Syntactic and Semantic Conditions on NPI Licensing in Questions[*]

CHUNG-HYE HAN AND LAURA SIEGEL
University of Pennsylvania

1.   Defining the Problem

Negative Polarity Items (NPIs) are known to be licensed in *wh*-questions. However, we point out that there are interpretational and grammaticality differences in *wh*-questions with NPIs in different syntactic environments. In some cases, a *wh*-question is ambiguous between a true information-seeking *wh*-question reading and a rhetorical question reading, and in other cases, it has only the rhetorical question reading. Following Progovac (1993), we use the term "rhetorical question" to refer to *wh*-constructions which do not have the semantics of questions, but rather, are negative assertions.

The questions in (1) are ambiguous between a true *wh*-question reading and a rhetorical question reading.

(1)   a.   Who has ever been to Moose Jaw?

         b.   Who said anything at the semantics seminar?

For instance, the question in (1a) can be interpreted as asking for information about visitors to Moose Jaw or it could be interpreted as an assertion of the speaker's belief that no one has ever been to Moose Jaw.

The questions in (2) are not ambiguous. They are grammatical only with a rhetorical question reading.

(2)   a.   Who has Sam ever agreed with?

         b.   What did anybody say at the semantics seminar?

For instance, the question in (2a) can only be interpreted as expressing the speaker's belief that Sam never agreed with anyone.

Based on these data, we propose the generalization in (3):

(3)

> C-COMMAND REQUIREMENT
>
> When the trace of the *wh*-word c-commands the NPI (as in (1)), both the *wh*-question and the rhetorical question readings are available.
>
> When this c-command relationship does not hold (as in (2)), only the rhetorical question reading is available.

The c-command requirement captures the facts in double object *wh*-questions with NPIs. Following Larson (1988), the direct object asymmetrically c-commands the indirect object. When the *wh*-question has a trace in the direct object position and an NPI in the indirect object position, both the *wh*-question reading and the rhetorical question reading should be available. However, when the *wh*-question has an NPI in the direct object position and a trace in the indirect object position, only the rhetorical question reading should be available. This prediction is borne out as shown in (4):

(4)   a.   Who did Jeff introduce to anyone at the party?

         b.   Who(m) did Jeff introduce anyone to at the party?

The question in (4a) can be interpreted as asking for information about people Jeff introduced to someone (*wh*-question reading), or it could be interpreted as an assertion about the speaker's belief that John didn't make any introductions at the party (rhetorical question reading). The question in (4b) can only be interpreted with the rhetorical question reading.

In addition to the c-command requirement in (3), there is a further restriction on the distribution of NPIs in *wh*-questions. While an NPI can occur inside a complement clause of a bridge verb in a *wh*-question, as in (5), it cannot occur inside an island in a *wh*-question, as in (6):

(5)   a.   Who did Sam say has ever kissed Chris?

         b.   Who said that John talked to anybody at the party?

(6)   a.   *Who heard the rumor that Mary has ever kissed John?

        b.   *Who read the book which has any missing pages?

The questions in (5) are grammatical either as *wh*-questions or rhetorical questions. However, the questions in (6) are simply ungrammatical. The issue of NPIs and islands will be discussed further in §5.

The purpose of the present paper is to provide an account of the full range of grammaticality and interpretational differences attested in *wh*-questions with NPIs such as *ever* and *any*. Although it has been noted that *wh*-questions can license NPIs, we add new observations about the behavior of this type of construction. Ladusaw (1980a, 1980b) and Linebarger (1987) recognize that NPIs are licensed in questions, but they do not directly attempt to account for the phenomena discussed above. Progovac (1993) and Higginbotham (1993) do address the issue of NPI licensing in questions. However, Progovac (1993) wrongly predicts that all *wh*-questions with NPIs only have the rhetorical question reading available, and Higginbotham (1993) wrongly predicts that all *wh*-questions with NPIs have the *wh*-question reading available. Lee (1995) provides a syntactic account of some aspects of NPI licensing in questions, but she fails to fully capture the empirical facts. She predicts that all grammatical argument *wh*-questions with NPIs can only have a rhetorical question reading and that argument *wh*-questions with NPIs in subject position are ungrammatical even as rhetorical questions. In §2, we briefly discuss two previous accounts of NPIs in *wh*-questions: Higginbotham's (1993) semantic approach and Progovac's (1993) Binding Theory based approach (both of which are extensions to the downward entailment theory of Ladusaw (1980a, 1980b)). In §3, we provide our analysis of NPI licensing in *wh*-questions and extend the analysis to NPI licensing in *yes-no* questions. In §4, the syntax and semantics of rhetorical *wh*-questions are discussed. In §5, island effects on NPIs in *wh*-questions and *yes-no* questions are discussed.

2.   Previous Accounts

2.1.   Higginbotham (1993)

Higginbotham (1993) proposes a semantics of interrogatives based on the assumption that all interrogatives have an overt or tacit *whether*. He argues that *whether* has universal quantificational force and it must go together with an occurrence of the disjunction *or*. According to Higginbotham (1993), a *yes-no* question expresses a partition that consists of two cells, one representing the affirmative and the other representing a negative answer. Higginbotham (1993) provides the following logical form and the semantic representation for a simple *yes-no* question *Did John see Mary?*:

(7)   a.   [whether John saw Mary or John didn't see Mary]$_i$ [t$_i$]

        b.   [$\forall$p: p = John saw Mary $\vee$ p = $\neg$ (John saw Mary)] ?p

The constituent '?p' expresses the partition [p : ¬p] with 'p' a free variable. Quantification into this position by the universal quantifier returns all the possible answers, as shown in (8):

(8)   [John saw Mary : ¬ (John saw Mary)]

Higginbotham (1993) extends his analysis of *yes-no* questions to *wh*-questions. According to Higginbotham, a *wh*-question is a complex *yes-no* question with a tacit *whether*. That is, for each x in the domain, a *wh*-question is asking a *yes-no* question about that x.

(9)   a.   Who came to the party?

        b. $[\forall x]$ $[\forall p: p = x$ came to the party $\vee\ p = \neg$ (x came to the party)] ?p

The question in (9a) asks for each x, whether x came to the party or not, as represented in (9b). Thus, (9a) results in several partitions, as in (10):

(10) $[[x_0$ came to the party : $\neg$ $(x_0$ came to the party)], $[x_1$ came to the party : $\neg$ $(x_1$ came to the party)], $[x_2$ came to the party : $\neg$ $(x_2$ came to the party)], . . .

Higginbotham (1993) adopts the proposal by Ladusaw (1980a, 1980b) that NPIs may appear only within the scope of downward entailing expressions. According to Higginbotham (1993), *whether* functions like a universal quantifier such as *every*. Hence, *whether* will license NPIs in its restrictive clause, but not in its nuclear scope.

Higginbotham's (1993) semantics of questions assigns the semantic representation in (11b) for the *yes-no* question in (11a).

(11)   a.   Did anyone play chess or checkers?

        b. $[\forall p: p =$ anyone played chess or checkers $\vee\ p = \neg$ (anyone played chess or checkers)] ?p

The NPI *anyone* is licensed because it occurs in the restrictive clause of a universal quantifier.

Higginbotham's (1993) extension of the *whether* analysis of *yes-no* questions to *wh*-questions allows him an account of NPI licensing in *wh*-questions. He assigns (12b) as the semantic representation for (12a).

(12)   a.   Who had anything to say?

        b. $\forall x$ $[\forall p: p = x$ had anything to say $\vee\ p = \neg$ (x had anything to say)] ?p

The NPI *anything* is licensed in (12a) because it occurs in the restrictive clause of a universal quantifier provided by a tacit *whether*.

Although Higginbotham's (1993) analysis of NPI licensing in interrogatives works quite well for *yes-no* questions, it does not work as well for *wh*-questions. According to Higginbotham's (1993) semantics of

wh-questions the whole question ends up in the restrictor of the universal quantifier. This means that Higginbotham (1993) predicts that NPIs can occur in any syntactic environment of a *wh*-question under the true question reading. However, we have observed that this is not the case in §2.

2.2. Progovac (1993)

Progovac (1993) proposes an account of the licensing of polarity items that combines a modified version of the downward entailment approach of Ladusaw (1980a, 1980b) and the Binding Theory of Chomsky (1981) extended by Aoun (1985, 1986) to include both A and A'-binding.

The claim is that NPIs are subject to Principle A of the Binding Theory. A potential binder for NPIs is either the local negation, or an empty polarity operator generated in the [Spec, CP]. In principle, the empty polarity operator is generated in [Spec, CP] of all clauses, but gets filtered out in upward entailing clauses with the filter shown in (13).

(13)   *Op in an UE clause

According to Progovac's (1993) theory of NPI licensing, while the local negation binds and licenses the NPI *anyone* in (14a), the NPI *anyone* in (14b) is not licensed since it is not bound by either a local negation or an empty polarity operator.

(14)   a.   John did not see anyone.

        b.   * John saw anyone.

In (15a), an empty polarity operator is generated in [Spec, CP] of the complement clause. Since the complement clause of *forget* is not an upward entailing environment, the operator is not filtered out. Hence, the operator binds and licenses the NPI *anyone*. In (15b), the empty operator cannot be generated since there is no [Spec, CP] position. Hence, the NPI *anything* does not have a binder and so is not licensed.

(15)   a.   Mary forgot that anyone visited her on Monday.

        b.   * Mary forgot anything.

Progovac's (1993) account allows for an explanation of the appearance of NPIs in *yes-no* questions. She assumes that a question A entails a question B if every true answer to A entails a true answer to B, following Karttunen (1977). Since possible true answers to *yes-no* questions are a positive or a negative answer, nothing can be said about what their true answers entail. The entailment will be downward if the answer is negative and the entailment will be upward if the answer is positive. Given this, Progovac (1993) concludes that a *yes-no* question is neither upward nor downward entailing. Hence, the empty operator in [Spec, CP] is not filtered out and can bind and license NPIs.

According to Progovac (1993), *wh*-questions are upward entailing, so it is surprising on her system so far that they still license NPIs.

(16) a. Who has a pet?

    b. Who has a cat?

Every true answer to (16b), which would be of the form *x has a cat* entails a true answer to (16a), which would be of the form *x has a pet*. But every true answer to (16a) does not entail a true answer to (16b). Hence, *wh*-questions are upward entailing.[1]

Progovac (1993) addresses a couple of questions that come up with respect to *wh*-questions with NPIs. First of all, the existence of NPIs in *wh*-questions forces the existence of an empty operator in the [Spec, CP]. Since the *wh*-operator competes for the same position, shouldn't they be mutually exclusive? Secondly, if *wh*-questions are upward entailing, why doesn't the empty operator get filtered out?

In answering the first question, Progovac (1993) proposes that *wh*-words are ambiguous between NPIs and true question words. If it is a true question word, it is bound and merged with a *wh*-operator. If it is an NPI, it is bound and merged with the empty operator resulting in a negative value. She claims that this process explains why *wh*-questions with NPIs always result in a rhetorical question interpretation.

(17) Who did Mary ever visit in Moose Jaw?

The *wh*-phrase in (17) is an NPI which merges with an empty operator in [Spec, CP]. After the merge, it is interpreted as an implied empty set and the whole question is interpreted as a rhetorical question.

In addressing the second question, Progovac (1993) assumes that the merger of the *wh*-word and the empty operator in [Spec, CP] takes place prior to the application of the filtering process. Otherwise, the operator would be precluded from appearing in the clause in the first place.

Progovac's (1993) system predicts that all *wh*-questions with NPIs should have only a rhetorical question reading. However, we have shown in §2 that some *wh*-questions with NPIs also have regular *wh*-question reading.

3 . NPI-Licensing on the *Wh*-Question Reading

3.1. Groenendijk and Stokhof's Semantics of Questions

We propose an analysis of NPI licensing in *wh*-questions which makes use of Groenendijk and Stokhof's (1984, 1985) semantics of questions. According to Groenendijk and Stokhof (1984, 1985), a question is a function which partitions the set of all possible worlds. The partition contains the set of propositions which are possible answers. That is, each

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[1]Although it will not prove to be important for our system, we do not agree that *wh*-questions are clearly upward entailing. For example, if the true answer to (16b) is a a negative one *No one has a cat*, the corresponding true answer to (16a) *No one has a pet* is definitely not entailed. If we are right, *wh*-questions behave in the manner Progovac claims that *yes-no* questions do; they are neither upward- nor downward-entailing.

block of the partition corresponds to the set of possible worlds in which one of the possible answers is true. For instance, the *yes-no* question *Did John finish his homework*? bipartitions the set of all possible worlds into the set of worlds where *John finished his homework* is true and the set of worlds where *John did not finish his homework* is true, as shown in (18):

(18)

| John finished his homework |
| not-(John finished his homework) |

Similarly, the *wh*-question *Who finished the homework?* returns the partition in (19):

(19)

| Nobody finished the homework |
| John finished the homework |
| John and Mary finished the homework |
| ⋮ |
| Everybody finished the homework |

Each block in the partition represents a possible answer. One of the blocks will contain the answer which is true in the actual world.

3.2   A Proposal

We propose that the negation present in the semantics of *wh*-questions is responsible for the licensing of NPIs.[2] The negation is covert in the sense that it is not present in the surface form of the question, but it is in the negative answer returned by the partition. An NPI is licensed if it is in the scope of this negation. Consider (1), repeated here as (20):

(20)   a.   Who has ever been to Moose Jaw?

   b.   Who said anything at the semantics seminar?

For instance, the question in (20a) returns the partition in (21):

(21)

| Nobody has been to Moose Jaw |
| John has been to Moose Jaw |
| John and Mary have been to Moose Jaw |
| ⋮ |
| Everybody has been to Moose Jaw |

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[2] This means that although we use the semantics of questions given in Groenendijk and Stokhof (1984, 1985), our proposal is compatible with any semantics of questions which makes use of the notion of the set of possible answers to the question such as the semantics of questions given in Higginbotham (1993).

We propose that the NPI *ever* in (20a) on the *wh*-question reading is licensed due to the negation present in the semantics of the *wh*-question. The partition returned by this *wh*-question contains the negative proposition *Nobody has been to Moose Jaw* which is one of the possible answers. The NPI *ever* is licensed in (20a) on the *wh*-question reading because it is in the scope of the negative QP *nobody*.

If our analysis of NPI licensing in *wh*-questions is adopted, the fact that the constructions in (2) (repeated here as (22)) do not have the *wh*-question reading is explained.

(22)   a.   Who has Sam ever agreed with?

      b.   What did anybody say at the semantics seminar?

For instance, the partition returned by the *wh*-question in (22a) does not contain a negative proposition in which *ever* is in the scope of a negative QP. Hence, the NPI *ever* is not licensed under the *wh*-question reading.

3.2.   NPIs in *Yes-No* Questions

NPIs in *yes-no* questions are licensed in all syntactic environments of matrix clauses.

(23)   a.   Has anybody seen Mary today?

      b.   Did John talk to anybody at the party?

The account of NPI licensing in *wh*-questions proposed here explains the facts in *yes-no* questions. The semantics of a *yes-no* question is a function on all possible worlds that returns a bipartition such that one block corresponds to the set of possible worlds in which the positive answer is true and the other block corresponds to the set of possible worlds in which the negative answer is true. The negative answer is a proposition with wide scope negation. That is, the negation will have the rest of the proposition in its domain. Hence, NPIs are licensed in all syntactic environments in a *yes-no* question. For instance, the question in (23a) returns the following bipartition:

(24)

| Somebody has seen Mary today. |
| not-(somebody has seen Mary today.) |

The NPI *anybody* is licensed because it is in the c-command domain of the negation in the proposition that represents one of the blocks in the bipartition.

3.3.   Further Evidence

3.3.1. Prediction

Our proposal makes the prediction that *wh*-questions which do not permit a negative answer should not license NPIs. This prediction is borne out by the data. In examples such as (25) and (26) the context is such that the

negative answer cannot be represented in the partition. As we would predict, NPIs are not licensed.

(25) * Who was ever the tallest student that you taught? [3]

(26) Context: The cookies are all gone, so one of you ate them.

   * Who has ever eaten the cookies?

Alternative questions are another environment in which the negative answer is ruled out. As pointed out by Ladusaw (1980b) and Higginbotham (1993), alternative questions do not license NPIs. Consider the examples in (27) which are from Higginbotham (1993).

(27) a. Did John play chess or checkers?

   b. Did anyone play chess or checkers?

While (27a) is ambiguous between a *yes-no* question and an alternative question, (27b) can only be interpreted as a *yes-no* question. This fact can be predicted and explained by the analysis presented here. NPIs are not licensed in alternative questions because a negative answer is not a possible answer for an alternative question.[4]

3.3.2. Evidence from Chinese

Our proposal receives cross-linguistic support from languages in which surface identity between NPIs and *wh*-words exists. For example, in Chinese *shei* can mean *anybody* or *who*. and *shenme* can mean *anything* or *what*.

The ambiguous nature of these words means that the sentence in (28) could potentially have four possible interpretations. However, it has only two interpretations. The table in (28) shows which of the possible interpretations for the ambiguous words *shei* and *shenme* actually yield grammatical sentences.

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[3] Note that superlatives license NPIs, e.g. *Mike was the tallest student that I ever taught*. Thus, the fact that '*Who was the tallest student that you ever taught*.' is grammatical does not constitute a counterexample for our account.

[4] Multiple *wh*-questions present a possible problem for our account. We would predict that NPIs are licensed in these questions, however sentences such as (i) would seem to constitute a counterexample.

(i) *Who said what to anybody?

However, the ungrammaticality of sentences such as (ii) would seem to indicate that multiple *wh*-questions behave differently than regular *wh*-questions anyway. That is, the ungrammaticality of (i) is not due solely to the presence of the NPI.

(ii) *Who said what to somebody?

(28)   shei shuo-le   shenme?

   Who say -ASP what

		shei	*shenme*	Translation
(i)	√	who	what	'Who said what?'
(ii)	√	who	anything	'Who said anything?'
(iii)	*	anybody	what	* 'What did anybody say?'
(iv)	*	anybody	anything	* 'Anybody said anything'

The reading in (28iv) is not available because this reading could only be a *yes-no* question or a statement. The syntax of *yes-no* questions is different than the syntax of the sentence given in (28) so that reading is ruled out. The statement interpretation is ruled out because there would not be a licenser for the NPIs.

On the *wh*-question reading in (28ii), the partition returned by the question would contain the negative proposition in (29) as a possible answer.

(29)   shei-ye   mei shuo shenme.

   everybody not say   anything

   'Nobody said anything.'

In the proposition in (29), the NPI *shenme* is in the scope of negation. Hence, the NPI *shenme* is licensed under this reading.

On the *wh*-question reading of (28iii), the partition returned by the question does not contain a negative proposition in which *shei* is in the scope of a negative QP. The only negative proposition contained in the partition is given in (30).

(30)   * shei   shenme-duo   mei shuo

   anybody all   -thing not say

   * 'Anybody said nothing.'

In the proposition shown in (30), the NPI *shei* is not in the scope of negation. Hence, the NPI *shei* is not licensed under this reading.

4.   NPI Licensing on the Rhetorical Question Reading

Recall that *wh*-questions that are interpreted as rhetorical questions lack the semantics of true *wh*-questions. Rather, they are interpreted as negative assertions.

(31)   a.   Who has Sam ever agreed with?

     b.   What has Max ever done right?

The rhetorical question in (31a) asserts that Sam has agreed with no one and the rhetorical question in (31b) asserts that Max has done nothing right.

Unlike *wh*-questions, NPIs in rhetorical *wh*-questions do not need to be c-commanded by the trace of a *wh*-phrase in order to be licensed. We propose that the licensing condition of NPIs in rhetorical *wh*-questions can be explained if rhetorical *wh*-questions have the syntax and semantics of neg-inversion constructions, rather than those of *wh*-questions.

4.1. Rhetorical *wh*-questions do not have the same syntax as regular *wh*-questions

Although rhetorical *wh*-questions at first appear to have the syntax of *wh*-questions, the following facts cast doubt upon this conclusion.

In *wh*-questions in which the *wh*-word has moved across a clausal boundary, the rhetorical question reading is ruled out. If the c-command requirement is met, the *wh*-question reading is still available.

(32) a.   Who does Bill think has ever said anything at the seminar?

      b.   Who did Sam say has ever read *War and Peace*?

This means that, when the c-command requirement is not satisfied and when the *wh*-phrase has moved across a clause boundary, the sentences are ungrammatical because neither reading is available.

(33) a.   * Who does John think anyone has ever kissed?

      b.   * Which book does Mary think that anyone has read?

One may be tempted to argue that the unavailability of the rhetorical question reading in (32) and (33) has to do with the fact that the NPIs *ever* and *anyone* are separated from the *wh*-word by a clausal boundary. However, this cannot be the correct approach, as shown in (34):

(34) a. Who said that Mary ever kissed John?

      b. Who believes that John has ever loved anyone?

Although the NPI and the *wh*-word are separated by a clausal boundary in the sentences in (34), these sentences are both grammatical and interpretable as rhetorical questions. The only difference between the data in (32) and (33) and the data in (34) is that in the former case the *wh*-word moves across a clausal boundary, whereas no *wh*-movement occurs across a clausal boundary in the latter case. There is no way to account for the grammaticality and the interpretational difference between (32), (33) and (34) if we believe that rhetorical *wh*-questions share the syntax of *wh*-movement.

Here, we argue that rhetorical *wh*-questions have the syntax and semantics of neg-inversion constructions. NPIs are licensed because the *wh*-word (functioning as a negative QP) is in the highest c-commanding position.

4.2. Neg-Inversion

Syntactically, neg-inversion refers to the phenomenon in which a negative Quantified Phrase (QP) moves to the [SPEC, CP] position, accompanied by verb-movement to C.

Semantically, the fronted negative QP has sentential scope resulting in sentential negation (Liberman (1974)). The sentences in (35) exemplify neg-inversion.

(35) a. With no employee would John be happy.

b. With no job will John be satisfied.

The examples in (35) have the syntactic properties of neg-inversion. Moreover, the negative QP in each sentence has sentential scope. The examples in (35) are interpreted as John would not be happy with any employee, and John will not be satisfied with any jobs, respectively. Note that the corresponding uninverted sentences in (36) are ambiguous:

(36) a. John would be happy with no employee.

b. John will be satisfied with no job.

In addition to the reading in which the negative QP takes wide scope, the examples in (36) have a reading in which the negative QP has narrow scope. That is, (36a) can be interpreted as John would be happy if he did not have any employees, and (36b) can be interpreted as John will be satisfied if he did not have a job.

Although neg-inversion looks very much like *wh*-movement in that both involve phrasal movement to [SPEC, CP] accompanied by verb movement, it is different from *wh*-movement in that it is clause-bounded:

(37) a. * With no employee did Mary say that John would be happy.

b. * With no job did Mary believe that John will be satisfied.

4.3. Rhetorical *wh*-question formation is similar to neg-inversion

Rhetorical *wh*-question formation is similar to neg-inversion in that there is XP movement to the [SPEC, CP] position accompanied by verb movement to C.

(38) a. With what employee would John ever be happy?

b. With what job will John ever be satisfied?

The interpretation of rhetorical *wh*-questions also corresponds to the interpretation of sentences with neg-inversion. That is, the *wh*-phrase in rhetorical *wh*-question functions as a negative QP that has sentential scope. Hence, (38a) means John would not be happy with any employees, and (38b) means John will not be satisfied with any jobs. The rhetorical

questions in (38a) and (38b) mean the same thing as the neg-inversion sentences in (35a) and (35b) respectively.

Moreover, rhetorical *wh*-questions are clause-bounded, just like neg-inversion.

(39)   a.   * With what employee did Mary say that John would ever be happy?

       b.   * With what job did Mary believe that John will be satisfied?

If the proposal that the syntax and semantics of rhetorical *wh*-questions be assimilated to neg-inversion and not to *wh*-movement is correct, the fact that NPIs are licensed in all rhetorical *wh*-questions is explained. An NPI is licensed because the *wh*-word which is semantically equivalent to a negative QP is in the highest c-commanding position.

This means that the apparent lack of the c-command requirement on NPIs in rhetorical questions is an illusion. On this account, NPIs are indeed in the c-command domain of their licenser. This is due to the fact that the neg-inversion analysis means that the licenser of the NPI (the *wh*-phrase functioning as a negative QP) is in the highest c-commanding position (i.e., highest [Spec, CP]).

5.   Island Effects

As the data in (6) (repeated here as (40)) show, NPIs in *wh*-questions are not licensed inside islands.

(40)   a.   * Who heard the rumor that Mary ever kissed John?

       b.   * Who read the book which has any missing pages?

The data in (40) cannot be interpreted either as *wh*-questions or as rhetorical questions.

NPIs in *yes-no* questions are also sensitive to island effects. The data in (41) show that NPIs in *yes-no* questions are licensed when they occur in the complement clause of a bridge verb. However, the data in (42) show that NPIs in *yes-no* questions are not licensed when they occur in an island.

(41)   a.   Did you say that John talked to anybody at the party?

       b.   Do you think that anybody has seen Mary today?

(42)   a.   * Did John read the book which had any missing pages?

       b.   * Did you hear the rumor that Sue brought anybody to the party?

For instance, in (41a), the relevant negative proposition in the bipartition is *not-You said that John talked to somebody at the party*. The NPI *anybody* in the proposition is c-commanded and licensed by the negation. However, in (42a), the relevant negative proposition in the bipartition is *not-John read the book which had some missing pages*. The NPIs *any* is inside an island, and cannot be licensed by the matrix negation.

We here note that NPIs in islands cannot be licensed by overt negation in declarative sentences either, as shown in (43).[5]

(43)   a.   * Nobody heard the rumor that Mary ever kissed John.

      b.   * Nobody read the book which has any missing pages.

Hence, the ungrammaticality of (40) and (42) is reducible to the ungrammaticality of (43). That is, the fact that negation cannot license NPIs inside an island is not a special property of NPI licensing in *wh*-questions or *yes-no* questions, but is a general property of NPI licensing in all kinds of constructions.

A possible explanation for these island effects is provided by the movement account of NPIs. Progovac (1993) (following others) argues that NPIs raise at LF to be in some local relationship with their licenser.

Although our proposal does not hinge on the movement account of NPIs in any way, this account does provide a basis for the c-command requirement on the licensing of NPIs in *wh*-questions.

6.   Conclusion

We have presented data to show that not all *wh*-questions license NPIs. We have accounted for the interpretational and grammaticality differences in *wh*-questions with NPIs. We propose that covert negation in questions license NPIs. In real *wh*-questions and in *yes-no* questions, the covert negation comes from the semantics. Hence, we are providing a unified account of NPI licensing in questions.

We have also shown that the fact that rhetorical *wh*-questions license NPIs in all syntactic environments can be explained if rhetorical *wh*-questions have the syntax and semantics of neg-inversion constructions, rather than that of *wh*-questions.

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[5]   As pointed out by Ladusaw (1980b) and Progovac (1993), the judgments become much better when NPIs are inside a non-specific complex NPs in declarative sentences. It turns out that this is also the case for *wh*-questions and *yes-no* questions:

(i)   a.   Nobody heard a rumor that Mary ever kissed John.

      b.   Nobody read a book which has any missing pages.

(ii)   a.   Who heard a rumor that Mary ever kissed John?

      b.   Who read a book which has any missing pages?

(iii)   a.   Did John read a book which had any missing pages?

      b.   Did you hear a rumour that Sue brought anybody to the party?

This fact suggests that NPIs are not equally sensitive to all islands. What is relevant here is that NPIs behave uniformly with respect to the specificity of a complex NP island, regardless of the construction type.

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