovling alternatives other than pure causation have been pointed out to me as well. Consider the following examples in (57).[41]

(57)   a.  You can't just go around hitting people.
       b.  Charlie just bites people's fingers (willy nilly/whenever he wants to).

In these examples, one possible interpretation is that *just* is also quantifying over results or consequences for actions, or even consideration for those consequences. However, just as with (56), the interpretations here are slippery. I do think that there is evidence that there are other types of quantification besides causes/explanations, though.

Regardless of whether we accept the notion that examples like (56) or (57) could be analyzed this way, it is actually not that unreasonable to say that cause/evidence actually *is* a special case, not unlike degree modifiers with *STAM*. We see examples of evidentiality (Murray 2010), epistemic stance (Kiesling 2011), and causation being grammaticalized using a wide variety of strategies cross-linguistically, so it stands to reason that causation is a highly salient linguistic feature, which could contribute to a restriction to (or preference for) alternatives involving causes and reasons.[42]

For example, in Spanish, what is normally the reflexive morpheme is sometimes used to mean something similar to the assumed interpretation for unexplanatory *just*, and with some verbs (aptly named 'anti-causatives' this reflexive marker is mandatory and fully grammaticalized.) Consider the following examples.

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[41]Thanks to Mary Moroney for drawing my attention to examples like these.

[42]However, while it is reasonable to posit that evidence/causation is a special or privileged case, I would not make a claim that it is the only one, especially when speaking cross-linguisticially.

(58)   a.  Se        rompió        el    florero.
           REFL.3p break.PRET.3pSG DET vase

           'The vase broke' (cf. English 'She broke the vase')          (Fausey & Boroditsky 2010: 150)

       b.  Juan (se)      murió
           John REFL.3p die.PRET.3pSG

           'John died (suddenly)' (cf. English 'John just died')          (García & Iván 2013: 143)

       c.  (Me)        lo        creo
           REFL.1pSG it.3pSG believe.PRES.1pSG

           'I (just) believe it' (cf. English 'I just believe it')          (García & Iván 2013: 143)

In some of these examples, like in (58a), the reflexive morpheme is obligatory, because the verb is an anticausative.[43] However, in the latter two examples, the reflexive morpheme is optional, and corresponds with the 'accidental', 'sudden', or 'lacking evidence' interpretations. Specifically, as García & Iván (2013) reports, (58c) "denotes a belief irrespective of whether the subject has reflected on it or he has suddenly come up with it," i.e., including this reflexive marker "implies that the subject does not base his belief on any external evidence. . ." (García & Iván 2013: 144). This description bears a remarkable similarity to the paraphrases we have been giving for unexplanatory *just* in contexts like belief, which indicates that despite the fact that the strategy used in Spanish is clearly different from that in English, these indexes of evidence and spontaneity are a cross-linguistically grammaticalized phenomenon.

We see further evidence that these unexplanatory *just* examples contain some covert syntactic reason clause. The connection between this usage of *just* and a lack of evidence or reason is made very clear in examples like the following, shown in (59), which was taken from a natural dialogue in a political discussion during a recent online news broadcast.[44]

(59)   "*When it comes to Americans' voting behavior, often times they'll vote on party lines, because they don't necessarily know a lot about the issues, right? So, they identify more with the Democrats, they don't know too much about the policy ideas. . .* **I'm not just saying this because I'm saying it. There's evidence behind it.**"          (TYT, 02:37–02:54)

As demonstrated in this example, the only salient contribution of *just* (which is negated in this context) is one referring to a lack of evidence for the previous statement about voting behavior, so this is clearly a case of unexplanatory *just*. But even more telling is the overt *because*-clause in (59), which is literally the prejacent repeated without *just*. As such, it seems reasonable to analyze unexplanatory *just* as associating with a covert *because*-clause parallel to this overt one. We might even be able to go so far as to say that the prejacent itself should *be* the CAUSE$_0$ element in this internal alternative set, as it appears overtly in sentences like (59).

The covert cause analysis is further supported by the fact that the inclusion of an unexplanatory *just* in sentences with stative constructions seems to force a causal reading. This is evident in the following example, given in (60).

(60)   a.  The sky is blue.
       b.  The sky is just blue.

With an example like (60a), generally there is no expected cause or reason for such a claim. However,[45] the most salient interpretation for the variant with unexplanatory *just* in (60b) is that the speaker doesn't know the reason that the sky is blue, either in terms of the scientific explanation or in terms of the intentions

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[43]This has been argued to be the result of an empty argument position in anticausatives (Fausey & Boroditsky 2010). However, its presence in these 'accidental' constructions indicates that this is likely not the only thing that is going on here. Furthermore, if we wanted to analyze it as filling an argument slot, then we could make an argument that this slot is in fact a reason/causal position in the accidental constructions. This question is certainly beyond the scope of the current inquiry, however.

[44]The   Young   Turks.   4/19/2016.   *Voting   for   the   Lesser   of   Two   Evils.*   Youtube. https://www.youtube.com/watch?v=KrzS0Wb5eYg. Web. Accessed 4/22/16.

[45]Assuming the unexplanatory use of *just*. There is also a possible *only* reading here where the sky is blue and only blue.

of some divine creator. This falls in line with the idea that *just* in some way can coerce an interpretation of a null *because*-clause (or one that simply repeats $\phi$ as in (59)), which generates the relevant alternatives.[46]

With this definition of the resulting alternatives for unexplanatory *just*, we can see that a simple entailment scale is sufficient to capture the intuitive meaning. All alternatives other than $\phi$ itself will be strictly stronger than $\phi$, and will thus be denied by the quantificational assertion. For example, in (50), we would say that the relevant alternative set would look something like the following shown in (61).

(61)  {The lamp broke $\text{CAUSE}_0$, The lamp broke because the wind knocked it off the table, The lamp broke because the cat knocked it off the table, ... }

So then, for every alternative not entailed by the prejacent (i.e., the alternative associated with $\text{CAUSE}_0$), that alternative is asserted to be false. Since every alternative except $\phi$ itself (which is in the alternative set, given that it can be represented as '$\phi$ because $\phi$') is denied, this results in a truth-conditional quantification, where each of these reason conjuncts are actually asserted to be false. However, it is also possible that there would be some contexts where it would be more natural to assume a nonentailment evaluative scale over these reason-modified clauses. Either possibility is compatible with the proposed semantics for *just*, and remains an empirical question.

## 3.3  Problems & Modified Analysis with Modality

There is a serious potential problem with the analysis as currently formulated, namely that it seems on the surface that sentences with this unexplanatory *just* as analyzed are generally false in the actual world. It is never the case, for example, that a lamp broke for no reason at all—there is always a cause, even if that cause is on the molecular or atomic level.[47] We have a way of getting out of this problem by appealing to the existence of the covert $\text{CAUSE}_0$ giving rise to the alternatives in the first place, which is in theory some very minimal cause that is presupposed to be true. However, even if we utilize this avenue, we still run into the same problem, just one level higher. Just as denying any reason at all is obviously false, denying that all non-minimal reasons or causes are false is almost as obviously false in most contexts. The most clear way to better articulate what is actually going on with unexplanatory *just* would be to say that the speaker, rather than *denying* all non-minimal alternatives, is saying that she doesn't know them to be true. This is precisely the direction I will go with the analysis from here.

More crucially, this is even borne out in the linguistic data, where it is often perfectly felicitous to follow up these sentences with an explicit explanation or reason. Examples of this are given in (62) below.

(62)  Unexplanatory *just* with follow-ups
   a. I was sitting there and the lamp just broke! ?The cat knocked it off the table.
   b. I walked into the store, saw the necklace, and just took it. I needed it to pawn because I'm terribly in debt.
   c. Steve just knows that Susan is lying. She has that look on her face she always gets when she's not telling the truth.
   d. I just feel that it's going to rain. ?The sky has gotten very dark and the temperature has dropped suddenly.
   e. He just stopped texting me. Maybe it's because I made that joke about his mother.

In most examples like those in (62), following up with an explanation after the use of *just* does not give rise to a contradiction, or even infelicity.[48] Note however that we do see a bit of pragmatic oddness with both (62a) and (62d), as they each raise the question of why the speaker used *just* in the first place. This gives us some indication that despite the fact that this implication is clearly not truth-conditionally denying

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[46]Thanks to Martin Hackl (personal communication) for discussion of this possibility.

[47]Maybe a case could be made for quantum state phenomena, or chaos theory, but if we're being honest, these are not very frequent topics in everyday human speech, and most people would agree that in the vast majority of contexts, asserting that there is no reason for anything is patently false.

[48]Nor does it have the cancellation interpretation we usually see when a conversational implicature is cancelled. As such, we would be hard pressed to even call this lack of/insufficient evidence inference an implicature.

the existence of all non-minimal causes, there is still some merit to the notion of explainability, which I will formalize below in terms of modality, as well as in §4 in terms of restrictions over speaker commitments.[49]

Furthermore, despite the fact that these examples do involve an explicit explanation of the modified expression, these explanations often do not constitute as strong a commitment as the original assertion, as we can see by the need for the epistemic possibility modal in (62e). In (62e), the speaker puts forward a possible explanation as a follow-up to the expression of a lack of a salient explanation, but remains open to the possibility that it is not correct, which indicates that an analysis in terms of modality is more appropriate here. In sum, the truth-conditional exclusive analysis proposed thus far for unexplanatory *just* not only fails to correspond with philosophical and metaphysical assumptions about how the world works in terms of cause and effect, it also simply is not what speakers *mean* when they use it.

So, it is clear that we will need to modify the semantics to account for the actual truth conditions. One promising modification, as indicated in the preference for the epistemic modal in (62e), is one involving modality, where the alternatives are not required to be false, but rather simply not necessarily true (i.e., possibly false). This modification is captured in by revising the alternative set for unexplanatory *just* to include modalized causes.[50] The resulting alternative set would look like (64) below, where each of the CAUSE modifiers are themselves modified by epistemic necessity.

(64)  {The lamp broke $\Box$CAUSE$_0$, The lamp broke $\Box$CAUSE$_1$, The lamp broke $\Box$CAUSE$_2$, ... }

Given an alternative set like in (64), we would need to have in mind what we mean by the necessity and possibility modals in this contexts. For this, it seems sufficient to view these as epistemic modals reflecting the asserted knowledge state of the speaker.

We can see how an alternative set like (64) would be implemented in our running example (50) of the lamp breaking. Every element $q = $ The lamp broke CAUSE$_x$ of the alternative set that is stronger with respect to the relevant ordering (again, likely entailment)[51] is negated. This gives us roughly the desired result, because this means that every alternative that contains a reason or cause for the eventuality $e$ denoted by the prejacent is possibly not true, i.e., possibly not the actual reason for $e$. Note that this does not change the derived truth conditions substantially, as the breaking event is presupposed regardless—it is only the CAUSE modifiers that are necessary.

A desirable result is that this modal analysis accounts for instances where unexplanatory *just* can fall under the scope of negation. Consider the following exchange in (65) between, for example, a parent (A) and child (B), where the parent has walked into a room and discovered a broken lamp on the floor.

(65)  A: What happened here?

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[49]Another potential avenue for a solution to this issue is to posit that, rather than a straightforward alternative set consisting of the prejacent and its potential explanations, the alternative set is a more complicated system involving counterfactuality. For example, we could say that in these cases, *just* serves to say that there is no explanation/reason/situation such that if that reason had failed to hold true, the prejacent would also have failed to hold true. In other words, the contribution of *just* in "just $\phi$" would be something along the lines of: $\forall x$, where $x$ is an explanation of $\phi$, $\neg x \mathbin{\Box\!\!\rightarrow} \neg\phi$. (Here, $\Box\!\!\rightarrow$ indicates a counterfactual conditional.) This avoids the issue of it being felicitous to follow these statements with an explanation by weakening the limitation to one of lack of uniqueness of reason. In other words, under this analysis, "just $\phi$" says "$\phi$ for no particular reason" (which is crucially different than "$\phi$ for no reason at all").

While this appeal to counterfactuals and uniqueness does reduce some of the problems, it does not eliminate all of them, because one could easily construct an example wherein there *is* exactly one reason for the prejacent, or at least that reasons exist such that if they had not existed, the prejacent would have failed. Furthermore, this paraphrase does not line up with speaker intuitions about the meaning of these kinds of sentences.

[50]We could account for this by changing the lexical entry of *just* to include a necessity modal in it directly, as in (63).

(63)  $[\![\text{just}(\phi)]\!]^{M,w} = \forall q[(q \in C_\leq \land w \in \Box q) \rightarrow \phi \leq q]$

However, this would undermine our efforts of simplifying the lexicon as well as the argument that *just* is simply less restricted in its available prejacent than other English exclusives. If we wanted to connect this modal *just* with exclusive *just*, we would also need to explain and predict when the necessity modal shows up in the formula. We certainly could not adopt the modalized *just* as the general semantic entry for exclusives, since ordinary exclusive operators involve a much stronger denial than (63) would yield. Furthermore, since the goal of the current projects is to maintain a common baseline semantics for exclusive operators, it is less than desirable to require that unexplanatory *just*, despite all of the similarities we have noted in this discussion, must have this slight variant in its semantic formula.

[51]Again, entailment seems sufficient to account for the data, but there is nothing in the formal semantic representation that precludes non-entailment scales. It remains an empirical question whether there is some reason to explicitly allow/disallow evaluative scales for unexplanatory *just*.

B: The lamp just broke!
A: The lamp didn't just break, Timmy. Did you break the lamp?

In the above exchange, the parent essentially asserts, contra the assertion by Timmy, that there is indeed a reason or cause for the lamp breaking, and then proceeds to accuse Timmy of breaking the lamp. This is exactly the result we get when negation scopes over a proposition modified with unexplanatory *just*, as shown below in (66), given standard semantics for the conditional.

(66)  $[\![not(just(\phi))]\!]^{M,w} =$
$\neg(\forall q[q \in C_{\leq}(\phi) \land w \in q \rightarrow \phi \leq q]) =$
$\exists q[q \in C_{\leq}(\phi) \land w \in q \land q > \phi]$

In other words, there is some alternative $q$ of the form $\phi$ necessarily because CAUSE, i.e., $q$ is stronger than $\phi$ and the causal relationship between CAUSE and $\phi$ is necessarily true. Put simply, there is a necessary reason for $\phi$. We likely need to be careful about our notions of necessity here, but as long as we view this as epistemic necessity concerning the speakers doxastic alternatives, rather than some global/deterministic necessity, this should map fairly neatly onto speaker intuitions for the meaning of unexplanatory *just*, both under negation and in positive contexts.

While this is also less than perfectly intuitive, this modification of the alternative set actually does not cause much harm, given the minimality of the prejacent covert CAUSE$_0$. As discussed, it seems entirely logical to assume that it is necessary that there is some minimal cause for everything, so an epistemic necessity modal operator on the presupposed minimal cause falls in line with the very intuitions about necessary cause that prompted the modal analysis in the first place. Given this modification of the alternative set for unexplanatory *just*, we can maintain the baseline exclusive semantics for all the exclusive operators we have discussed up to this point.

Another potential pitfall with this appeal to epistemic modality is that while it is not technically a contradiction, following up a quantificational statement about non-necessary propositions with an assertion of one of those propositions is still a bit strange. To put this in context, say a speaker has uttered a sequence like (62b) above, "I walked into the store, saw the necklace, and just took it. I needed it to pawn because I'm terribly in debt." Under the modal analysis, with the use of unexplanatory *just* in the first sentence, the speaker asserts that every possible reason for him taking the necklace is not necessarily the reason. He then follows this up with an assertion of one of those reasons. Again, this is not a contradiction, but as discussed previously, it raises the question of why the speaker would have made such a modal statement about all potential reasons if he knew exactly which one was correct. This is not a fatal blow to the modality analysis, but it is something to keep in mind as we go forward with an alternative analysis in §4.[52]

On the whole, it seems like the analysis using epistemic modals to account for unexplanatory *just* corresponds quite closely to native speaker intuitions about the meaning of unexplanatory *just*. Furthermore, and more importantly, it avoids the problem we saw in the previous section where the formula did not correspond to the correct truth conditions. By appealing to modality, in positive contexts, we end up with quantification over possible explanations, and resulting assertions about lack of necessity of those explanations (rather than the falsity of any particular explanation).

In the next section, I will bring up another reading for *just* previously labelled 'emphatic' *just* (which I will relabel 'unelaborative' *just*, for reasons that will become apparent.) It bears a remarkable similarity to the uses of unexplanatory *just*, but is not as obviously exclusive in its contribution to the meaning of the sentence. I will demonstrate how this use can still be viewed as exclusive in the same sense as unexplanatory *just* in the following sections. Additionally, I will also explore how each of these uses could be implemented in a speech act quantification framework in §4. Ultimately, the two frameworks converge more than they diverge.

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[52]A way out of this issue is appealing to narrative structure, discourse coherence (Asher & Lascarides 2003), and shifting point of view. Especially in narrative contexts, it would be reasonable to express that an event had no known cause from the point of view of the observer, while subsequently following up with the actual cause, either as the omniscient narrator or to express the acquisition of new information by the subject.

### 3.4 Possible Extensions to 'Emphatic' *just*

In addition to the unexplanatory *just* described in the previous section, there is another use of *just* discussed in the literature, called 'emphatic' *just* (Lee 1987), which occurs in many of the same environments. This use can be best paraphrased by replacement with the adverb *simply*. Despite its apparent similarities, this use has a different interpretation than the one we saw for unexplanatory *just*. Examples are given below in (67).

(67)  'Emphatic' *just*

    a. I had so much milk it was just incredible.               (Lee 1987)

    b. The sisters just couldn't believe it.                  (Lee 1987)

    c. It was just impossible.

    d. It's just so hard to find that money.

    e. That fish was just gigantic!

As mentioned, according to the literature, examples like those above are uses of 'emphatic' *just*, which is paraphrased in both Lee 1987 and Kishner & Gibbs 1996 as *really*. In this use, *just* appears to emphasize the expression it modifies, often adding a sense of excitement or gut reaction. While this use of *just* seems like it may be an entirely different interpretation unrelated to the uses described thus far, I will argue that emphatic *just* carries with it some of the same core semantic information. In particular, I will ultimately claim that this 'emphatic' *just* is better described as 'unelaborative', where we could paraphrase them as "this is the strongest statement I can make," or better "this is all that needs to be said."

To get there, I will compare two potential analyses of how we might incorporate 'emphatic'/unelaborative *just* into the general semantic schema for *just*. The first relies on flipping nonentailment scales (along with some added restrictions). The other, which I adopt, involves extending the notion of internal alternatives we have for unexplanatory *just* to "elaborations." Then, in the following section, §**??**, I will appeal to dynamic speech act theory and quantification over speech acts, which reframes both unelaborative and unexplanatory *just* as denial of commitments on the part of one or more interlocutors.

Lee (1987) notes that for emphatic/unelaborative *just*, as with unexplanatory *just*, we cannot substitute the exclusive adverbs *only* or *merely* while maintaining the truth-conditional meaning. In fact, substituting with *only* or *merely* is almost always pragmatically infelicitous. This is shown in the examples below in (68).

(68)  *Emphatic *only*/*merely*

    a. I had so much milk it was *only/*merely incredible.

    b. The sisters *only/*merely couldn't believe it.

    c. It was *only/*merely impossible.

    d. It's *only/*merely so hard to find that money.

    e. That fish was *only/*merely gigantic![53]

This fact can be easily explained, as emphatic *just* usually serves to further emphasize an extreme end of a scale. As such, it frequently does not make sense to say "$\alpha$ and no stronger alternative than $\alpha$", because there are no stronger alternatives than $\alpha$ in most of these contexts.

Interestingly, despite the fact that emphatic *just* is fairly opaque to any exclusive interpretations, it is quite easily paraphrased by substitution with *simply*, which bears some similarity to these other exclusive operators, as we saw with its substitutability with unexplanaotry *just*. Examples of similar sentences with *simply* are shown below in (69), which preserve the intended 'emphatic' reading.

(69)  Emphatic *simply*

    a. I had so much milk it was simply incredible.

    b. The sisters simply couldn't believe it.

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[53]Obviously, this is not including evaluative contexts where being gigantic is valued as insufficient with respect to the relevant question. In those contexts, this example certainly would be felicitous; however, in no context could this example be described as 'emphatic' in the way that its variant with *just* can.

    c. It was simply impossible.

    d. ?It's simply so hard to find that money.

    e. That fish was simply gigantic!

Furthermore, while several sources have given *really* as a synonym of emphatic *just*, this does not seem to be an adequate paraphrase. For one thing, there many places where *really* is licensed but *just* is not.[54] For example, with a predicate like *tall*, which denotes a wide range on a scale, it seems infelicitous to use emphatic *just*, but perfectly fine to use modifiers like *really* or *very*, as shown below.

(70)    a.  # Mary is just tall.[55]

        b.    Mary is really tall.

        c.    Mary is very tall.

Additionally, with the emphatic reading, it seems that there are certain predicates that seem more amenable to use of *just* as a modifier, despite semantic similarity. It seems that there is a restriction that the modified predicate be a fairly narrow extreme, rather than a broad or middle range. Compare pairs like *tall/gigantic* and *pretty/beautiful*, which seem to disallow *just* with the former but allow emphatic *just* with the latter.[56]

It also seems that with certain types of predicates, emphatic *just* is in complementary distribution with intensifiers like *really* and *very*. For example, it is fine to say "just impossible" and "very possible", but not "just possible"[57] or "very impossible". In addition, emphatic *just* does seem to require a lexically scalar predicate in order to be felicitous, as we can see with the infelicity of *just* with non-scalar predicates in (71) below (though it seems perfectly felicitous when modifying a non-scalar predicate that has been coerced into scalarity by an intesifier like *so*).

(71)    a.  # She's just pregnant!

        b.    She's just so pregnant![58]

Other decent paraphrases for emphatic *just* include *absolutely*, *utterly*, *positively*, among others. Something like *absolutely* interestingly contains in its overt morphology the requirement on 'emphatic' *just* that it modify only extreme or absolute ends of scales. Examples of this are given below in (72).

(72)    Emphatic *absolutely/utterly/positively*:

        a. I had so much milk it was absolutely/?utterly/positively incredible.

        b. The sisters absolutely/??utterly/??positively couldn't believe it.

        c. It was absolutely/utterly/positively impossible.

        d. It's ?absolutely/??utterly/??positively so hard to find that money.

        e. That fish was absolutely/utterly/positively gigantic!

As shown above, while often each of these adverbs can be substituted for 'emphatic' *just* with little alteration of the meaning, none of them correspond as neatly as we saw with *simply* in (69). Of these three, *absolutely* seems to be the closest, though there are certainly fairly clear counterexamples to a full correspondence with this 'emphatic' *just*, as shown below in (73).[59]

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[54]This is limited to the emphatic use of *just*, of course. Many examples of emphatic *just* could be ambiguous (excepting prosodic cues and focus) with exclusive *just*, which is licensed in more syntactic constructions than emphatic.

[55]There are actually instances where this is felicitous, even excluding exclusive *just* (as in "Mary is just tall, she's not fat"), which will be discussed later when I talk about 'unexplanatory' *just*.

[56]There are readings available when *just* modifies predicates like *tall*. However, these readings are unambiguously not the 'emphatic' reading we see in (67); instead, they are either the depreciatory use or the unexplanatory use.

[57]Again, with the intended emphatic reading. The phrase "just possible" is certainly interpretable as "barely possible" (specificatory use), or as "possible but not probable" (exclusive use), and potentially others.

[58]As is the case most times these kinds of predicates are coerced, this really requires an interpretation where the speaker is referring to the visible signs of pregnancy (which can certainly be analyzed as scalar), rather than the pregnancy as a concept itself.

[59]Thanks to Dorit Abusch for pointing out this contrast.

(73)   a.   Downloading from this website is absolutely legal.

       b.   * Downloading from this website is just legal.

However, note that his may be explainable by attributing this to a subtle polysemy within the adverb *absolutely* itself. In contexts where *absolutely* serves a more abstract and subjective role of highlighting the extremity on a scale, it may be substituted with this *just*. However, when *absolutely* is interpreted literally/objectively, i.e., when it can be replaced with a numerical equivalent like *100%*, it is not interchangeable with *just*. This is shown below in (74) and (75).

(74)   Objective

       a.   Downloading from this website is 100% legal.

       b.   Downloading from this website is absolutely legal.

       c.   * Downloading from this website is just legal.

       d.   * Downloading from this website is simply legal.

(75)   Subjective

       a.   * This cheesecake is 100% divine.

       b.   This cheesecake is absolutely divine.

       c.   This cheesecake is just divine.

       d.   This cheesecake is simply divine.

As shown, when a context licenses both *100%* and *absolutely*, it does not generally license *just*, and when a context licenses only *absolutely* but not *100%*, it also licenses *just*. So, it appears that this 'emphatic'/unelaborative *just* is licensed when the scale in question is in some sense subjectively evaluative. This explains why predicates like *legal* and *pregnant* are not available for modification by this type of *just*, while more personal taste predicates like *divine* and *gigantic* are.[60]

As has been demonstrated, this emphatic use of *just* appears to be incompatible with, or at least quite distinct from, the restrictive and depreciatory uses of *just*, and also relatively distinct from the unexplanatory case as well. However, the widespread availability of *simply* in the above examples gives us a hint that there may be something deeper connecting these meanings.

Furthermore, the fact that this interpretation requires scalar predicates indicates that these might be amenable to incorporation into our general notion of exclusives, assuming we construct our alternative set in the appropriate way. The biggest hurdle is that for every other use of *just*, we have seen the requirement that the prejacent proposition be ranked relatively low in terms of whatever relevant question is present in the context. This seems to be precisely the opposite of what we observe with this use of *just*, at least at first glance.

One way to address this is by extending the theory of exclusives; we might then expect to see quantification over nonentailment scales where *just* is able to deny all alternatives that are less or weaker than the prejacent, rather than our usual denial of stronger alternatives. For aesthetic reasons, we might want to rewrite the formula in (29) with $\geq$ rather that $\leq$, just to make the distinction clear. This would give us something like the scalar version in (22) for depreciatory *just*, given below in (76).

(76)   $[\![\text{just}(\phi)]\!]^{M,w} = \forall q[(q \in C_{\leq} \wedge w \in q) \rightarrow \phi \geq q]$

In order to fully capture the intuitions for 'emphatic'/unelaborative *just*, however, we would need to add some kind of stipulation that the prejacent actually be (or be very close to) the actual maximum of the scale, in order to account for why "He's just tall" does not work with this interpretation. Additionally, we might also want the additional stipulation that the ordering be a Horn scale, and not simply a contextually salient ordering, as we do note the generalization that this *just* is licensed only with lexically scalar evaluative predicates.

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[60]The clear counterpoint to this is the presence of *impossible* in (67c), which seems to be a fairly objective predicate. However, I attribute this to the notion that impossibility actually can be seen as relative to particular sensibilities in a way that legality or pregnancy cannot. This is certainly worth exploring in more detail, but if we take *impossible* to be a subjective predicate, the generalization here seems to hold.

This is an undesirable analysis in my view, as it again runs counter to the idea of the shared meaning of exclusives being an inherently 'less than' relationship. However, while this does seem intuitively wrong, it is not on its face that much of a stretch in terms of the typological restrictions that can be placed on exclusive operators. We have already seen that *merely* has a greater restriction placed on the type of ordering that it allows for its alternative sets. Furthermore, as mentioned earlier, Beaver & Clark (2008) note that *mere* comes with the added requirement not just that the prejacent be weaker than expected, but actually *weak* on the relevant scale, in some broader sense. Orenstein & Greenberg (2010) make a similar claim for Hebrew unaccented *stam* 'merely', where they require that the number of stronger alternatives in the set be larger than the number of weaker alternatives. Following suit, for this unelaborative *just*, then we could claim that there is an even stronger restriction on the distribution of alternatives with respect to the prejacent. In particular, we could say for alternatives $q$ for prejacent $p$, either that the proportion of $|\{q : q < p\}|$ to $|\{q : q > p\}|$ be required to be smaller than some very small $\epsilon$ value,[61] or more simply, that there be no alternatives in the set $\{q : q < p\}$ (i.e., that the above ratio be 0).

This new restriction on emphatic *just* does seem to map to the rough truth-conditions and pragmatic effects of emphatic *just*. In further support of an analysis along these lines, we do in fact see quantificational expressions over lower alternatives in many of the same environments and predicates, as shown below in (77).

(77)  a. This cheesecake is nothing shy of divine
      b. This problem is nothing short of impossible.

These expressions seem restricted to adjectival predicates, but this can easily be explained by their selectional/syntactic differences. In terms of meaning, however, these are fairly good paraphrases of what we have been calling 'emphatic' or unelaborative *just*.

However, beyond the theory-internal reasons already stated, there are a number of distributional facts and general speaker intuitions that call into question the idea of 'emphatic' *just* as simply a flipped scale exclusive operator. For one thing, 'emphatic' *just* doesn't 'feel' like an exclusive operator in the sense of the exclusive uses of *just* discussed in the previous section. If we were to ask native English speakers what the added content of *just* was in these sentences, we would get answers involving paraphrases with *really* and *very*, and referring to vague notions of emphasis (which is likely the reason for both the label for this use of *just* in the literature and the proposed synonyms). What we would not see would be answers involving quantification or denial that alternatives on the scale hold true, at least as a general rule.[62] Now, this is not on its face a knock-down argument against this analysis; our lexical semantics do not need to 'make sense' to non-linguist native speakers in order for them to account for the distributional facts and truth-conditions accurately. However, we do actually see further evidence that we may be missing something by analyzing this *just* in this way.

One of these is that emphatic *just* appears to be generally a matrix-level phenomenon, and it is fairly strongly speaker-oriented, as we see in the restriction to 'subjective' evaluative predicates.[63] We see this in the distribution of emphatic *just* in relative clauses, where emphatic *just* may modify elements within a nonrestrictive relative clause, shown in (78b) but not (generally) a restrictive relative clause, shown in (78a).[64]

(78)  a.  ? The singer who was just incredible received an award.          (Restrictive)
      b.    The singer, who was just incredible, received an award.          (Nonrestrictive)

If we understand nonrestricted relative clauses as some form of matrix-level adjunct, then we can make sense of this data under the assumption that *just* is indexed to a speaker's evaluation of the world.[65] Despite the oddness of (78a), there are likely some contexts where it is licensed, specifically in contexts where it has

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[61]This is a shortcut, following Orenstein & Greenberg 2010; it is not a trivial question how we would measure these cardinalities in terms of actual implementation.

[62]Noting of course the existence of paraphrases like (77) above.

[63]Both of these descriptions come with counterexamples, but the fact that there do appear to be some constraints along these lines indicates that there may be something more to do with speaker-stance than we initially thought.

[64]Thanks to Mats Rooth for these examples.

[65]This could also be explained in terms of at-issue content. Restrictive relative clauses like (78a) are usually analyzed as not-at-issue, but the content of *just* is asserted, so we see a mismatch (John Whitman, personal communication).

been established that one of the singers was 'just incredible'. Furthermore, as shown below in (79), there are more obvious cases where emphatic *just* is licensed within a restrictive relative clause.

(79)   Every problem that was just impossible was removed from the exam.[66]

This kind of data, as well as more discussed in §4 might lead us to conclude that we need a high-level interpretation for *just*, such as at the level of speech acts. I explore how an idea like this could work in §4. However, there are still data that indicate that a proposition-level analysis is necessary. First, like unexplanatory *just*, emphatic *just* does not seem to associate with a prosodically focused element, at least in the same way as with the typical exclusives we saw in §2. Along the same lines, both unexplanatory and unelaborative/'emphatic' *just* seem to require adjacency with to the predicate being modified, and cannot occur in 'remote focus' constructions.[67] These facts indicate that, given our analysis for unexplanatory *just*, emphatic *just* may also quantify over alternatives involving covert modifiers. This would explain why it does not always associate with prosodic focus, as the element giving rise to the alternative set is not overtly expressed.

Furthermore, there is strong evidence that the analyses of unexplanatory *just* and emphatic/unelaborative *just* should be relatively similar, as there are cases where they are difficult to tease apart. If we were to adopt something like (76) for emphatic/unelaborative *just*, we would expect that the readings between unelaborative and unexplanatory *just* would be quite distinct. However, there are cases where the line between 'emphatic' and unexplanatory uses is not clear. Consider the following examples in (82).

(82)   Emphatic/Unexplanatory *just*
    a. I just love your necklace!
    b. I just hate that guy!

It could be argued that this example is an 'emphatic' use of *just*, as the sentence "I really/absolutely love your necklace" carries a very similar meaning. We could even force a "I nothing-short-of-love your necklace" sentence with a similar interpretation. However, as we saw in §3.4, the substitution of *really* in the example above does differ a bit from the reading with *just*, which is better paraphrased with substitution of *simply*. The contribution of *just* (or *simply*) in this sentence seems to be a speaker stance indexing not just the strength of the predicate, but also the suddenness or deep visceral reason for it, which bears quite a resemblance to the implications and stances associated with unexplanatory *just*. A possible extension of (82a) above could be something like "I just love your necklace. It has some indefinable quality that I can't quite describe" while an extension of (82b) could be something like "I just hate that guy! I don't know why, but he (just)[68] bugs me."[69] Given these types of follow-ups, it seems natural to attempt to account for them with whichever analysis we end up with for unexplanatory *just*, rather than a completely incompatible analysis like the flipped scales analysis.

If we were to incorporate (82a) into our unexplanatory use of *just*, we would say that the *just* serves to imply that the speaker loves the necklace, but either does not have, or does not have mental access to, the

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[66]Thanks to Mats Rooth for this example and relevant discussion.

[67]A possible counterexample would can be seen in alternations like the following, with both *just* and *simply*.

(80)   Unexplanatory *just*
    a. I just want to destroy him.
    b. I want to just destroy him.

(81)   Unelaborative *simply*
    a. We have simply found a perfect apartment.
    b. We have found a simply perfect apartment.

However, despite the similarities between the meanings in both of these examples, I would argue that there are some important differences between them, which are the direct result of the size of the source of alternatives (i.e., the entire desire clause vs. the destruction clause in (80)). For example, in (80a), the implication is that the speaker wants very strongly to destroy him, while in (80b), the speaker wants to destroy him completely. Essentially, (80b) is implicated by (80a), and vice versa, but their actual semantic contributions are distinct.

[68]More will be discussed in §6.3 about co-occurances of *just* in the same sentence, and how they compose.

[69]Again, though, just like the examples in (62), the sentences in (82) may also be followed up with overt reasons explaining the motivation for the feeling involved.

reason for this love, i.e., a quantification over the $\Box$CAUSE clauses we saw in §3.3. This comes through with the modal quantification where all reasons are asserted to not be necessarily true. When these reasons refer to mental states of the speaker, however, it seems that we can get some interesting resulting implications. This could for example lead to the implication "I love your necklace, and that's all I can/need to say on the matter". The pragmatic result of this kind of quantification could lead to the observed "emphatic" behavior of *just*, where the love of the necklace is then presumed to be so deep that it defies reason. As such, it seems that if we keep the analysis of unexplanatory *just* as quantification over alternatives with covert elements, the analysis for unelaborative *just* should also involve covert elements at the propositional level.

More evidence that this use of *just* is propositional comes from its effect on quantifier scope. Specifically, *just* may be used to modify phrases involving *any*, and in those cases it forces a low scoping universal quantifier. Examples of this are given in (83) below.

(83)  a. Bill can't lift anything. $\qquad \neg\exists = \forall\neg$
      b. Bill can't lift just anything. $\qquad \neg\forall$

In an example like (83a), most natural interpretation of this question is one where the speaker is denying the existence of something that Bill can lift. On the other hand, (83b) can mean only that the speaker is denying that Bill can lift every/any object put in front of him. So, *just* in (83b) coincides with an obligatory low scope of $\forall$ with respect to negation.[70]

However, this use does bear a striking resemblance to our examples of emphatic *just*; specifically, it can be paraphrased with *simply* or *absolutely* with no change in meaning, as shown below.

(84)  a.  ? Bill can't lift simply [anything]$_F$.
      b.   Bill can't lift absolutely [anything]$_F$.

I see the *just any* construction as an extension of the puzzle of unelaborative/emphatic *just*. However, there are a few differences between the *just any* construction and other 'emphatic' uses of *just*, the first being that it does seem to have an effect on the compositional semantics (beyond vague 'emphasis') in that it interacts with negative polarity in meaningful ways. Specifically, it seems that when the *just any* construction appears in locations with scope ambiguity, it does not allow the *any* quantifier to take high scope. This actually provides further evidence that these non-*only* uses of *just* are indeed still quantificational, as they associate with a particular element in the sentence and interact with that element in ways that have been observed for exclusive operators in other constructions both in English and Japanese.

It has been observed that the presence of exclusive operator *dake* 'only' in Japanese can block certain scopal relationships. In particular, *dake* can block distributive readings of possessors, as shown in (85) below.

(85)  a. taro to  hanako-no   inu-o    mi-ta
         Taro and Hanako-GEN dog-ACC see-PAST

         'I saw Taro and Hanako's dog(s)'
         'I saw Taro's dog(s) and Hanako's dog(s)'

      b. taro to  hanako-**dake**-no  inu-o    mi-ta
         Taro and Hanako-DAKE-GEN dog-ACC see-PAST

         'I saw the dog(s) that belong only to Taro and Hanako.'
         * 'I saw the dog(s) that belong only to Taro and the dog(s) that belong only to Hanako.'

                                                                                   (Erlewine 2012)

In (85b) above, *dake* cannot take scope over the distributive operator, resulting in the only possible interpretation being that the dog belongs to the collective entity of Taro and Hanako. This has been explained as the '*dake* blocking effect', where quantifiers in the semantic focus of *dake* cannot take wide scope with respect to the prejacent. The result of this is that if there is an operator scoping over the exclusive *dake*, there is no way to raise the quantifier over that operator (Erlewine 2012). This effect is

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[70]This interpretation is also available without the inclusion of *just* if there is prosodic focus on *anyone* as well; furthermore, prosodic focus on *anyone* will also often co-occur with the use of *just*, but does not seem entirely necessary if *just* is present. This similarity between the focus structure and the use of *just* is unsurprising, especially in the view that *just* is an exclusive operator that can be sensitive to prosodic focus.

attributed to the observation that traces cannot be F-marked (Beaver & Clark 2008). Essentially, when the quantifier is part of the focus semantic value, quantifier raising outside the scope of the exclusive operator means that there is no longer a focus value within the prejacent, so the resulting alternative set is the singleton set (violating Rooth's FIC).

This behavior is corroborated by evidence with English quantifiers and *only*.

(86)　a.　Someone wants to meet every boy.
　　　　　'There's one person who wants to meet every boy.'
　　　　　'For every boy $x$, there's someone who wants to meet $x$.'

　　　b.　Someone wants to only meet every [boy]$_F$.
　　　　　'There's one person who wants to **only** meet every [boy]$_F$.'
　　　　　* For every [boy]$_F$ $x$, there's someone who **only** wants to meet $x$.'

(Erlewine 2012)

This analysis can be easily extended to the *just any* construction. Consider (87), as it does not contain a modal, so the only relevant operator here is negation.[71]

(87)　a.　Bill doesn't lift anything.　　　　　　　　　　　　　　　　　　$\forall > \neg$
　　　　　$\approx \forall x.\neg[lift(x)(bill)]$

　　　b.　Bill doesn't lift just anything.　　　　　　　　　　　　　　　$\neg > just > \forall$
　　　　　$\approx \neg(\text{JUST}[\forall x.lift(x)(bill)])$

Now, as discussed earlier, the role of *just* in the compositional semantics cannot be identical to *only* in this case, as this does not result in the reading of 'it's not the case that Bill lifts all the things, but no more than all the things'. However, the fact that we see an obligatory narrow scope on *any* whenever it is modified by *just* in these contexts indicates that *just* is quantifying over some alternative set. The question here is what that alternative set should look like, both to account for this data and to remain consistent with other uses of 'emphatic' *just*.

I argue that the covert part of the alternative set here is actually a modifier of the quantifier, such as the slack regulators for pragmatic halos described in Lasersohn 1999. We could see the alternative set as a set of quantificational statements of the form $\{\forall x : \text{SLACK}_0.lift(x)(bill)\}$. In this case, just as with unexplanatory *just*, the quantification would be on the SLACK modifier itself, resulting in the statement that $\forall x : \text{SLACK}_0.lift(x)(bill)$ is true, but for all greater degrees $\text{SLACK}_y > \text{SLACK}_0$, $\forall x : \text{SLACK}_y.lift(x)(bill)$ is not true. This will yield the expected truth conditions, as $\forall x : \text{SLACK}_0$ collapses to the ordinary semantic value of the universal operator (with no slack). This can then compose with negation in the ordinary way. The benefit of this analysis is that the exclusive semantics of *just* explains why the universal *any* must take low scope with respect to negation, as quantifiers cannot scope out of the focus semantic value of exclusive operators. Furthermore, this explains why *just* patterns so closely with emphatic adverbs like *absolutely* and *utterly*, since they have been analyzed as slack regulators.

As such, if we adopt this analysis for the *just any* construction, we should adopt some variant of it for all uses of 'emphatic' *just*. In the cases of extreme predicates, we could argue that *just* quantifies over degree to which the actual value is allowed to depart from the proposition expressed (and asserts that it must be very small or minimal). In some cases, this can involve quantification over slack regulators, while it is possible that in others we see quantification over the elaboration discourse coherence relation, parallel to the explanation relation for unexplanatory *just* (Asher & Lascarides 2003).

These kinds of extensions raise questions about the line between semantics and pragmatics, as they require encoding pragmatic inferences in the formal semantics. This encoding is quite crucial to derive the correct scope for quantifiers, and is therefore essential for determining the truth-conditional semantics. The presence of pragmatic information in the compositional semantics can explain the rhetorical effects (emphasis, surprisal, distancing) that *just* often indexes. However, I will also explore how this could be encoded using speech act quantification in §4.

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[71]There might be some complications to this claim, but it will serve the expository purpose here.

## 3.5 Underspecificity of *just*

Given the covert modifier analysis adopted for unexplanatory *just* and its extensions to unelaborative *just*, we can now come back to the issue of generality and lexical restrictions that determine the different distributions of individual exclusive operators. Specifically, while I have addressed how *just* can be exclusive in these non-traditional constructions, I have not accounted for why other exclusives cannot quantify over these covertly triggered alternative sets.

I argue that *just* is the least restricted of the English exclusive operators, and that operators like *only* and *merely* are lexically required to associate with an overtly focused element in the prejacent. This can be conceptualized as a morphosyntactic requirement that *only* has requiring its alternative set to be external. This restriction is not present with *just*, which accounts for why it may combine with either type of alternative set. This is parallel to the underspecificity of *only* with respect to the M operator requiring the scale over the alternatives to be a non-entailment scale. The requirement that *only* quantify over external alternatives essentially encodes the Focus Principle posited in Rooth 1992 as a subcategorization requirement for specific operators that can be absent in others.

An interesting and open question is the interaction between this focus requirement and the M presupposition. In English, it looks like M attaches after the focus requirement (as *merely* has both, but *only* has only the latter). However, I would argue that the data involving Hebrew *stam* indicate that M can combine directly with the core EXCL operator meaning, as *stam* is required to be depreciatory, but can also quantify over internal alternatves (Orenstein & Greenberg 2010; Orenstein 2015).

The following section details an alternative analysis for these uses of *just*, and therefore would need a slightly different account of the distribution of exclusive operators; however, this will simply involve saying that operators like *just* are underspecified for the semantic type of their prejacent (allowing for speech act quantification), while ones like *only* are defined only for proposition-level alternative sets.

# 4 Analysis with Dynamic Speech Acts

## 4.1 Motivation for a Speech Act Analysis of Unexplanatory *just*

Despite the appeal of the modalized covert operator analysis given in §3.3 and §3.4, there are still some remaining issues with that analysis. One is that these uses of *just* do seem to be able to index speaker stance toward their own utterance, in terms of what kinds of information they are willing to provide. This is especially clear in the cases of defensive answers to 'why $\phi$' questions with 'just($\phi$), where the speaker literally makes no semantic contribution other than to index a lack or desire or refusal to answer the question posed.[72]

Further evidence that we are dealing with speaker commitments comes from the nearly fully idiomatic phrase *I'm just saying*, which indexes speaker distance from the implications of their utterance. As noted in Lee-Goldman 2011, the phrase *just saying*, without an overt complement of the verb *say*, has become something of an "idiomatic lexeme", which is syntactically quite restricted.[73] An example of this use is given below in (88).

(88)  A: My boss always approaches me at the end of the day with work for me to do. It's very frustrating.
      B: That's too bad. But maybe she's been really busy lately and other stuff has distracted her.
      A: Well, that's no excuse!
      B: I know, I'm just saying. (Lee-Goldman 2011: 77)

As Kiesling (2011: 10) puts it, the use of *just saying* in this conventionalized way "...distances the speaker from an investment in the words just uttered" by both confirming the stated stance/truth while denying "further, undesirable implications" (Lee-Goldman 2011: 78). Another way of stating this would be that by using this kind of hedge, the speaker remains (in the form of a presupposition) committed to the

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[72]These utterances may also index lack of *ability* to answer the question, due potentially to lack of knowledge, which is more easily captured by the modality analysis; however, the fact remains that speakers *can* index lack of desire with this operator, which is not fully captured by the modality in (63).

[73]For example, phrases like "I'm just saying to you" or "I'm just saying now" are fairly infelicitous, and embedded uses like "I'm sure he was just saying" is questionable (Lee-Goldman 2011: 79).

truth of the prejacent proposition, but attempts to minimize other possible inferences that could be made from the utterance. As such, this kind of use seems to crucially rely on what the speaker is committed to saying, which seems like a useful way of thinking about this.

Beyond the idiomatic expression *just* saying, it seems that *just* can have this kind of effect when modifying a variety of other verbs of saying, like *inform*, *ask*, and *tell*. It can also be shown to refer to implicatures, as shown in (89).[74]

(89)   A: John said Mary owns 2 apartments.
       B: No, that's wrong. She owns 3.
       A: He just said she owned 2. (He wasn't implying she didn't own more.)

In an example like (89) above, it seems that the use of *just* in the final line of the dialogue is quantifying over Gricean conversational implicatures of the prejacent, rather than ordinary semantic alternatives. It is clear from the context that this does not have an ordinary exclusive interpretation like we would see in variants like those below in (90) with prosodically focused elements (the strongest competitor for (89) being (90)c.)

(90)   a. He just [said]$_F$ she owned 2. (He didn't shout/write/sign it.)
       b. He just said she [owned]$_F$ 2. (He didn't say she deserved/wanted 2.)
       c. He just said she owned [2]$_F$. (He didn't say she owned 3.)

Unlike something like (89c) above, the speaker A in (89) is denying that John intended to make any negative quantificational comment about numbers more than two. As of now, we have no mechanism to deal with this kind of quantification, since we do not refer to implicatures as entities over which we can quantify. Even with the modality analysis, we would have to say that implicatures can be covert syntactic/semantic objects giving rise to internal alternative sets, which seems like a stretch given our understanding of propositional semantics. Though, given the inclusion of pragmatic slack as a possible covert targetable element, this isn't necessarily out of the question for the covert modifier account. However, it would require reexamining our conceptualization of conversational implicatures as semantic objects. Regardless, this could also be analyzed as referring directly to speaker commitments without needing to target them in the semantics. Furthermore, the fact that this use is attaching to a speech act verb like *say*, indicates that it could be beneficial to analyze this use, as well as other instances of unexplanatory *just*, in terms of quantification over speaker commitments.

However, even beyond the verbs of saying, *just* seems to be able to quantify over a variety of conversational implicatures and general discourse implications. Consider the following discourse in (91), where the speaker B interprets what speaker A says in a way that speaker A may then wish to deny.

(91)   A: The red light turned on.
       B: So what? You think that's a problem?

Given the above dialogue, consider the following possible responses available to speaker A as strategies to deny the implication speaker B has inferred, both of which involve *just*.

(92)   A's possible responses to (91)
       a. I'm just informing you that the light turned on. (You decide if it's a problem).
       b. The light just went on. (You decide if it's a problem).

The speaker A could respond with (92a), and we would see the same effect as discussed for instances of *just saying*, where A distances himself from the value judgements B is accusing him of. However, A could also respond with (92b), and we would see exactly the same kind of discourse-level denials. This is fairly compelling evidence that, despite the fact that there is no overt verb of saying here, *just* is quantifying over the conclusions that might be drawn by an assertion of the prejacent proposition. This could be viewed as quantifying over the speaker commitments of assertions. Fortunately, a theory of just such quantification

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[74]Thanks to Mats Rooth for this example.

has already been proposed in the Cohen & Krifka 2011, the framework for which will be immensely useful in formalizing this quantification.

As such, in this section, I will attempt to unify the meanings of the truth-conditionally exclusive uses of *just*, restrictive and depreciatory, with the unexplanatory use, as well as the 'emphatic'/unelaborative use. Rather than varying the availability of covert quantification for exclusives, what will vary here is the level of semantic attachment of *just* (and therefore semantic type of its prejacent). I will appeal to the theory of meta-speech acts and quantification over/into speech acts given in Cohen & Krifka 2011, whereby the 'pragmatically exclusive' (i.e., indexing speaker stance toward propositions) uses of *just* involve modification of speech acts rather than modalized propositions.

## 4.2   Speech Act Quantification Framework

In their analysis of superlative quantifiers, Cohen & Krifka (2011) propose that the superlative quantifiers *at least* and *at most* are actually quantifying over speech acts. In order to do this, they propose a theory of commitment update, whereby, following Searle 1969, speech acts change the commitments of the interlocutors. Conversations thus contain sequences of commitment changes, and each speech act can be formalized in terms of its effect on the set of commitments.

Each kind of speech act comes with a certain set of (contextually determined) obligations. Assertions, for example, come with the obligation of the speaker to provide evidence or explanation for their assertion, if prompted. Questions come with an obligation of the addressee to provide an answer to the question, assuming they know they answer. Under the analysis proposed in Cohen & Krifka 2011, these obligations or commitments are added to the existing set of commitments as a result of updating the commitment state with a given speech act. As such, they maintain that assertions come with the effect of reducing the commitment states which are possible continuations of the conversation.

So, consider some assertion A of a proposition $\Phi$, represented as $A(\Phi)$.[75] This assertion will eliminate from the space of possible commitment developments the commitment states that do not result from an assertion of $\Phi$. This is represented in the following diagram in (93) taken directly from Cohen & Krifka 2011.

(93)   Commitment Update with Assertion A:
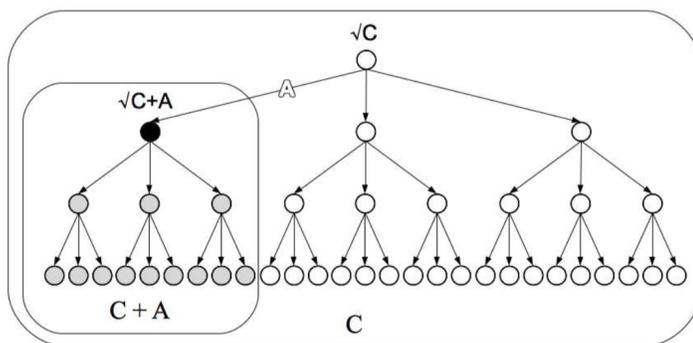


(Cohen & Krifka 2011: ex. 36)

As shown in the diagram above, from a root commitment state, an assertion A will reduce the commitment state possibilities to only those that result in an update with that assertion.

They make use of the fact that some statements, rather than enacting a speech act like an assertion or question, instead restrict the kinds of speech acts or commitments that are allowable continuations of the conversation. A clear example of such a statement is what they label 'denegation', repeated below in (94).

(94)   I don't promise to come.                                            (Cohen & Krifka 2011: ex. 32)

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[75]They often use shorthand $A$ for $A(\Phi)$ (which itself is shorthand for $A(\Phi, s, a)$, the assertion of proposition $\Phi$ by speaker $s$ to addressee $a$) when the proposition in question is clear from the context.

By uttering a statement like (94), the speaker essentially says that she is not making (or is not going to make) the speech act of promising to come. To account for this and similar phenomena, Cohen & Krifka (2011) propose what they call a meta-speech act, GRANT, which is the mathematical dual of the assertion speech act ASSERT in terms of the commitment state update. As they put it, "GRANT indicates a willingness to go along with a possible assertion of a proposition", formalized below in (95).

(95)    GRANT($\Phi$) := $\sim$ ASSERT($\neg\Phi$)                                   (Cohen & Krifka 2011: 18)

Essentially, what GRANT does to the set of commitments is it restricts the conversation to commitments that do not assert the negation of $\Phi$. This would include both the commitments associated with asserting $\Phi$ itself and those associated with asserting any proposition other than $\neg\Phi$. The result of a move of GRANT($\Phi$) on the commitment development space is shown below in (96), also taken from Cohen & Krifka 2011.

(96)    Commitment Update with GRANT($\Phi$) (represented by shaded cells):
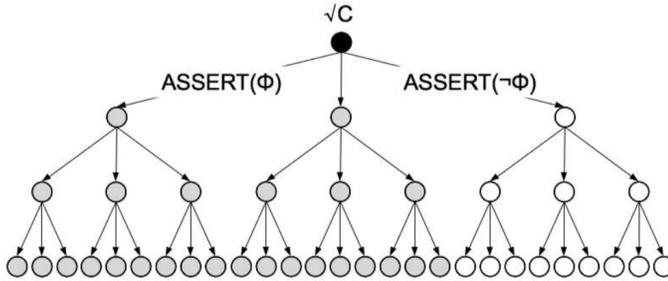


(Cohen & Krifka 2011: 47)

To give an example of how GRANT is actually used, Cohen & Krifka (2011) maintain that superlative quantifier *at most* involves a scoping over speech acts, and give the following commitment update in (97a) for an assertion of "John petted at most three rabbits", which is equivalent to (97b) under the definition in (95).

(97)    John petted at most three rabbits.
    a.  $C + \bigwedge_{n>3} \sim \text{GRANT}(|\mathbf{rabbit} \cap \lambda x.\mathbf{pet}(\mathbf{m}, x)|) = n$
    b.  $C + \bigwedge_{n>3} \text{ASSERT}(|\mathbf{rabbit} \cap \lambda x.\mathbf{pet}(\mathbf{m}, x)|) \neq n$

In other words, by asserting "John petted at most three rabbits", the speaker says that for all numbers $n$ greater than three, the speaker does not grant that John petted $n$ rabbits. This again is equivalent to saying that for all numbers $n$ greater than three, the speaker asserts that John did *not* pet $n$ rabbits.

Beyond the proposal of the GRANT meta-speech act, Cohen & Krifka (2011) also define a notion of relative strength of speech acts, in terms of their resulting commitment state updates and subset relations over those commitment states. This is given in (98) below for speech acts $A_1$ and $A_2$.

(98)    $A_1$ is as strong as or stronger than $A_2$ iff
        for all commitment spaces $C$, $\Cup(C + A_1) \subseteq \Cup(C + A_2)$

Here, the $\Cup$ operator denotes a recursive unioning over elements in a set. This is necessary for their theory, because commitment state update is order-sensitive. However, utilizing the recursive union operator results in unordered sets of all interlocutor commitments up to a given point in a conversation.

Given the framework proposed in Cohen & Krifka 2011 for commitment update and quantification involving operators like ASSERT and GRANT, I can provide an account of the unexplanatory uses of *just* as scoping over speech acts. This is detailed in the following section.

## 4.3 Applications to *just*

To see how we can account for the unexplanatory readings of *just* using modification of speech acts, recall the example of unexplanatory *just* involving the lamp breaking, repeated as (99) below.

(99)   The lamp just broke.

As discussed previously, under the unexplanatory reading (a temporal/recency reading is also available here, but this is not part of the present inquiry), the speaker of (99) asserts that the lamp broke, with the added implication that he does not know what caused the lamp to break (beyond some minimal $\text{CAUSE}_0$, which may in fact be the tautological *because the lamp broke*). We can see this considering the oddness of the following.[76]

(100)   # The lamp just broke! The cat knocked it off the table.[77]

Given the definition of GRANT in (95) as a meta-speech act, I propose the following resulting formula for when *just* scopes over speech acts, where (101a) is equivalent to (101b).

(101)   a.   Assertion:$[\![\text{just } \phi]\!] = \forall q[q \in C_{\leq}(\phi) \wedge \sim\text{GRANT}(\neg q) \rightarrow \text{ASSERT}(\phi) \leq \text{ASSERT}(q)]$
        b.   Assertion:$[\![\text{just } \phi]\!] = \forall q[q \in C_{\leq}(\phi) \wedge \text{ASSERT}(q) \rightarrow \text{ASSERT}(\phi) \leq \text{ASSERT}(q)]$

Note that since GRANT is the dual of ASSERT, (101b) is equivalent to (101a); however, the way that the formula is stated in (101a) makes the meaning a bit more transparent. Specifically, by uttering "just $\phi$", the speaker commits to GRANT the negation of all propositions $q$ in the relative alternative set of $\phi$ whose resulting commitments are not entailed by the assertion of $\phi$.

Just as with the modality analysis, relevant ordering on these speech acts seems to be one of entailment. But since these are assertions rather than propositions (i.e., representing commitment states rather than context states), we need to make use of the strength ordering relationship from (98) proposed in Cohen & Krifka 2011.

In order to really make sense of the formula in (101a), we would, like the modal analysis, need to extend the notion of alternative sets for these kinds of propositions. In the particular example of the lamp in (99), The näive way to do this would be to simply "upgrade" the alternatives we derived in the modal analysis to speech act type. Under such an upgrade, we would get a sample alternative set for *the lamp broke* to be something like the following, where these are now speech acts rather than propositions.

(102)   {The lamp broke $\text{CAUSE}_0$, The lamp broke $\text{CAUSE}_1$, The lamp broke $\text{CAUSE}_2$, ...}, where $\text{CAUSE}_x$ might be something like "The wind knocked the lamp off the table, The cat knocked the lamp off the table, etc.

Given these alternatives, we can see that the only propositions $q$ whose commitments are entailed by the assertion of $\phi$ are those consisting of either the bare assertion of $\phi$, or those consisting of inevitable results of $\phi$. In those cases, the speaker asserts $q$ (or does not GRANT $\neg q$). However, if $q$'s commitments are *not* entailed by the assertion of $\phi$, i.e., if $q$ contains information about what caused the lamp to break, the speaker GRANTs that $\neg q$. For example, by uttering "The lamp just broke" the speaker GRANTs that the wind knocked it off the table, or that the cat (if there is a salient referent for *the cat*) knocked it off, and so forth for all potential information in the alternative set that is not directly entailed by "The lamp broke" plus the minimal covert $\text{CAUSE}_0$.

However, besides the fact that this doesn't seem to work for examples like the *just saying* examples discussed above, this idea of simply upgrading the internal alternatives from the modal analysis to the level of speech acts seems to miss a key reason for preferring a speech act framework in the first place. One of

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[76]Judgments here are murky; I leave open the possibility that this continuation could be felicitous in the right context. For my account though, it is sufficient to note that there are contexts where it is not felicitous.

[77]It should be noted that if we were to reverse the order or these two sentences, this infelicity is dramatically reduced. The discourse "The cat knocked the lamp off the table and it just broke!" seems perfectly fine, though we still see the influence of *just* on the immediate cause of the breaking (taking for granted that the more distal cause included the cat knocking the lamp off the table). In other words, this is then interpreted as the cat knocked it off the table and it broke suddenly/unexpectedly/in such a way that we are not sure what actually caused it, even if it's clear that the cat *initiated* the sequence of events leading to the broken lamp.

the motivating reasons for choosing to operate in a framework that makes use of speaker commitments and quantification over those commitments is that as posited as far back as Searle 1969, commitments of assertion include by definition things like evidence for the assertion, knowledge of the cause of the event/proposition being asserted, etc. As such, we would be remiss if we did not make use of that assumption when dealing with quantification over *exactly* these kinds of objects.

As such, I am considering the possibility of an entirely different notion of alternative set when dealing with speech acts. An initial attempt is provided below, in (103).

(103)    A set $C_\leq(E(\phi))$ is a valid alternative set for a speech act $E$ of proposition $\phi$ iff
  a. There exists a partial ordering $\leq$ over elements of $C_\leq(E(\phi))$ that results transitivity and anti-symmetry (as before).
  b. $C_\leq(E(\phi)) \subseteq \mathscr{P}(\uplus E(\phi))$, where $\mathscr{P}$ is the power set.

Under this formula in (103), the alternative set is simply the set of all subsets of the unordered set of commitments resulting from a speech act $E$ of proposition $\phi$. This bears little resemblance to previous notions of alternative sets on the propositional level, though it should be noted that all of the elements of the alternative set will be of the same type (that of a set of commitments) as the speech act they arise from.

This seems like a good approximation of the kind of alternative set we are after, as it will contain commitments like the evidence, reason, or cause for the proposition $\phi$. If you get these causes and evidence for free from our notion of commitments and speech acts, then we don't need to resort to stipulating them as an additional constraint on the types of allowable alternatives. This is a very desirable result, since it makes use of independently necessary machinery.

However, there is still a kink in this notion of an alternative set as currently formulated. If, for example, assertions of propositions *always* or *inherently* come with commitments to elaborate on evidence or cause if necessary, then there is no way of mathematically separating these kinds of additional commitments (beyond the commitment to the bare truth of the proposition) via an appeal to a power set.

As such, my goal is to come up with a way of separating 'core' commitments, like truth, from 'derived/peripheral' commitments, so that we can actually quantify over these alternative sets containing exactly the kinds of commitments we are after. This will likely entail altering the basic framework posited by Cohen & Krifka (2011) in some way. This will have to remain for future work for the time being, however. In fact, though, separating these commitments would be equivalent to again talking about the semantic values versus the pragmatic/contextually determined inferences that we needed in the covert modifier account.

Regardless of the issues with deriving the alternatives, it should be noted that the result of a formula like (101b) is not quite the same as denying that a cause exists, but rather simply means that the speaker makes a conversational move not to assert any proposition denoting such a cause. This parallels the results of the modal analysis in §3.3, in that it is essentially saying that any cause is not necessarily true (i.e., that they GRANT that it might not be true). This falls in line with the data earlier where it was shown that it is felicitous to follow an unexplanatory *just* statement with an overt explanation, reason, or cause. Unlike the problem this caused for the modal analysis, under this analysis, we can see these follow-ups as a separate conversational move asserting one of the reasons that the speaker had previously simply declined to assert. This doesn't lead to the same pragmatic oddness that we would expect under a modal analysis.

This analysis is likewise supported by data involving negated unexplanatory *just*. Again, we can see this with the context of a parent (A) walking into a room with a broken lamp.

(104)    A: What happened here?
    B: The lamp just broke!
    A: The lamp didn't just break, Timmy. Did you break the lamp?

In the final line of the dialogue, when speaker A says "The lamp didn't just break", the speaker is denying the previous unexplanatory *just* implication of speaker B, namely, the apparent lack of cause for the breaking event. This falls out quite nicely if we utilize the formula in (101a), with negation out-scoping *just*. This is shown in the derivation below in (105).

(105)    $[\![not(just(\phi))]\!] =$
    $\neg(\forall q[\psi \in C_\leq(\phi) \land \sim\text{GRANT}(\neg q) \rightarrow \text{ASSERT}(\phi) \leq \text{ASSERT}(q)]) =$
    $\exists q[\psi \in C_\leq(\bar{\phi}) \land \sim\text{GRANT}(\neg q)) \land \text{ASSERT}(\phi) \not\leq \text{ASSERT}(q)]$

Just as we saw with the modal analysis, as shown above in (105), negating the universal quantification results in an existential statement wherein speaker A claims that there is at least one proposition $q$ in the alternatives for $\phi$ such that she does not grant that $\neg q$ and whose commitments are not entailed by the assertion of $\phi$. In other words, the negation of an unexplanatory *just* statement results in an existential claim about a cause for the proposition in question, which is exactly what we want.

It may seem odd that the quantification here is over speech acts, rather than their propositional content, especially in the case of a dialogue with a recurring question under discussion being asserted by different speakers in a meaningful way. However, it is important to remember that even these quantificational assertions should relate to the update of the context on the propositional level. So, despite the fact that the semantic interpretation here refers to speech acts, the results in terms of the context set are still propositions denoting possible worlds, given a standard possible worlds semantics.

This formula for unexplanatory *just* may also be extended to speech acts other than assertions, including commands. Consider the following, likely familiar, command shown in (106).

(106)    Just do it!

In this example, the speaker is saying something like "do it and don't think about it", or "do it despite potential obstacles". This may not seem like a prototypical example of unexplanatory *just*, as it does not seem to deny an explanation in any obvious sense. However, this is perhaps a failing of my choice of label, as this can be captured in a parallel way when we view this as a restriction on commitments.[78] As such, we could propose that commitments of commands are commitments on the part of the addressee to first and foremost, obey the command, but secondarily to take the necessary steps, including mental processing steps, that would lead to obeying that command.

Since (106) is not an assertion, however, it seems difficult to use the notion of GRANT defined in (95). However, we can easily define a new dual for commands exactly parallel to the definition of GRANT, which results in simply not commanding the negation of a proposition. I call this new meta-speech act ALLOW, and is defined in (107) below.

(107)    ALLOW$(\Phi) := \sim$COMMAND$(\neg\Phi)$

Given this, we can easily give a new semantic formula for commands involving unexplanatory *just*. This is given below, where again, (108a) is equivalent to (108b).

(108)    a.  Command:$[\![$just $\phi]\!] = \forall q[q \in C_\leq(\phi) \wedge \sim$ALLOW$(\neg q) \rightarrow$ COMMAND$(\phi) \leq$ COMMAND$(q)]$
         b.  Command:$[\![$just $\phi]\!] = \forall q[q \in C_\leq(\phi) \wedge$ COMMAND$(q) \rightarrow$ COMMAND$(\phi) \leq$ COMMAND$(q)]$

Here, when a speaker utters something like (106), she obliges her addressee to conform to all and only the propositions whose obligations are entailed by a command of $\phi$. In other words, the speaker commands the addressee to "do it" (as well as potentially all of the actions/results that are logically entailed by the addressee performing that action), but does not place any commands on how or why the addressee perform that action. So, as long as the action is completed in one form or another, the obligation triggered by the command will have been fulfilled. When viewed in this way, commands like this make sense—they trigger commitments to perform the requested action without reference to how that action comes about.[79]

The fact that this is extendable to other illocutionary types is strong evidence in favor of a speech act analysis of this 'unexplanatory' *just*, as it might be difficult to posit this in terms of epistemic modality. On the other hand, this may be where we want to incorporate deontic modality, where we get quantification over deontic necessity rather than epistemic necessity. For example, we might say that by commanding $\phi$, the speaker says that the hearer "should" do $\phi$, but makes no claim about the mechanism by which the hearer "should" accomplish $\phi$ (which would fall out of the quantification over alternatives). More work would be needed to see how that analysis would play out.

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[78]Furthermore, we can rule out the other uses of *just*, as this is clearly not an exclusive interpretation (paraphrasable as "Do it, and do nothing more"), and it is difficult to call this emphatic—though, again, even if we did say this was emphatic, my analysis would still place it in the current discussion.

[79]More needs to be worked out on this, since it also seems reasonable to say that these types of quantified commands also quantify over reasons *not* to obey the command; in fact these reasons are probably targeted more directly.

So, to bring these different uses of unexplanatory *just* together under a single formula, we can say that operators that modify speech acts can scope out of their base position and scope over things like ASSERT and COMMAND (and likely QUEST). To generalize this process, we can view *just* as an operator that may scope out of speech acts. To do so, we need to the following equivalence, at least in the cases where *just* does scope over a speech act.

(109)   ASSERT[just($\phi$)]=[just(ASSERT($\phi$))]

Given the above equivalence in (109), the desired formulas will come out from the ordinary semantics for *just* as a basic exclusive operator. The only trick is that the alternatives for something like ASSERT($\phi$) need to be restricted to a subset of the possible speaker commitments of an ordinary assertion of $\phi$, likely including conversational implicatures, presuppositions of assertions, as well as commitments to provide evidence for any asserted content.

The analysis as stated seems to account for the data with unexplanatory *just*. It also explains in a slightly different way why both unexplanatory and unelaborative *just* may be paraphrased with *simply*, but not with *only*. We can view *simply* as a speaker-oriented adverb with scoping abilities similar to those described for unexplanatory *just*. *Only*, however, is restricted to propositional-level modification, which is always truth-conditional. This explains why the restrictions imposed by *just* when used in an exclusive (either restrictive or depreciatory) way affect the truth conditions of the proposition, while the restrictions imposed when *just* is used in an unexplanatory way only refer to commitments of the discourse, as they only affect the commitment update, and not the context update. Again, the same results are achieved by utilizing modality, but this framework puts these inferences firmly at the level of speech acts rather than propositional semantics.

## 4.4   Remaining Issues with Speech Act Quantification

There are a number of issues that are raised with a framework like this. The main one for this paper is the question of how to derive the correct alternative set for speech acts, which was discussed in the previous section. Another of the open questions I have about how the commitment update works is how and when commitments are removed from the commitment space. While it seems reasonable to say that questions give rise to obligations to answer those questions on the part of their addressee, it seems equally reasonable to propose that there be some mechanism by which commitments can be fulfilled. It is possible that this issue has already been addressed in the literature, but it has not been mentioned in the proposals I have drawn from. It seems that we would need some mechanism like the QUD stack in Roberts 2012 to pop commitments from the commitment space after they have been fulfilled.

Additionally, and perhaps more crucially, is the issue of how it is possible to scope out of speech acts in the first place. It has been pointed out that this entire idea seems to involve a type mismatch, where speech acts are being modified by operators that are not defined for speech acts (Sarah Murray, personal communication). This complaint seems fixable, as we can say that it is exactly those operators and functions that can take scope over speech acts that are defined on speech acts. Krifka (2012), citing Szabolcsi 1982, maintains that speech acts can be seen as functions from worlds to worlds; so we would simply need to say that some operators (like unexplanatory *just*) can be functions from speech acts to speech acts. How to formalize this may be tricky, however, and will likely involve some type-raising. As the purpose here was simply to show how this framework could be used to account for the uses of *just*, I will not attempt to resolve these issues here.

# 5   Open Questions

## 5.1   Concord *just*

Another interesting phenomenon that occurs with unexplanatory *just* is when we see multiple occurrences of *just* within the same sentence that appear to be doing the same thing. Take the following utterance, for example.[80]

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[80]This example was produced in a graduate research workshop presentation at Cornell (topic of ambiguitiy in a perjury statute), given by Sarah D'Antonio on 3/8/2016, and reproduced here with her permission.

(110) The legislators didn't just$_1$ change the word because they just$_2$ felt like it.

The sentence in (110) contains two tokens of unexplanatory *just*, both of which (because of the negation) are serving to imply that the legislators did indeed have a reason for changing the word in question. The first *just* seems to modify the phrase "change the word", while the second modifies "they felt like it".

Under either of the current analyses, this is difficult to capture. These two tokens of *just* do not appear to combine compositionally with one another. Regardless of the formal semantic interpretation for unexplanatory *just*, if *just*$_1$ scopes over *just*$_2$, then we should get an interpretation like "It's not the case that the legislators [changed the word because they just felt like it] and nothing more/for no apparent reason", which is intuitively wrong. On the other hand, if *just*$_2$ outscopes *just*$_1$, then we get the reading "It's not the case that [the legislators changed the word for no apparent reason] because they just felt like it." This is equally difficult in the speech act framework, as this is fairly unambiguously a single speech act, so it is difficult to see why we would allow two tokens of the same speech act modifier.

In either interpretation, it seems like the *just* tokens should affect one another, but this doesn't seem to be the case. As a result, it is possible that we get some kind of concord with *just* in cases like this. More research and analysis is needed to tease apart this phenomenon more precisely.

## 5.2 Embedding and Speaker/Subject Orientation

Another open question is whether *just* is only speaker-oriented when attaching at high clausal levels, or whether it can express the stance of a matrix subject. This will need to be teased apart, though my intuition here is that it should be able to attach at multiple levels, so we should see examples where *just* describes the stance of the subject rather than the speaker. In fact, according to Cohen & Krifka (2011), speech acts can be embedded in propositional attitude contexts; if that is the case, then we should be able to embed unexplanatory *just* in exactly the contexts where embedded speech acts occur.

We see some evidence that both readings are possible with the phenomenon of the questioning of *just* statements. For example, consider the following dialogue in (111).

(111) A: Bill just likes Trump.
      B: Why does he [just like] Trump?

Here, speaker B asks a *why* question following a use of unexplanatory *just*, where it does not appear that B is asking "Why does Bill like Trump for no apparent reason?" Rather, it seems that speaker B is actually disambiguating between the speaker-oriented *just*, with the inference that "A is only asserting that Bill likes Trump" (i.e., that A does not know the reason for the liking) and the subject-oriented *just*, with the inference that it is Bill who does not know the reason for his liking Trump.

By uttering this question, speaker B is asking speaker A to explain why A *thinks* Bill likes Trump. This question only makes sense if the original assertion by speaker A had the subject-oriented interpretation, as otherwise speaker B would be asking for information that speaker A had just distanced herself from.[81]

From this example, it seems likely that there is some ambiguity between speaker and subject oriented uses of *just*. As such, this ambiguity should be predicted and accounted for in the theory of speech act modification. This will require further tweaking of the theory as currently stated. This issue could be resolved in the covert modifier analysis by allowing indices on the epistemic modal to vary, where they get a speaker value in some readings and a subject value in attitude contexts like this one. This seems like a more manageable and consistent solution.

# 6 Applications to Other Exclusives

## 6.1 Cross-linguistic Exclusive Operators

Ultimately, this theory should be able to account for a wider variety of exclusive operators than those discussed in this paper in particular. We have already seen some variation cross-linguistically between the kinds of restrictions that various operators come with.

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[81]Though, it is probably possible for speaker B to do just that, but this would involve a failure to accept the commitments resulting from speaker A's assertion, which I am not addressing here.

In Hebrew, for example, we saw that *rak* seems distributionally very similar to English *only* (with a preference for entailment scales, but not a firm restriction to them). On the other hand, unstressed *stam* mirrors English *merely* fairly closely, though there is evidence that it is even more restricted than the English variant (Orenstein & Greenberg 2010). Accented *STAM*, however, bears some similarity to some uses of English *just*, but it appears to more easily appear with internal alternatives involving degrees, rather than ones involving causation as in English unexplanatory *just*. To demonstrate the axes of variation for Hebrew exclusive operators, Orenstein (2015) provides the following table, shown below in (112).

(112)  Specification of three varying parameters

|  | **Type of scale** | **Type of alternatives** | **Origin of alternatives** |
|---|---|---|---|
| *rak* | Entailment and evaluative | external | supplied by context |
| *stam* | Only evaluative | External and internal when accented | supplied by context |
| *be-sax ha-kol* | Entailment and evaluative | External and internal | supplied by the lexical semantics of its associate |

(Orenstein 2015: 105)

Given this chart above in (112), while English *only* looks fairly similar to Hebrew *rak*, we can see that English *just* overlaps at least the categories covered by Hebrew *rak* and *stam*, since it allows both entailment and evaluative scales, as well as both external and internal alternatives.[82]

Given a parameter breakdown like that in (112), we might also want to include scoping ability with respect to speech acts. For English, likely only *just* and *simply* would fit in that category. More data would be needed for Hebrew *STAM* to see if it also lends itself toward a speech act quantification analysis.[83] Ignoring for the moment the 'origin of alternatives' category highlighted in Orenstein 2015, we could view English exclusives in a similar way, as shown below in (113). *Solely*, which has not been discussed in this paper, is also included here for breadth of discussion.

(113)  Specification of three varying parameters

|  | **Type of scale** | **Type of alternatives** | **Speech act scope** |
|---|---|---|---|
| *only* | Entailment and evaluative | External | No |
| *merely* | Evaluative | External | No |
| *just* | Entailment and evaluative | External and internal/discourse | Yes |
| *simply* | ? | Internal/discourse | Yes |
| *solely* | Entailment? (numerical?) | External | No |

As shown above, we are approaching a typology for English exclusives, though more research would need to be done to determine exactly what the values of these parameters are, as well as what other parameters should be included, even for English exclusives.

Beyond English, we can see some other interesting distributions of these and other parameters. For example, in Japanese, we see the basic exclusive operator *dake*, which can be used fairly similarly to English *only*, with some differing syntactic restrictions. However, Japanese also has another exclusive *shika*, which does not neatly correspond to any English exclusive. This operator is an NPI and thus only occurs with morphologically negated verbs, and carries with it a presupposition of insufficiency, somewhat like the MERELY presupposition we see with English *merely* and Hebrew *stam* (Hasegawa & Koenig 2011).

Furthermore, another Japanese exclusive, *bakari* is most often used as in the English specificatory *just* that was not a primary point of discussion in this paper. However, it can also be used as paraphrase of English *only*, but it is restricted to 'plural events', i.e., events that have happened more than once (Kotani

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[82]More work would need to be done to determine whether *just* overlaps with Hebrew *be-sax ha-kol*.

[83]Though, there is strong evidence that it does behave very much like *just* in many contexts, in the sense of minimizing importance and speaker distance. For example, it is frequently used among younger speakers to mean something like "just kidding" to minimize the effect of jokes or sarcasm.

2009). This warrants further research, as specificatory *just* could be included in this framework with some minor modification—see §6.3. If this is true, then the behavior of *bakari* could shed light on the possible combinations of these values for exclusives more generally.

Of the Japanese focus particles, the most likely to meet the criteria for a speech act scoping exclusive operator are *tada* and *tatta*, both of which can occur sentence-initially, unlike most other exclusive particles in Japanese. A closer examination of the semantic interpretation of sentences involving these exclusives will be necessary to determine whether we would want to analyze either or both of them along the same lines as we have seen in this paper for English *just*.

## 6.2 Comparison with Adjectival Exclusives

Another comparison that should be done in order to gain a more complete view of how exclusivity works cross-categorically is between the exclusive adverbs and their adjectival counterparts. A good deal of work has been done on English *mere* and *sole* in Coppock & Beaver 2011a,b. However, given this new analysis of *just* (which has no adjectival counterpart) and potentially *simply*, it would be very interesting to see if we can analyze something like *simple* as a speech act operator (or even as an operator over internal alternatives.) This will have to be left to future work or revisions, however.

## 6.3 Other Uses of *just* in English

Once the analysis of the exclusive and unexplanatory uses of *just* has been fully formalized, it would be interesting to explore the possibility of extending the analysis to cover some of the other uses of *just*. In particular, the specificatory and exact uses seem that they may also be paraphrasable in terms of some kind of restriction, especially if we adopt the covert modifier analysis for unexplanatory and unelaborative *just*.

The specificatory use serves to specify a small range of either time or physical distance under which the property being modified by *just* holds. Examples of this use are repeated in (114) below.

(114)   Specificatory *just*
    a. I just finished my homework.
    b. I've just heard that you are leaving us.          (Lee 1987: 390, ex. 72–73)
    c. You have something just below your eye.

As such, we might be able to paraphrase a sentence like (114a) as "The past event of me finishing my homework occurred in the range immediately surrounding the utterance time, and not any larger time interval." This seems to capture at least the truth-conditions of such a use of *just*, but it remains to be seen whether it is a reasonable paraphrase of the intended meaning for specificatory *just*. However, the fact that we may phrase the specifications in terms of a restriction indicates that we may be able to include an analysis of specificatory *just* along the lines of the account for exclusive and unexplanatory *just*. Furthermore, this use of *just* may actually refer to either the past or future interval around the utterance/reference time, depending on the tense of the sentence. Past tense sentences like (114a) and (114b) usually correspond with a past interval for specificatory *just*, while present (progressive) forms allow for a future interpretation, as in (115).

(115)   I'm just leaving (now).

The interaction between tense and the direction of allowable temporal modifiers is intriguing and worth pursuing in more detail. However, it seems clear that if we allow covert slack operators on predicates, then we could allow them on time intervals as well.

The exact use also shows some promise in terms of extending the proposed account. Exact *just* has a fairly restricted use, which seems quite idiomatic, where it tends to modify questions. These questions may be embedded questions or actual interrogative speech acts, as shown in the examples repeated below in (116).

(116)   Exact *just*
    a. Just where do you think you're going?          (Kishner & Gibbs 1996: 19, ex. 5)

b. I want to know just how he got in here.

Despite the fact it is difficult to pinpoint how *just* in these examples relates to the exclusive interpretation, I think that the fact that these tend to modify questions could give us some insight into how exact *just* might be accounted for using the commitment state update model given in §4. Specifically, a paraphrase referring to the commitments evoked by question speech act in (116a) could be something like "I require that you fully answer the question and do not require any information beyond that answer", which over time could be re-interpreted or extended as "I want to know exactly the answer to this question". This may in fact be what happens when unexplanatory *just* scopes over the QUEST speech act.[84]

The remaining use of *just* that has not been discussed in this paper is the comparative use, which also can be paraphrased with *exactly*. Examples of comparative *just* are repeated in (117) below.

(117)  Comparative *just*
    a. I love cookies, just as you love cake.  (Kishner & Gibbs 1996: 19, ex. 6)
    b. Just like the previous example, this is an example of comparative *just*.

If we were to include comparative *just* in the current analysis, it seems that we could analyze it as a very particular version of either the specificatory or the exact use, where the element *just* modifies is the comparative *like* or *as*. In other words, for an example like (117a), we could say that this is equivalent to saying "The property/quality of me loving cookies is in the very narrow equivalence range of the property of you loving cake." This would extend whatever analysis we give for specificatory *just* beyond the spaciotemporal realm, where *just* can specify a narrow range of the abstract notion of similarity. This could even directly make use of the slack regulator analysis utilized for unelaborative *just*.

It should be noted that *simply* does not work as a substitute for any of these three uses of *just*, so the account should be able to explain the differences between these and unelaborative *just* in a substantive way. Additionally, moving forward it is important to constrain the availability of these covert modifiers so we avoid overgenerating the kinds of constructions that occur across the world's languages.

# 7 Conclusions and Future Work

## 7.1 Summary

In this paper, I have detailed a mechanism for accounting for a variety of polysemous interpretations for the word *just* by appealing to a broadening of the notion of alternatives to include internal alternatives, in the sense of Orenstein 2015, as well as allowing for scoping at the level of the speech act as in Cohen & Krifka 2011. In order to do this, I have adopted a modified variant of the semantics for *only* given in Rooth 1992; Chierchia 2013; Beaver & Clark 2008 for the propositional exclusive readings of *just*, namely 'restrictive' and 'depreciatory' *just*. I provided a common meaning for both kinds of exclusive *just* that allows for variability over the types of alternative sets and their orderings. These types of meanings are fairly unrestricted for *just*, contrasting with other exclusive operators both in English and cross-linguistically. This base meaning was then extended via an appeal to epistemic modality and then to allow modification and manipulation of speech acts using the operator GRANT and the commitment state update theory given in Cohen & Krifka 2011, which accounts for the readings associated with unexplanatory *just*, as well as unelaborative *just*. The modal theory and the speech act theory make many of the same predictions, but differ on some minor points.

## 7.2 Theoretical Implications

The fact that there is such a striking similarity between the modal and the speech act accounts of unexplanatory *just* may seem like a conundrum, as we are left with only minor details to turn to for evidence in favor of one account over the other. However, it is not actually that surprising that these accounts yield such similar results. In Cohen & Krifka 2011, the main competition to their analysis is one involving epistemic

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[84]However, the history of *just* may explain this, as it originally meant 'exactly'. Thus, it seems that the covert modifier account may actually bridge the gap between these meanings, and perhaps give us some insight into why *just* became an exclusive operator in the first place.

modal representation for superlative quantifiers. They note that this is unsurprising, as there is evidence that epistemic modals should themselves be analyzed as speech act modifiers. This equivalence seems intuitive, since the effect of asserting that a proposition is not necessarily true is virtually identical to the effect of 'granting' that a proposition might be false on the level of the speech act.

As such, we are left simply with the question of which framework offers the best explanation for the data we see at the lowest cost in terms of complication to the existing theory. In my view, the theory of covert modifiers, when constrained by discourse coherence or congruence to the question under discussion (Roberts 2012), is the more compelling account. It keeps the implications and inferences in the propositional semantics and gives us a very clear view of where the alternatives are stemming from. The modal analysis is generally tighter and does not run into the same kinds of issues of type mismatch, how to refer to speech acts within the compositional/propositional semantics, and how to define alternatives for speech acts in terms of speaker commitments. One of the reasons to prefer the speech act quantification analysis seems to be that evidence is built in to the notion of speaker commitments for assertions. However, even if we take that to be true, under an analysis that ties the covert modifiers to the QUD and discourse coherence, the fact that they are speaker commitments makes them available for this covert modification. As such, as long as we include reference and dependence on the discourse structure in the formulation of tehse alternatives, there is no reason to take this as evidence that we should prefer the speech act framework to the covert modifier one. (Despite this, it does have its advanatages; I simply do not take them to outweigh the advantages of the proposition-level quantification we maintain in the other analysis.) Furthermore, I do not maintain that the framework in **?** is not a viable framework for other phenomena, only that it is not necessary to account for the behavior presented here for *just*.

Future work remains to be done on specifying the exact nature of the covert modifiers available for these kinds of quantification. This will necessitate looking at a wider array of exclusive operators in other languages and observing the combinations of restrictions that occur.

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