

9. Focus, Topic and Quantification

9.1 Introduction

The general picture of quantification that has emerged since the early 80's (cf. for example Barwise (1981) and Heim (1982)):

- Quantification involves a relation between a **restrictor** set and a set called **matrix** or **nuclear scope**. The **quantifier** is a relation between a restrictor set and a nuclear scope set. Examples: $[\textit{every}](A)(B)$ iff $A \subseteq B$.
 $[\textit{most}](A)(B)$ iff $\#(A \cap B) > \#(A - B)$
- Quantifiers have the property of being **conservative**: $Q(A)(B) \iff Q(A)(A \cap B)$.
- We can identify two types of quantification: Quantifiers occur within syntactic arguments of predicates, as **determiners**, and they occur as **adjuncts** of predicates, for example, as adverbs, as auxiliaries, or as affixes to the predicate. Partee (1991) calls these two global types **D-quantification** and **A-quantification**, respectively. Examples:

- (1) a. Every girl that said "trick or treat" got some candy.
 b. If a girl said "trick or treat", she always got some candy.
- (2) $[[_{\text{NP}_{\text{DET}}} \textit{every}] [_{\text{N}} \textit{girl that said "trick or treat"}]] [_{\text{VP}} \textit{got some candy}]]$
 Logical form:
 $[[_{\text{NP}} [\textit{every}] [_{\text{girl that said "trick or treat"}}]_i] \ t_1[t_1 \textit{got some candy}]]$
 Interpretation:
 $\text{EVERY}(\{x \mid \text{GIRL}(x) \text{ SAID TRICK OR TREAT}(x)\}, \{x \mid \text{GOT SOME CANDY}(x)\})$
- (3) $[[_{\text{CP}} \textit{If a girl said "trick or treat"}] [_{\text{CP}} \textit{she} [_{\text{C}} \textit{always} [_{\text{C}} \textit{got some candy}]]]]]$
 Logical form:
 $[\textit{always} [_{\text{a girl said "trick or treat"}}] [_{\text{she got some candy}}]]$
 Interpretation:
 $\text{EVERY}(\{s \mid \text{'a girl said "trick or treat" in } s\}, \{s \mid \text{'the girl got candy in } s\})$

Lewis (1975) proposed that adverbial quantifiers express quantification over "cases", which has led to a stimulating discussion about the nature of cases and how the entities mentioned in a case description relate to this case. For our current purposes (3) is sufficient.

It turned out that **focus** plays an important role in quantification (cf. Rooth (1985)):

- (4) a. $[\text{Máry}]_{\text{FP}}$ always took John to the movies.
 'If someone took John to the movies, it was always Mary.'
- b. Mary always took $[\text{Jóhn}]$ to the movies.
 'If Mary took someone to the movies, it was always John.'
- c. Mary always took John $[\text{to the móvies}]_{\text{FP}}$.
 'If Mary took John somewhere, it was always to the movies.'

The phenomenon that some constituents in a quantified sentence are interpreted in the restrictor and others in the nuclear scope has been called **semantic partition** by Diesing (1990, 1992).

We also find that instances of D-quantification can be focus sensitive under certain circumstances (cf. Krifka (1991)):

- (5) a. Most books were sold by $[\text{Máry}]_{\text{FP}}$ yesterday.
 'Most books that were sold yesterday were sold by Mary.'
- b. Most books were sold by Mary $[\text{yésterday}]_{\text{FP}}$.
 'Most books that were sold by Mary were sold yesterday.'

Here it appears that the material expressed by the focus in the original sentence shows up in the nuclear scope, and not in the restrictor, of the quantifier in the paraphrase.

9.2 Adverbial Quantification in Alternative Semantics

9.2.1 The Theory of Rooth (1985)

Rooth (1985) has proposed a theory that expresses how focus helps determining the restriction of an adverbial quantifier.

- (6) Mary usually took $[\text{Jóhn}]_{\text{FP}}$ to the movies.
 'For most situations in which Mary took someone to the movies, it was John who she took to the movies'

Derivation of this meaning in Alternative Semantics:

- (7) *Mary took* $[\text{Jóhn}]_{\text{FP}}$ *to the movies*.
 Meaning: $s[\text{TAKE TO THE MOVIES}(\text{JOHN})(\text{MARY})(s)]$, = [1]
 Alternatives: $\{s[\text{TAKE TO THE MOVIES}(x)(\text{MARY})(s)] \mid x \in D_e\}$, = [2]

The quantificational adverbial then takes as its restrictor the closure over the set of alternatives (D_e , or $\text{ALT}(\text{JOHN})$), and as matrix the meaning. Assuming that *usually* is interpreted by the quantifier **MOST**, we get:

- (8) *Mary usually took* $[\text{Jóhn}]_{\text{FP}}$ *to the movies*.
 $\text{MOST}(\ [2], [1])$
 $= \text{MOST}(\{s \mid x[\text{TAKE TO THE MOVIES}(x)(\text{MARY})(s)]\},$
 $\{s \mid \text{TAKE TO THE MOVIES}(\text{JOHN})(\text{MARY})(s)\})$

A problem: The interpretation (8) does not give us exactly the paraphrase we had for (6), as it is compatible with a states of affairs in which Mary usually took John together with other persons to the movies, and this may be excluded:

- (9) A: I know that Mary likes both John and Bill. Who does she typically take to the movies?
 B: Mary usually takes $[\text{Jóhn}]_{\text{FP}}$ to the movies.

We can arrive at more adequate truth conditions if we assume that the predication in the nuclear scope is exhaustive, which we may express by an operator ONLY.

(10) *Mary usually took [John]_{FP} to the movies.*

MOST([2], ONLY([1], [2])),

where ONLY([1], [2]) = {s | s [1] A [2] | s A A=[1]}

This is true if most situations *s* in which Mary took someone to the movies (*s* [2]), she took John to the movies (*s* [1]), and *s* does not fall under any other alternative *A* (e.g., the alternative ‘Mary took Bill to the movies’)

9.2.2 Alternative Semantics and Dynamic Interpretation

This interpretation of adverbial quantification is insufficient on two counts:

- It does not provide a way to express anaphoric bindings between the restrictor and the nuclear scope of the quantifier, as in (11.a).
- It crucially hinges on the fact that we have some entity, like situations or times, to quantify over. There are parallel cases with non-episodic verbs in which this is not the case, as in (11.b)

(11) a. *Mary usually takes a boy [to a movie he likes]_{FP}*

‘Usually, if Mary takes a boy to something, she takes him to a movie he likes.’

b. *A movie John likes usually contains [a car chase]_{FP}*

‘Usually, if John likes a movie, it contains a car chase’

The techniques to handle anaphoric bindings like in (a) and the nature of quantification as in (b) have been developed by Kamp (1981) and Heim (1982), in which indefinite NPs introduce variables (discourse referents), and quantification is essentially over variable assignments.

Rooth (1995) develops a way of combining the semantics of focus, as illustrated in (8), with a dynamic interpretation in the style of Kamp and Heim. Illustration of anaphoric binding:

(12) *[A dog]_i is always [intelligent]_{FP}.*

The indefinite NP *a dog* bears an index, 1. Focus leads to the formation of a set of alternatives. In the present case, we have (13.a,b) as meaning and alternative set. Here, meanings are seen as dynamic, that is, as relations between input variable assignments and output variable assignments; a propositional expression will be given as a set { *g,h* | ... } with *g* the input assignment, and *h* the output assignments. Indefinites change the output variable assignment by adding their index to the domain; I will write *g<₁h* iff *h* and *g* differs just with respect to the index 1.

(13) Meaning: { *g,h* | *g<₁h* DOG(*h*₁) INTELLIGENT(*h*₁) }

Alternatives: { { *g,h* | *g<₁h* DOG(*h*₁) P(*h*₁) } | P D_{e,t} }

As *P* varies over all predicates, it effectively does not express any restriction. By formation of the union over all the alternatives, we get the following dynamic meanings:

(14) Restrictor: { *g,h* | *g<₁h* DOG(*h*₁) }, = [1]

Scope: { *g,h* | *g<₁h* DOG(*h*₁) INTELLIGENT(*h*₁) }, = [2]

Quantification: EVERY([1], [2])

Whether we get the right result depends very much on how we precisely interpret the quantification and the relation between the input assignment and the output assignment, *g<₁h*.

Consider the following proposal. First, we assume that the assignments are partial, and that *g<₁h* means that *h* differs from *g* only insofar as the domain of *h* includes the index 1, which follows from the following general definition:

(15) *g<₁h* *g h* DOM(*h*) = DOM(*g*) {*i* | *i* DOM(*g*)}

Second, assume the following interpretation for quantifiers, which is the standard interpretation for dynamic interpretation:

(16) EVERY(*R, S*) = { *g,g* | *k*[*g,k* *R* *h*[*k,h* *S*]] }

The problem here is that *g,k* [1] and *k,h* [2] cannot both be satisfied, as the first condition would entail that the index 1 is in the domain of *k*, and the second, that 1 is not in the domain of *k*. In other words, the novelty condition for the indices of indefinites is violated for the occurrence of the indefinite in the nuclear scope. The interpretation scheme (16) forces us to quantify over the indefinite twice, in the restrictor and in the scope: the problem of **requantification**.

This problem also appears in episodic sentences in which situations are introduced and serve as antecedents: For example, (6) would be analyzed as follows:

(17) Restrictor: { *g,h* | *x*[*g<₁h* TAKE TO THE MOVIES(*x*)(MARY)(*h*₁)] }, = [3]

Scope: { *g,h* | *g<₁h* TAKE TO THE MOVIES(JOHN)(MARY)(*h*₁) }, = [4]

Here, *h*₁ is anchored to situations. Notice that the quantification EVERY([3], [4]) cannot hold under (15) and (16), for the same reason as above.

Rooth (1995) investigates the consequences of giving up the novelty condition for the indices of indefinites, by dropping the last conjunct of (15); he calls this the ‘domain regulator approach’. The problem is that this move would allow for coindexing of indefinites in cases like the following, which would make (18.a) equivalent to (18.b).

(18) a. *[A man]_i came in. [A man]_i sat down.*

b. *[A man]_i came in. He_i sat down.*

There is one potential solution that does not change the novelty condition for indices (15), but the interpretation format for quantifiers (16), in the following way (see Krifka 1992a):

(19) EVERY(*R, S*) = { *g,g* | *h*[*g,h* *R* *k*[*g,h+k* *S*]] }

Here, $h+k$ is the assignment h incremented by k , that is, $h+k = h \circ k$, provided that $\text{DOM}(h) \cap \text{DOM}(k) = \emptyset$. The crucial property here is that S gets evaluated with respect to the original input assignment, g . Applied to [1] and [2], the quantification rule (19) gives us the following result:

$$\text{EVERY}([1], [2]) = \{ g, g \mid h[g, h \ [1] \quad k[g, h+k \ [2]] \}$$

There is no problem with the fact that both [1] and [2] introduce the index 1, as both sentences are interpreted with respect to the same input assignment, g . Furthermore, as we do not requantify over h in the consequent, we make sure that the meaning of *an dog* in the second argument refers to the same entity as it did in the first argument, namely, $h(1)$. The essence of this interpretation rule can be rendered within standard first-order logic as follows:

$$x[\text{DOG}(x) \quad y[\text{DOG}(y) \quad x=y \quad \text{INTELLIGENT}(y)]]$$

A related solution to the problem of requantification has been proposed by Fintel (1994) 63ff.). Von Fintel analyzes adverbial quantification as quantification over situations. The standard way of analyzing (12) as a quantification over situations can be characterized by the following paraphrase: ‘Every (minimal) situation in which there is a dog is part of a situation in which there is a dog that is intelligent’. Nothing in this paraphrase prevents us from talking about different dogs. Hence von Fintel has to introduce a minimality condition: ‘Every (minimal) situation in which there is a dog is part of a minimal situation in which there is a dog that is intelligent.’

This treatment of quantification can be extended to quantifiers in general (cf. Krifka 1992a).

$$(20) \text{Q}(\text{R}, \text{S}) = \{ g, g \mid \text{Q}(\{h \mid g, g+h \ \text{R}\}, \{h \mid k[g, g+h+k \ \text{S}]) \}$$

$$(21) \text{Most of the time, an Italian}_1 \text{ [owns a Véspe}_2\text{]}_{\text{FP}}$$

$$(22) \text{Meaning: } \{ g, k \mid k[g <_1 h \ \text{ITALIAN}(h_1) \quad h <_2 k \ \text{VESPA}(k_2) \quad \text{OWN}(h_1, h_2)] \}, \\ = [3]$$

$$\text{Alternatives: } \{ \{ g, h \mid k[g <_1 h \ \text{ITALIAN}(h_1) \quad \text{P}(h_1)] \} \mid \text{P} \ \text{D}_{e,t} \}, = [4]$$

$$\text{Union of alternatives: } [4] = \{ g, h \mid k[g <_1 h \ \text{ITALIAN}(h_1)] \}, = [5]$$

The alternatives are generated as the alternatives of the predicate *own a Vespa*. Following Rooth (1995), I assume that the alternatives of this predicate are **dynamically closed**, that is, they do not introduce new indices (they are here represented by the static predicate, P), and that they vary over all semantic entities of the type of the focus, here, the domain of predicates, $\text{D}_{e,t}$. (Rooth: “trivialization” of the focus constituent.) When we take the union of all alternatives, we get a dynamic meaning in which the contribution of the focus expression is simply disregarded.

(23) Application of quantifier:

$$\text{MOST}([5], [3]) \\ = \{ g, g \mid \text{MOST}(\{h \mid g, g+h \ [5]\}, \{h \mid k[g, g+h+k \ [3]\}) \\ = \{ g, g \mid \\ \text{MOST}(\{h \mid g <_1 [g+h] \ \text{ITALIAN}([g+h]_1) \\ \{h \mid k[g <_1 [g+h] \ \text{ITALIAN}([g+h]_1) \quad [g+h] <_2 [g+h+k] \\ \text{VESPA}([g+h+k]_2) \quad \text{OWN}([g+h+k]_1, [g+h+k]_2)\}) \}$$

$$= \{ g, g \mid \\ \text{MOST}(\{ \{ 1, x \} \mid \text{ITALIAN}(x) \}, \\ (\{ \{ 1, x \} \mid y[\{ 1, x \} \quad \{ 1, x \}, 2, y \} \quad \{ 1, x \} <_2 \{ 1, x \}, 2, y \} \\ \text{ITALIAN}(x) \quad \text{VESPA}(y) \quad \text{OWN}(x, y)] \}) \}$$

$$= \{ g, g \mid \text{MOST}(\{ x \mid \text{ITALIAN}(x) \}, \\ \{ x \mid y[\text{ITALIAN}(x) \quad \text{VESPA}(y) \quad \text{OWN}(x, y)] \}) \}$$

Problem: If we take (20) as the general interpretation rule for adverbial quantifiers, that is, the interpretation rule that is operative also in cases in which the restrictor is given by an *if*-clause or a *when*-clause, then this rule would effectively suspend the novelty condition for indefinites there. For example, the interpretation rule for quantifiers would allow for the coindexing indicated in (24.a), which would give the sentence the same interpretation as (24.b):

- (24) a. Most of the time, if Mary loses a book₁, she finds a book₁.
b. Most of the time, if Mary loses a book₁, she finds it₁.

Hence we have to assume that the rule format (20) cannot be taken to be the general one for adverbial quantification. Rather, we have to distinguish between two slightly different rule formats:

- (25) a. $\text{Q}(\text{A}, \text{B}) = \{ g, g \mid \text{Q}(\{h \mid g, g+h \ \text{A}\}, \{h \mid k[g+h, g+h+k \ \text{B}]) \}$
b. $\text{Q}(\text{A}, \text{B}) = \{ g, g \mid \text{Q}(\{h \mid g, g+h \ \text{A}\}, \{h \mid k[g, g+h+k \ \text{B}]) \}$

Here, (25.a) gives the rule format for adverbial quantifiers in which the restrictor A is specified by an antecedent clause; notice that the nuclear scope B is interpreted with respect to $g+h$, that is, the output of the antecedent clause. (25.b) gives the rule format for adverbial quantifiers when the restrictor A is derived by focusation. Here, the nuclear scope B is evaluated with respect to the original input assignment, g . In von Fintel’s words (1994: 64), “we have circumvented the novelty condition in cases where the indefinite is interpreted twice because of manipulations in the semantics”. This is certainly not a welcome result for theorists that want to treat focus as just another way of indicating a domain restriction for quantifiers.

9.3 Presupposition Sensitivity

9.3.1 Adverbial Quantification and Presuppositions

It has been observed by various authors that if the nuclear scope of a quantifier contains presuppositions, then they are understood as being part of the restriction.

Kasper (1987, 1992) observed this for subjunctive clauses that lack an overt restrictor (cited after von Stechow 1994):

- (26) a. Peter would have solved the problem.
 b. If Peter had been faced with this problem, he would have solved it.

A subjunctive can be seen as a quasi-universal quantifier. In (26.a), the restrictor of that quantifier is not made explicit. But the clause *Peter solved the problem* presupposes that Peter was faced with this problem, and the fact that (b) is a good paraphrase of (a) shows that this presupposition can be construed as the restrictor.

Schubert (1989) have observed a similar phenomenon with adverbial quantifiers, with examples like the following ones:

- (27) a. Cats always land on their feet.
 b. Robin Hood never misses.

Berman (1989), von Stechow (1994) have investigated the principle that the presuppositions of the nuclear scope become (part of) the restrictor of the quantifier. According to them, this is an instance of **accomodation**. The nuclear scope can only be evaluated in a context in which its presuppositions are satisfied, and cooperative hearers are supposed to supply the conditions necessary for interpretation if they are uncontroversial.

9.3.2 Presupposition sensitivity or focus sensitivity?

Question: can we conflate presupposition-sensitivity and focus-sensitivity of adverbial quantifiers? Can we reduce presupposition-sensitivity to focus-sensitivity, or focus-sensitivity to presupposition-sensitivity?

- The first strategy, reduction to focus-sensitivity, would imply that instances that appear to be presupposition-sensitive expressions actually are focus-sensitive. This is convincing in some cases. For example, (27.a) is naturally read with main accent on *feet*, which is compatible with a focus phrase *on their feet*. However, (27.a) can also answer a general question about the properties of a cat, e.g., *What properties do cats have?* This suggests that the whole VP, *lands on its feet*, is in focus, and we cannot appeal to focus as the force that partitions a domain into a restrictor and a focus. Also, this strategy is not particularly convincing for (27.b).
- Therefore, we will investigate the second strategy, reduction to presupposition-sensitivity.

- (28) a. Most of the time, Jerry lands on his feet.
 b. Most of the time, a cat₁ [is neutered]_{FP}.

In (28.a), we just consider situations in which the presupposition of *Jerry lands on his feet* is satisfied, that is, situations in which Jerry is falling. We say that most of these situations are such that Jerry lands on his feet. In (28.b), we just consider situations in which the index 1 is anchored to a cat, and we say that in most of these situations, 1 is neutered. We could generalize over both cases if we could show that (28.b) indeed **presupposes** that the index 1 is anchored to a cat. Both

cases become even more similar when we consider the fact that even the presupposition of (28.a) involves indices, namely, indices that are anchored to situations:

- (29) Most of the time,
 if [Jerry touches ground after falling]₁, [Jerry lands on his feet]₁.

That is, most ways in which the index 1 is anchored to a situation in which Jerry touches ground after falling are such that Jerry lands on his feet in 1.

For the presuppositional treatment of sentences like (28.a,b) we must assume that the indefinite noun phrase *a cat*₁ expresses a presupposition, that is, a condition on the input context that the index 1 is already defined. However, this is contrary to the standard view that indefinite NPs and episodic sentences **introduce** their index; they come with a novelty condition for indices. It seems that we have conflicting requirements here.

However, it seems that sometimes indefinites indeed do not come with a novelty condition on their indices.

9.3.3 Topical Indefinites

Indefinites are typically used to introduce new discourse referents into the discourse. However, it seems that there are two distinct ways in which this can be done: Either in a direct way (which is the way that has been contemplated in much of the literature), or indirectly, by accomodation. I will call the latter type of indefinites **topical**. Topical indefinites **presuppose** that their index already exists in the input context, and that their descriptive content applies to the referent of that index. If this is not the case, the index will be accomodated.

This notion of topical indefinites can be seen as a radicalized version of a proposal by Condoravdi (1992), who introduced the category of “weakly” novel indefinite NPs. Condoravdi studies in particular the functional readings of bare plural NPs, as in the following example:

- (30) In 1985 there was a burglar haunting the campus.
 Students were aware of the danger.

The bare plural *students* is understood as referring to the students of the campus mentioned in the first sentence. For Condoravdi, such NPs still introduce a novel index, but presuppose the existence of the entities in question. Topical indefinites are indefinites in which even the index is presupposed and has to be introduced by accomodation.

Question arises what distinguishes topical indefinites like *a cat*₁ in (28.b) from definites like *the cat*₁ which are typically analyzed as presupposing the existence of their index? Proposal: Definites come with the additional presupposition that their descriptive content, here *cat*, applies to the referent of a **unique** available index. The descriptive content of a definite is used to identify that index (cf. Heim 1982). This is why the following text is odd:

- (31) Mary has a cat, and John has a cat, too. #The cat is black.

Indefinites, on the other hand, do not come with a uniqueness presupposition. An indefinite noun phrase like *a cat* signifies that the descriptive content, *cat*, does not identify a unique existing index. This is arguably by way of a conversational implicature: If the content would identify an existing index, and the speaker would have liked to refer to that index, the speaker would have used a definite NP. In the cases typically considered in the literature, the indefinite will introduce a new index, perhaps due to a more general principle that every noun phrase has to be associated with a referential index.

But now consider **topical indefinite NPs**: As indefinites, their descriptive content is not supposed to identify a unique index in the input context, but as topical NPs, they should refer to an existing index. The only way to resolve this conflict is to accommodate a new index before the topical indefinite NP is interpreted.

How can topical and non-topical NPs be told apart? Whether an indefinite NP is topical or not depends on the syntactic context in which it occurs.

- (32) a. The door opened. (A fat man_i came in.)
 b. Mary opened the window and looked down the street.
 (A fat man_i) (was standing at the lamp post.)_{FP}

In (a), an indefinite NP occurs as a part of an intonational phrase that comprises the verb as well. It is athetic sentence; there is no constituent of the sentence that identifies a topic. The sentence is not felt as being about a fat man, but rather, as being about an event. In contrast, in (b) the indefinite NP forms a separate intonational phrase, and the sentence is felt as being about the fat man. Hence *a fat man* is non-topical in (a), but topical in (b).

9.3.4 Evidence for topical indefinites

9.3.4.0 Accommodation of presuppositions introduced by indefinites

Evidence: accommodation of presuppositions that are dependent on indefinites.

- (33) There were pedestrians on the street. A fat man_i [was pushing his_i bike]_{FP}.

The possessive noun phrase *his bike* comes with the presupposition that the fat man owned a bike. If *a fat man* simply introduces a new index, then the hearer knows nothing about the fat man. And if presuppositions refer to knowledge that is supposed to be present in the common ground, then the presupposition that the fat man owned a bike cannot be satisfied. Hence this presupposition must be accommodated. There are two possibilities for presupposition accommodation: global, that is, at the context at which the whole sentence is interpreted, or local, that is, at the local context at which the presupposition trigger is interpreted. The only global accommodation that would give us what we want is that every fat man has a bike:

c + Accom: [*every fat man has a bike*] + [*a fat man*_i] + [*I was pushing his bike*]

For certain cases we may find such universal accommodations, as in an example like *A scuba diver was cleaning his aqualung*, which may trigger the accommodation 'Every scuba diver has an aqualung'. However, sentence (33) certainly does not

presuppose that every fat man has a bike. — Local accommodation would take place after the subject noun phrase has been evaluated, that is, at the indicated step in the update of the context c:

c + [*a fat man*]_i + Accom: [*I owned a bike*] + [*I was pushing his bike*]

But in other cases involving quantifiers, local accommodation, if available at all, is rather restricted. Heim (1983) argues that local accommodation is possible in the present case because it shares one feature with global accommodation in cases involving quantifiers, namely, it remains in the output context. But there is no independent evidence that, in general, those accommodations are preferred that actually survive.

Notice that we can assume global accommodation of the presupposition if the indefinite NP *a fat man* is accommodated, too. We have to assume that this accommodation is performed first, and that it introduces an index; the second accommodation then can refer to that index:

c + Accom: [*a fat man*_i] + Accom: [*I owned a bike*] + [*I was pushing his bike*]

According to this representation, then, the content of the sentence is that the referent of the index 1 was pushing 1's bike, and it is presupposed that this referent is a fat man and owned a bike.

9.3.4.1 Informational status of the descriptive content

Observation: the descriptive content of topical NPs is not part of the truth-conditional content of the sentence, but rather, serves to identify a particular entity about which a predication is made.

- (34) a. The man with the martini was standing all by himself.
 b. A man with a martini was standing all by himself.

Both sentences can be true even if the man turned out not to have a martini, but a glass of soda water. Evidence for that is that a simple denial will typically not be seen as a denial of the descriptive content of the noun phrase. This is why (35.b), in contrast to (35.a), is inadequate as a reaction to (34.a,b). The denial of the descriptive content of a topical NP is typically a more involved affair, arguably an instance of protest against a presupposition, as in (35.c). This contrasts with non-topical indefinite NPs

- (35) a. No, he was talking to Mary.
 b. #No, he had a glass of soda water.
 c. He didn't have a martini, he had a glass of soda water.
 (36) a. The door opened, and [a man with a martini came in]_{FP}.
 b. No, he had a glass of soda water.

9.3.4.2 Wide-scope reading of topical indefinites

Topical indefinites exhibit widest-scope readings, even from positions from which other quantifiers do not allow for wide-scope readings. This is the classic case of specific indefinites, as described by Fodor (1982):

- (37) Every professor heard the rumor that a student of mine had been called before the dean.

In its specific reading, the noun phrase *a student of mine* has to be translated as a wide-scope existential quantifier in predicate logic, even though it occurs in a syntactic island, the NP *the rumor that x had been called before the dean*. This option is not accessible for quantificational noun phrases, like *each student of mine*, arguably because these NPs gain their reading by a process like quantifier raising that is syntactically bounded. This leaves the scopal possibilities of specific indefinites to be explained. We can explain it by assuming that specific indefinites are topical, that they do not introduce an index but presuppose it, that this index typically is introduced by accomodation, and that accomodation typically is global, that is, it happens before the sentence is interpreted.

- c + Accom: [*a student of mine*]₁
+ *Every professor heard the rumor that I has been called before the dean.*

Furthermore, if topical indefinites introduce their index by global accomodation, coindexations like the following one are predicted to occur:

- (38) While he was in the shower, a good friend of mine slipped and broke a leg.
c + Accom: [*a good friend of mine*]₁
+ [*While I was in the shower, I slipped and broke a leg*]

9.3.4.3 Indefinites marked by definite articles

Another source of evidence that favours a presuppositional analysis of topical indefinites can be derived from the fact that in a number of languages, topical indefinites in the scope of a quantifier are marked by an article that usually is used for definites, the prototypical example for presuppositional NPs. Relevant data are discussed by Newton (1979) for Modern Greek and Laca (1990) for Spanish.

- (39) a. Los vaqueros mascan tabaco.
“Cowboys (usually) chew tobacco”
b. Los vaqueros mascan el tabaco.
“Cowboys (usually) chéw tobacco”,
“What cowboys do with tobacco is: they chew it”

9.4 Other Focus Effects on Quantification

Focusation (or its converse, topicalization) seems to play a role in the interpretation of conditional clauses like the following. Proposal ([Chierchia, 1995 #6521; Chierchia, 1992 #3793]): The destressed item is a topic, and quantification is over topical items within the antecedent clause.

- (40) a. If a painter owns property in a village, it is usually nice.
‘For most painters x that own property in a village y, it holds that y is nice.’
b. If a páinter owns property in a village, it is usually nice.
‘For most villages y such that some painter owns property in y, it holds that y is nice.’

[Herburger, 1997 #6522] discusses the role of focus in sentences with certain nominal quantifiers:

- (41) a. Few cóoks applied.
FEW({x| x applied}, {x| cook(x)})
“Few that applied were cooks”
b. Few incómpetent cooks applied.
FEW({x| cook(x) applied(x)}, {x| incompetent(x)})
“Few of the cooks that applied were incompetent”

Notice that these are not the standard readings commonly assigned, FEW({x| cook(x) (& incompetent(x))} {x| x applied}), “few of the (incompentent) cooks applied”. Herburger proposes an analysis in which the quantifier, *few*, operates on a VP with internal subject, e.g. [[_Fcóoks] applied]. The non-focused item within the VP determines the domain of quantification (here, {x| applied(x)}), just as with adverbial quantifiers.

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