# THE SEMANTICS OF FOCUS PARTICLES

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**Abstract:** The article analyses the semantic properties of the restrictive focus particle *only*. It argues for a unitary treatment of *only* as an adverbial quantifier over properties of events. The study shows that the scope interactions that the particle creates support this analysis, that is the lack of interaction with D-type quantifiers and scope ambiguities created in the presence of A-quantifiers and other sentential operators such as modals and negation. Scope ambiguities, and particularly the interaction with negation, are used to determine the position of *only* in the LF structure of the sentence.

**Keywords:** focus particle, interaction with focus, A-quantifier, scope interaction

## 1. Introduction

Most studies available in the literature treat *only* as a quantifier with a universal flavour but differ as far as the domain of quantification (the type of elements over which *only* quantifies) and the structuring of this domain (the restrictor-nuclear scope partition). In this paper we will investigate the quantificational properties of *only*, addressing the following aspects: the type of quantificational force (determiner or adverbial quantifier), the structure of the quantificational domain (unary vs. binary quantifier), the scope of *only* and interactions with other quantifiers. We propose that *only* is essentially a universal adverbial quantifier, but unlike other adverbial quantifiers such as *always* or *never*, it quantifies over properties of events, not over times. The quantificational domain of *only* is shaped by focus, i.e. *only* behaves like a binary quantifier when associated with a narrowly focused constituent and as a unary quantifier when it associates with broad focus clauses. Given its adverbial nature, *only* takes scope over the VP (or higher) and is predicted to interact with quantifiers and operators of a similar nature (adverbial or propositional). The semantic analysis is formulated in the framework of the theory of Structured Meanings, which we argue to be an appropriate semantic theory to account for the meaning of *only* as well as for its syntactic behaviour.

## 2. The quantificational range and scope of restrictive particles

The class of natural language quantifiers is split into D(eterminer) quantifiers (e.g. *every*, *all*, *some*) and A(dverbial) quantifiers (e.g. *always*, *usually*) according to the type of variable over which they quantify: D(eterminer)-type quantifiers generally quantify over individuals whereas A(dverbial)-type quantifiers quantify over events or situations (depending on the particular semantic theory adopted).

(1) Every attendant has received a diploma.
(2) The jury always selects the friendly candidates.

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In the examples above, *every* quantifies over individuals, expressing that all individuals who are attendants are individuals who have received a diploma, whereas *always* quantifies over events, expressing that all the contextually relevant events are events where the jury selects the friendly candidates. Consequently, *every* takes scope over the NP *attendant*, while *always* takes scope over the VP *selects the friendly candidates*. Their scope properties are reflected in their respective syntax: *every* attaches to the NP *attendant* and *always* adjoins to the VP *selects*. As far as *only* is concerned, neither its syntax nor its semantics is equally transparent. The focus particle can attach to virtually any type of constituent (NP, DP, PP, AP, VP, AdvP, CP or QP). This has led to theories which propose different entries for at least some of these uses of *only*, notably for *only* NP, *only* VP and *only* S(entence). Such a theory is Rooth (1985), who also suggests translation rules from only$^{NP}$ and only$^{VP}$ to only$^{S}$ in an attempt to provide a unitary semantics for the particle. Only NP can be assigned a semantic interpretation as the reverse of *all*.

(3) Only students are allowed on the school premises.
(4) a. All the individuals who are allowed on the school premises are students.
b. [[only]] A B iff B $\subseteq$ A

A similar analysis might have motivated von Stechow's (1991) interpretation of *only*-NP structures as a type of complex quantifier. While sentence (4) is the correct semantic interpretation of (3), such examples alone do not represent sufficient evidence for a determiner analysis of *only*. It can attach not only to bare NP but also to definite, indefinite or quantified NPs, which clearly rules out a determiner analysis.

(5) Only the enrolled students are allowed on the school premises.
(6) Only a student is allowed on the school premises.
(7) Only some of the students were allowed on the school premises.

It might however be possible, theoretically, to allow for a determiner analysis exclusively for bare plural NP cases. Von Fintel (1994) points out a different problem of the determiner analysis: conservativity. Barwise and Cooper (1981) notice that natural language determiners are conservative:

(8) A determiner is conservative iff for any sets of individuals A and B:
[[det]] (A) (B) ↔ [[det]] (A) (A∩B)
(9) Every parent loves his children. ↔ every parent is a parent who loves his children
(10) Most parents love their children. ↔ most parents are parents who love their children
(11) No parent loves his children. ↔ no parent is a parent who loves his children
(12) Many parents love their children. ↔ many parents are parents who love their children
(13) Only parents love their children. ¬↔ only parents are parents who love their children

Since parents who love their children are a subset of parents, the right side of the implication will always be true. But the left side relation (A $\subseteq$ B: all parents are individuals who love their children) does not follow from it. Therefore, only is non-conservative.

In the light of the arguments above and, more importantly, the fact that we can identify a uniform semantic effect that *only* has on the sentences in which it appears irrespective of the type of constituent with which it associates, it seems counter-intuitive to adopt a determiner analysis for *only*. Instead, we will propose, following Von Fintel (1994), Herburger (2000), Beaver and Clark (2008) among others, that *only* is an adverbial quantifier.

Herburger (2000) treats *only* on a par with *always*, proposing that both adverbs express a universal quantification over the event variable introduced by the verb.

(14) Jane saw only Stephen.
(15) Jane always saw Stephen
(16) [all e: [see(e) & past(e) and Agent(e, Jane) & Theme(e, STEPHEN)]

However, such an analysis would imply that the two quantifiers should not co-occur, since, following Lewis (1975), if the sentence contains a single event variable that would get bound by one of the two quantifiers, then the other would have no variable to bind, as in the following examples:

(17) a. *Sometimes, some students cheat.
b. Sometimes, students cheat.
(18) a. *Always every student cheats.
b. Students always cheat.

He proposes that adverbial quantifiers are unselective, that is they may bind all free (unbound) variables in their scope, not only event variables. In example (17), *sometimes* may also bind the variable introduced by the NP *students* leaving no free variable for the determiner quantifier *some* to bind. Similarly, in example (18) *always* binds the variable that would otherwise get bound by *every*. But, this does not apply to sentences containing *only* and *always*:

(19) Our parents always invite only ADULTS to their parties.
(20) Only our PARENTS always invite adults to their parties.

Sentences (19) and (20) clearly show that *only* and *always* can co-occur. Evidence for the contrary position seems to be provided by VP-only sentences.

(21) *Our parents only always invite ADULTS to their parties.
(22) *Our parents always only invite ADULTS to their parties.

However, we take the ungrammaticality of such examples to stem from a syntactic constraint, not from semantic incompatibility. More specifically, we propose that examples (21) and (22) provide evidence that VP-*only* occupies the same position that

*always* does. Notice that if the particle associates with the verb, sentence (23) becomes grammatical, pointing towards the fact that this is not a constraint of adjacency between only/always and the verb.

(23) Our parents always only INVITE adults to their parties, (they don't entertain them).

Therefore, we propose that *only* is a different type of adverbial quantifier than *always*, a position also defended by Aloni et al. (1999). Combining the analysis put forward by Rooth (1992), taken over by von Fintel (1994), and Herburger (2000), we propose that *only* expresses quantification over the properties of events. It does not bind an independently existing variable, but rather it quantifies over the property resulting from A-bar movement of the focused constituent and creation of a variable.

(24) a. Jane trusts only John.
b. only < Jane trusts x, John>

As the analysis is (24b) shows, Structured Meanings can capture this meaning without encountering the problems that the Focal Mapping Theory does.

The analysis of *only* as adverbial quantifier also has consequences on its scopal properties. Unlike certain D-type quantifiers, who give rise to scope ambiguities by occupying different positions with respect to other quantifiers or operators, adverbial quantifiers tend to take scope in their surface position and consequently not give rise to scope interactions.

(25) All the invitations were sent to a recipient. $\exists > \forall$ or $\exists > \forall$
a. Every invitation was sent to a different person.
b. All the invitations were sent to the same person.

The sentence is ambiguous between the readings presented above. In order for the second order to be obtained, the existential quantifier has to rise to a position higher than the universal quantifier. This movement had been labeled quantifier raising (QR).

Adverbial quantifiers do not exhibit such scope interactions.

(26) a. Brian does not always interrupt.
b. Brian always does not interrupt.

When the adverbial quantifier appears lower than negation the sentence is interpreted as negating the statement that Brian always interrupts. When the adverbial out-scopes negation, as in example (26b), it is interpreted higher than negation, the sentence meaning being that it is never the case that Brian interrupts. Since negation has a fixed position, it follows that the scope of *always* reflects its surface position. The same result obtains for *only* and negation.

(27) a. Only Brian does not interrupt his colleagues.
b. Brian does not interrupt only his colleagues.

When the particle occupies a position lower than negation it interferes with the negative force of the negator. Sentence (27b) entails that Brian interrupts his colleagues and he interrupts other individuals as well. The interaction between negation and only will be discussed in more detail later in this paper.

Another property of *only* that we set out to discuss is whether the restrictive is to be analysed as *unary* or *binary* quantifier. Unary quantifiers express a restriction on one set, whereas binary quantifiers express a relation between two sets. Examples of unary quantifiers are: *somebody*, *everybody* and adverbial quantifiers (*always*, *never*, *usually*)

(28) Somebody come.
$\exists$ x [come (x)]
(29) It always rains.
$\forall$ e [e, rain]

*Everybody* quantifies on the set of the individuals who came and asserts that the set is not empty. In $\lambda$ notation, the existential quantifier attaches to the open sentence $\lambda$ x: come (x). Similarly, the universal adverbial quantifier *always* attaches to the open sentence $\lambda$ e: rain (e).

Binary quantifiers include: *all*, *every*, *no*.

(30) Every student came.
$\forall$ x [student (x) $\rightarrow$ come (x)]

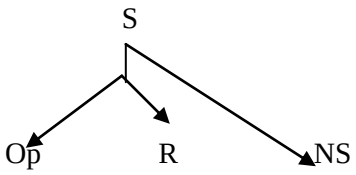
The quantifier *every* expresses a relation between the sets of students and the set of individuals who came, that is that all the members of the set of students are also members of the set of persons who came. Structurally the sentence may be decomposed into two predicates $\lambda$ x: [boy (x)] [come (x)]

Heim (1982) proposes that sentences containing quantifiers structure the sentence (semantically) into three parts: Operator (Op), Restrictor (R) and Nuclear Scope (NS). Applying this partition to the two types of quantifiers, we obtain the following structuring.

(31) a. $\exists$ x [come (x)]
Op NS
b. $\forall$ x: [boy (x)] [come (x)]
Op R NS

It follows that unary quantifiers only have a nuclear scope, whereas binary quantifiers have both a restrictor and a nuclear scope. Heim proposes that an operator, its restrictor and nuclear scope appear in a specific structure at the semantic component.

(32)




As far as *only* is concerned, we follow Herburger (2000), Sauerland (2005), among others, in proposing that *only* is generally to be analysed as a binary quantifier, the Restrictor / Nuclear Scope partition being provided by the focus. We further propose that in cases where only attaches to a broad focus sentence such as (33) below, *only* is a unary quantifier.

(33) We would have had a wonderful holiday in the Bahamas. Only we missed the plane.

In the example above, *only* attaches to an all-new focus clause which provides its Nuclear Scope.

Summing up, we have shown that the semantics of restrictives is best described by treating *only* and its counterparts in other languages as universal adverbial quantifiers over properties of events. This allows for a uniform semantics of restrictives irrespective of the type of their associate. Therefore we adopted the view that, in the case of restrictives, there is distinction between their syntactic associate (the focused constituent) and their semantic restriction (the property created by extracting the focus). As concerns the unary/binary distinction, we have adopted the view that the binary structure is created by the narrow focus and it is dependent on it.

## 3. The scope interactions of *only*

In the light of the properties presented before, we expect restrictives to be sensitive to other propositional operators and not to affect the scope of other types of quantifiers such as nominal ones. Given that scope is dependent upon the position occupied in the structure, we expect ambiguities to arise as a result of covert movement.

In an in-situ approach to focus as proposed in Rooth (1992) for example, the choice of focus should automatically determine the scope of a particle. The substitution of a variable for a focused expression gives the open sentence that is relevant for defining the set of contextually relevant alternatives over which only quantifies. Under this version of Alternative Semantics, as presented above, *only* is an operator over a set of propositions resulted from plugging in alternatives to the focused constituent of the appropriate type.

Examples like (34), however, show that the scope of a particle cannot always be identified with the semantic representation of the whole sentence or clause:

(34) a. They meet only MARY very often.
b. Very often they meet only MARY.

Under the approach proposed by Rooth (1992), in example (34) *only* should attach to propositions of the type *They meet Mary very often*, *They meet Jane very often* and so on. No ambiguity is predicted to arise from varying the position of the adverbial. Nevertheless, it is clear that sentences (34a) and (34b) contribute different inferences: (34a) entails that Mary is the only person that they meet very often, whereas (34b) entails that very often it is the case that they meet no one else except Mary. The two readings correspond to the two LF structures indicated below.

(35) a. LF: only MARY [they meet x very often]
b. LF: very often [only Mary [they meet x]]

In order to account for the contribution made by *only* to the meaning of these two sentences, we have to assume that the particle may take wide scope over *very often* in (34a)., but narrow scope in the second example, so that only a part of the sentence (i.e. 'they meet x') seems to be relevant for spelling out the scope of *only* in (34b).

A similar scope ambiguity can be observed in complex sentences like those in (36). In these cases the interpretation depends on whether the focus particle is located in the matrix clause or in the embedded clause. The paraphrases for (36a) and (36b), which have an identical focus associate, are given in (37a) and (37b), respectively.

(36) a. I only hope that MARY comes.
b. I hope that only MARY comes.
(37) a. Only < I hope that x comes, Mary>.
b. I hope[ only <x comes, Mary>].

In (37b), *only* does not have scope over the matrix *hope*. Thus, by uttering this sentence, the speaker expresses the hope that no one except for Mary comes. The scope of the particle is restricted to the embedded clause. In (37a), on the other hand, *only* has scope over the matrix verb, resulting in the interpretation that the only proposition of the form x comes of which the speaker hopes that it is true is the proposition Mary comes.

The above examples show that the scope of a focus particle is relevant for the interpretation of a sentence if there are syntactic nodes that restrict the scope of the particle (such as the CP node of an embedded clause). We take the examples above to give additional proof for the position that we have adopted, namely that *only* is a quantifier over properties of events and that its scope is the VP, either of the clause in which it is introduced (the embedded clause) or of the main clause.

Given the position that *only* is an adverbial quantifier and the generally held position that adverbial quantifiers have a fixed scope and do not give rise to ambiguities, we would expect scope interactions of *only* to be always spelled-out by linear order. Indeed, it is very frequently the case that the left-to-right sequence indicates its relative scope: the leftmost element takes wide scope over the operator that follows. This is shown in examples which contain more focus particles:

(38) a. **Even** Fred read **only** *Syntactic Structures*.
b. John also drinks **only** whiskey.

It is a consequence of these scope relations that the passive versions of (38a) and (38b) are not equivalent to their active counterparts, since a change in the sequence of the relevant operators results in a change of relative scope:

(39) a. Only *Syntactic Structures* was read even by Fred.
b. Only whiskey is drunk by John too.

Sentence (38a) implicates that the likelihood of Fred reading only *Syntactic Structures* is low, the expectation being that he would have read more books, whereas (39a) implicates that the likelihood of Fred reading any other book except *Syntactic Structures* is low. Sentence (38b) asserts that John drinks exclusively whiskey and carries the implicature that other people drink nothing but whiskey, while (39b) asserts that John drinks only whiskey but it implicates that all the contextually relevant individuals aside from John enjoy other drinks as well.

As noted by König (1991), the same situation is obtained in examples where the coordinated subject forces a distributive reading.

(40) a. Both Joan and Beth answered only one question.
b. Only one question was answered by both Joan and Beth.

The passive sentence (40b) implies that one specific question was answered by both women, whereas its active counterpart carries no such implication.

However, in relation to other operators, such as deontic modal operators, *only* does give rise to scope ambiguities, as in the following example (from Herburger 2000: 88):

(41) We were told to water only the azaleas.
a. must [only <water x, azaleas>]
b. only [must <water x, azaleas>]

The sentence may be interpreted as containing an order to water only a single type of flowers (that is an interdiction to water any other flowers) or as a recommendation given only for one type of flowers, nothing being indicated about the other flowers. The second interpretation is obtained by allowing the particle and its associate to undergo covert QR movement. Consider also the examples below (from Taglicht 1984: 150, quoted in von Fintel 1994: 6):

(42) a. They were advised to learn only SPANISH.
b. They were advised to only learn SPANISH.
c. They were only advised to learn SPANISH.

An observation attributed to Taglicht is that such sentences are ambiguous only when the particle and its associate appear “in situ”, that is, when the lower copy is spelled-out at PF. Such overt structures are ambiguous between an LF structure where the particle takes scope over the embedded VP, the interpretation being that we were advised to learn no language other than Spanish, and an LF structure where *only* scopes over the matrix VP,

the resulting interpretation being that the only piece of advice that we received concerned Spanish, no recommendations to learn other languages being made. Thus under the first interpretation alternatives such as 'learn Chinese' or 'learn Italian' are excluded while under the second reading these alternatives are not considered, since no advice concerning them is received. Sentences (42b) and (42c) are not ambiguous since the particle overtly marks its scope. Sentence (42b) allows only for the first interpretation according to which Spanish is the only language that we should learn, while sentence (42c) is interpreted as offering advice about a single language, Spanish.

König (1991) considers that ambiguous sentences may disambiguated by intonation. Thus, sentences containing a restrictive and an adverbial such as those below are not really ambiguous, he claims, if their intonation is taken into account.

(43) a. /Only SPANISH is spoken throughout the city./
b. /Only SPANISH is spoken /throughout the city./

Example (43a) excludes alternatives where other languages are spoken by the entire population allowing for cases where other languages are spoken in specific areas of the city. Example (43b), on the other hand, is interpreted as excluding any language other than Spanish, irrespective of the area where it is spoken. König proposes that if a sentence-final operator takes wide scope over a preceding one, it typically forms a separate tone-group:

> The division of a sentence into tone groups may serve as an indicator of relative scope. If the leftmost operator takes wide scope over a following one, there is only one nuclear tone and thus only one tone group. A sentence-final operator takes wide scope over a preceding one, if it constitutes a separate tone group (König (1991: 47).

He formulates the hypothesis that the scope of a particle in English is co-extensive with the tone group containing it.

In the example cited by König (1991) intonation helps establish whether a constituent is to be interpreted as part of the background or as topic. In the latter case it will form a separate tone group. Topics are outside the scope of focus particles, as clearly shown by the fact that the same interpretation is obtained if the adverbial appears in the left periphery separated by a comma indicating the prosodic break.

(44) Throughout the city, only SPANISH is spoken.

Sano (2001) argues that intonation also helps distinguish between wide and narrow scope interpretations of *only* in cases where the particle is preceded by another operator. He claims that in Japanese in order for *dake* 'only' to be interpreted as having wider scope over a modal and inverse surface scope, the particle itself, not only its associate, must bear heavy stress and induce a prosodic break. He shows that in cases where the

particle is followed[1] by a constituent that cannot be separated prosodically from the associate of the particle, such as the accusative case marker in (45b), the wide scope interpretation is impossible, unless heavy stress on the particle is licensed by an overt modal expressing emphatic assertion as in example (46):

(45) a. Isya wa Aiko ni [kongo yasai **dake** taberu] koto o yurusita.
doctor TOP Aiko DAT from now on vegetable only eat C ACC allowed
b. Isya wa Aiko ni [kongo yasai **dake** o taberu] koto o
doctor TOP Aiko DAT from now on vegetable only ACC eat C ACC
yurusita.
allowed
'The doctor allowed Aiko to eat only vegetables from now on'

(46) Isya wa Aiko ni [kongo yasai DAKE o taberu] koto o
doctor TOP Aiko DAT from now on vegetable only ACC eat C ACC
yurusita noda.
allowed MOD
'The doctor allowed Aiko to eat only vegetables from now on.'

Example (45a) is ambiguous between a reading where vegetables are the only products that Aiko is allowed to eat (obtained if the particle has wide scope over the modal) and a reading where Aiko has permission to eat nothing but vegetables. Example (45b) allows only for the second interpretation. This means that, while both sentence (45a) and (45b) would be appropriate in a situation where Aiko asks the doctor if she may become a vegetarian, in a context where Aiko asks the doctor whether she is allowed to eat other products aside from vegetables sentence b. would be incongruous.

Heavy stress also helps disambiguate between wide and narrow scope readings in English

(47) a. /I knew he had learnt only SPANISH/.
know [only <he had learnt x, Spanish>
b. /I knew he had learnt / only SPANISH.
only [know <he had learnt x, Spanish>

Sentence (47a) receives an interpretation whereby I knew he hadn't learnt any other language except Spanish, while sentence (47b), with a prosodic break before the particle, is interpreted as me having no knowledge of him learning other languages. Prosodic breaks mark the process of topicalization, i.e. the topicalized constituent is separated prosodically from the rest of the clause.

Evidence of the type provided by for Japanese is hard to find in English. Sano (2001) quotes the following example containing a phrasal verb provided by Kayne (2000: 236):

[1] Japanese being a head-final language, the focus particle follows its associate.

(48) a. We've requested that he point out only one book.
b. We've requested that he point only one book out.

Kayne (2000: 236) argues that example (48a), where *only* and its associate follow the particle *out*, is more easily amenable to a wide reading interpretation than example b. where *only* intervenes between the verb and the particle. Sano (2001) claims that this effect is due to the impossibility of inserting a prosodic break between the focused phrase and the particle *out* in the second example. While this is true, the impossibility of the wide scope in (48) may be actually due to syntactic reasons rather that phonological ones. We believe in fact that heavy stress is a reflex of the wide scope of the particle and not its trigger. In other words, syntax drives phonology and not the other way around.

The scope properties of *only* in English differ not only according to the scopal properties of the focus particle itself but also according to the element with which it interacts. That is, the focus particle inherits the scopal properties of its associate. Thus in relation to D-type quantifiers, the scope of focus particles seems to depend on its associate: when only combines with a scopally unambiguous constituent, such as a proper noun, its scope will be determined by the surface position, there arising no scope ambiguities

(49) Everybody greeted only Mary. Everybody > only Mary

If, on the other hand, *only* associates with a constituent that gives rise to scope shifting, such as indefinites, ambiguities are predicted to occur:

(50) All students read only one author. all > only one author; only one author > all

In the example above the indefinite may be interpreted cardinally, every student read no more than one book which may vary from student to student, or specifically, where every student read a specific book, the same for all students. The semantic interpretation in point of scope of example (50) is identical to that of the sentence without the focus particle.

(51) All students read one author. all> oneone > all

Particles which select a quantifier as focus and occur inside a prepositional phrase take scope within that phrase:

(52) For only TEN dollars, you can get a very good meal.

In English, examples like (52) contrast with sentences in which the particle precedes the preposition. The differences concern the intonation (no prosodic break is inserted between the focused constituent and the rest of the sentence), the interpretation (any lower values on the scale are excluded) and the syntactic structure (the position of subject and auxiliary verb is reversed):

(53) Only for TEN dollars can you get a very good meal.

According to König (1991) if the scope of a particle is restricted to a phrase, as in (52), there is no open sentence in terms of which the contribution of the particle to the meaning of a sentence can be spelled out:

> We must therefore assume that the meaning of the particle is a purely evaluative one in such cases or that the meaning is to be spelled out in terms of a paraphrase that is determined by the preposition and the rest of the sentence (König 1991: 51).

Given the double dependence exemplified above, on the associate and on the position occupied in the clause structure, there is also a double demand on the syntax of focus particles: (i) to identify their focus, and (ii) to identify their scope. The first requirement is best fulfilled by an overt order where the particle occupies a position adjacent to their focus, while the second requirement is best fulfilled by overt displacement of *only* to the pre-verbal position, which allows it to have scope over the verb phrase.

## 4. The interaction of *only* and negation

Focus particles interact with the quantificational force of negation. Thus focus particles taking scope lower than negation act as restrictors (Partee 1991):

(54) a. Mary didn't call her parents yesterday.
b. Mary didn't call only her parents yesterday.

(55) a. LF: Mary not [call her parents yesterday]
Nuclear Scope
b. LF: Mary not [only her parents] [call yesterday]
Restrictor Nuclear Scope

The two sentences have different truth conditions. Sentence (54a) is true in case Mary didn't call her parents yesterday, whereas sentence (54b) is true in case Mary did call her parents and she called someone else as well.

We therefore expect that the position of *only* relative to negation will have an effect on the interpretation of sentences containing the two operators:

(56) a. Only Paula doesn't know your story. only > NEG
b. Paula doesn't know only your story. NEG > only

Examples (56a) and (56b) above show that this is indeed the case. In sentence a, where *only* attaches to the subject and takes scope over negation, asserts that 'Paula doesn't know the truth', a negative proposition. As already seen above, when outscoped by negation, the restrictive focus particles reverse the polarity of their assertion. That is, (56b) asserts that 'Paula knows your story' as opposed to (56a) which asserts the

opposite. By negating the restriction, these contexts become additive. Sentence (56b) carries the entailment that Paula knows other stories aside from yours.

The position of the restrictive focus particle has consequences on licensing of NPIs, that is intervening focus particles blocks the licensing of NPIs:

(57) Only Paula doesn't know your story yet.
(58) *Paula doesn't know only your story yet.

In example (57) the constituent *only Paula* occupies a position higher that negation and therefore it does not block the licensing of the NPI *yet*. In example (58) the particle *only* intervenes between the negation operator and the NPI blocking its licensing. The resulting sentence is thus ungrammatical.

Under the scope of negation, focus particles block the licensing of NPIs irrespective of the position of the NPI relative to *only*, providing further evidence against in-situ analyses of focus particles, and evidence for movement.

(59) a. *John didn't invite anyone only to the MEETING.
b. John didn't invite Mary only to the MEETING, (he also invited her to the party).

In example (59a) the restrictive particle doesn't appear to block the licensing of the NPI *anyone* as the overt position of the PP *only to the meeting* is lower than that of the DO *anyone*. However, Linebarger (1987) has shown that the licensing of NPIs is sensitive not to the overt position, but to LF scope, that is no scope-bearing constituent may intervene between negation and the NPI at the LF. It follows that in the example (59a) above the NPI is illicit because the focus particle intervenes between it and negation at LF.

(60) LF: John not invite only to the meeting *anyone.

The interaction between negation and *only* provides further evidence for the fact that the scopal properties of the particle depend on the scopal properties of its associate. Given our proposal that *only* takes scope over the VP, we would expect it to be always outscoped by negation. However, we have noticed that when it attaches to the subject it outscopes negation, due to the fact that the subject in English occupies a position higher than negation.

## 5. Conclusions

The study has brought evidence for a uniform adverbial quantifier interpretation of *only*, supported by the vP periphery movement of the particle, which accounts for its scope and interpretation as quantifier over properties of events, an interpretation derived from the semantic theory adopted. We have shown that the adverbial analysis accounts for the type of scope interactions that restrictives generate, i.e. interactions with adverbial quantifiers and modal operators and lack of interaction with nominal quantifiers. We also

proved that the scope ambiguities that restrictive properties generate in the presence of other propositional operators can only be accounted by a theory that assumes movement. The analysis of the interaction between restrictives and negation has proved that the interpretation of sentences containing restrictive focus particles depends on the scope of the particle and the syntactic/semantic properties of its associate.

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