

Syntactic presence of the domain of quantification: evidence from the Specificity Condition*

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This paper proposes that a DP with a context dependent restriction must be additionally associated with a locus of contextual information that is syntactically realized as a covert constituent containing a copy of the complement NP. Its presence is evidenced by the Specificity Condition (SC), which prohibits Wh-dependency out of a context dependent DP. This paper claims (i) that SC is an instance of WCO, and (ii) that its WCO effect follows only if a covert constituent containing a copy of the complement NP is present. Since, in SC, this copy necessarily contains a variable that must be bound by the Wh-operator, it is offending to its operator variable binding.

1 The domain of quantification

While the truth values of the sentences in (1) can be determinate without any context, the truth values of the sentences in (2) are indeterminate without any context. More precisely, in order for their truth values to be determinate, their strong determiners (i.e. *the*, *each*, *every*, *most*, etc.) have to take contextually restricted sets of pictures of Madonna as their restrictions. This is called the problem of the domain of quantification.

- (1) a. John saw a picture of Madonna.
b. John saw some pictures of Madonna.
c. John saw three pictures of Madonna.
- (2) a. John saw the picture of Madonna.

* Materials discussed in this article are part of my Ph.D. Evaluation paper, and has been presented in part at the Milan Meeting 2004 at the Università degli Studi Milano, Gargnano, Italy in June 2004. I would like to thank Jonathan Bobaljik, Carlo Cecchetto, Danny Fox, Brendan Gillon, Peter Hallman, Nobuko Hasegawa, Kazuko Inoue, Kyle Johnson, Hisatsugu Kitahara, Yuko Maki, Roger Martin, Marcin Morzycki, Jon Nissenbaum, Yukio Otsu, Michel Paradis, Norvin Richards, Anna Roussou, Ken Safir, Uli Sauerland, Benjamin Spector, William Snyder, Tomokazu Takehisa, Satoshi Tomioka, Lisa Travis, Akira Watanabe and Susi Wurmbrand for helpful comments and suggestions.

- b. John saw every picture of Madonna.
- c. John saw most pictures of Madonna.

This paper discusses this type of context dependency, and claim that a (covert) constituent, which is a locus of contextual information, is syntactically associated with a DP headed by a strong determiner. As evidence, we are going to look at the Specificity Condition.

2 Basic facts about the Specificity Condition

Wh-movement/dependency out of a definite/specific DP is generally prohibited,¹ as shown by the unacceptability of the sentences in (3). This phenomenon is called the Specificity Condition (SC). In contrast to (3), the sentences in (4) do not show any ill-formedness.

- (3) a. */??Who_i did you see the picture of t_i ?
- b. */Who_i did you see every picture of t_i ?
- c. */Who_i did you see most picture of t_i ? (Diesing 1992)
- (4) a. Who_i did you see a picture of t_i ?
- b. Who_i did you see some pictures of t_i ?
- c. Who_i did you see three pictures of t_i ? (Diesing 1992)

Note that, SC is not restricted to overt Wh-movement languages like English.² It is observed in covert Wh-movement languages like Japanese.

2.1 SC in Japanese

2.1.1 Presuppositionality in Japanese

¹ I am going to discuss the status of (i) in Appendix.

- (i) a. *Who_i did Mary say you saw a certain picture of t_i ?
- b. *Who_i did you destroy a picture of t_i ? (Diesing 1992)

² Although (i) is an open question at this stage, French apparently allows this type of Wh-movement/dependency. However, native speakers of French share the intuition that *de qui* in (1) does not ask about one of the subjects of the photograph, but rather, it asks about the photograph's owner. In other words, the Wh-dependency in (i) is still prohibited under the former reading.

- (i) **De qui** Jean a-t-il vu la photo?
of whom John has-he seen the picture
'(lit.)*Of whom did John see the picture?' (Michel Paradis p.c.)

Previous researches about floating numeral quantifiers in Japanese (see Kamio 1983, Watanabe 2002) observe (i) that a DP associated with a floated numeral quantifier is generally non-presuppositional, and (ii) that individual-level predicates require presuppositional arguments. Since the subject in (5a) is non-presuppositional by the association with a floated numeral quantifier, it is incompatible with the individual-level predicate. On the other hand, even though DPs with unfloated numeral quantifiers are ambiguous about presuppositionality, the subject of (5b) is unambiguously presuppositional by its compatibility with the individual-level predicate.

- (5) a. *NQ floated*
 *?[Susi-no gakusei]-ga 3-nin doitugo-ga umai.
 [Susi-GEN students]-NOM 3-CL German-NOM good
- b. *NQ unfloated*
 [3-nin-no Susi-no gakusei]-ga doitugo-ga umai.
 ‘Three students of Susi’s are good at German.’

2.1.2 SC in Japanese

Consider (6), where *Susi-no* ‘Susi’s’ in (5) is replaced with a Wh-phrase *dare-no* ‘whose’. Ungrammaticality in (6a), which is the Wh-counterpart of (5a), is not surprising, since the subject is non-presuppositional, and hence, incompatible with the individual-level predicate. Ungrammaticality in (6b), the Wh-counterpart of (5b), shows that Japanese obeys SC, since the Wh-dependency occurs out of the presuppositional subject.

- (6) a. *NQ floated*
 *? [**dare-no** gakusei]-ga 3-nin doitugo-ga umai no?
 [whose students]-NOM 3-CL German-NOM good Q
- b. *NQ unfloated*
 * [3-nin-no **dare-no** gakusei]-ga doitugo-ga umai no?
 ‘(lit.)*Three of whose students are good at German?’

In fact, this type of ungrammaticality never arises if the DP is non-presuppositional. In contrast to in (6b), the predicate in (7) is a stage-level predicate, and can take a non-presuppositional subject. Therefore, I conclude that (6b) is an instance of SC in Japanese.

- (7) [3-nin-no dare-no gakusei]-ga ima hima desu ka?
 [3-CL-GEN whose students]-NOM now free CPL Q
 ‘(lit.)*Three of whose students are now free?’

2.2 SC is not a boundedness condition (like Subjacency)

2.2.1 Complex NP constraint (CNPC) in Japanese

One might think that SC is a boundedness condition like Subjacency e.g. by claiming that Spec of DP is an escape hatch (or the edge of a phase) and that it is not available in (3) or (6b). However, this is not correct. (8) is a typical example of CNPC in Japanese, and it is grammatical (even though it is claimed that Japanese obeys the CNPC, see Nishigauchi 1990, Pesetsky 1987, Watanabe 1992). Unlike (8), the question in (6b) is ungrammatical. Hence, the unacceptability of the sentence in (6b) is not due to CNPC.

- (8) Mary-wa [[John-ni **nani-o** ageta] hito]-ni atta no?
 Mary-TOP [[John-to what-ACC gave] person]-with met Q
 ‘(lit.)*What did Mary meet the person who gave to John?’

2.2.2 Absence of the additional Wh-effect

The additional Wh-effect (see Richards 1998, Watanabe 1992), which remedies the ill-formedness of Subjacency violations, cannot remedy the ill-formedness of SC violations (see also Fiengo & Higginbotham 1981). As the contrast between (9) (and/or (10)) and (11) shows, the unacceptability of SC violations differs from the unacceptability of Subjacency violations.

- (9) a. ?*What_i did Mary read a report that John bought t_i ?
 b. Who read a report that John bought what? (Watanabe 2001)
- (10) a. *What_j do you wonder who bought t_j ?
 b. Who_i t_i wonders who bought what? (Richards 1998)
- (11) a. */??Who_i did John see the picture(s) of t_i ?
 b. */??Who saw the picture of whom? (Norvin Richards p.c.)

2.3 Characterization about the SC-inducing determiners

Obviously, the SC-inducing determiners in (3) are context dependent determiners which are observed in Section 1. Then, is the subject DP of (6b) context dependent? According to the literature on Japanese syntax and semantics, its subject DP bears a partitive reading, and hence, it is also context dependent (see also Ishii 1997, 1999). I propose (12) as a descriptive generalization about SC. Then, why is it prohibited? Contrary to any previous analysis, this paper proposes that SC is an instance of Weak Crossover (WCO).

- (12) Wh-dependency out of a context dependent³ DP is prohibited.

3 Why WCO?

3.1 Assumption about WCO

I do not think that WCO has been given a unified account within the existing literature. Moreover, it is a descriptive generalization. This paper tentatively assumes that it is a syntactic condition whose configuration (13) is illegitimate. Crucially, the trace in (13) is an A'-trace.

- (13) $*_{i,j}^{i,j} \text{Op}_i [\dots x_i \dots t_i]$

At this stage, it is not obvious that SC sentences like (14a) fall in the WCO configuration (13). In particular, the WCO effect disappears if pronouns are referential. (Un)grammaticality in (14b) may suggest that WCO is limited to those cases where the pronoun requires a bound interpretation. Although the reference of *the NP* in (14a) is disjoint from the operator, there are some reasons to believe that WCO really occurs in (14a). The following subsection presents a piece of empirical evidence for this analysis.⁴

- (14) a. $*_{i,j}^{i,j} \text{Who}_i$ did you see the picture of t_i ?
 b. Who_i did his $_{i,j}$ mother love t_i ?

3.2 Empirical evidence: DP-internal A-scrambling

WCO is used as a diagnostic to verify whether or not scrambling bears A-properties. As shown in (15b), A-scrambling can repair the ungrammaticality observed in (15a).

- (15) a. *Canonical order*
 [[soitu $_{i,j}$ -no hahaoya]-ga [dare $_i$ -o aisiteiru]] no?
 [[the guy-GEN mother]-NOM [who-ACC love]] Q

³ I am avoiding the term 'presuppositional' here (cf. Diesing 1992): it is rather misleading (see Appendix).

⁴ There is another piece of evidence. Jonathan Bobaljik (p.c.) pointed out to me that, if the WCO analysis is the right analysis for SC, judgments about SC should correlate with judgments about WCO. That is, those people who have weak marginality about SC also have weak marginality about WCO. In fact, marginality about WCO is weak in his judgment, and, also, he does not find the specificity effect very strong. I asked three other native speakers of English, and WCO is a weak violation for those who have weak marginality about SC. (I thank Jonathan Bobaljik and Susi Wurmbrand for this point.)

- b. *A-scrambling of the Wh-phrase*
 dare_{i/j}-o [[soitu_i-no hahaoya]-ga [t_i aisiteiru]] no?
 who-ACC [[the guy-GEN mother]-NOM [love]] Q
 ‘Who_i does his_{*i/j} mother love?’

In Japanese, word order is less restrictive even in the DP level, and, in fact, there is evidence that shows the existence of DP-internal A-scrambling. Since the disjunctive phrase *Toyota ka Honda* ‘Toyota or Honda’ neither precedes nor c-commands the variable, *soko-no-kogaisya* ‘its subsidiary’, the bound reading is not allowed in (16a). Once the disjunctive phrase is fronted to the initial position of the DP, however, the bound reading is allowed, as shown in (16b). The contrast between (16a) and (16b) indicates that the disjunctive phrase undergoes A-movement in (16b), since its fronting changes the variable binding relation.

- (16) a. [ni-do-no soko_{*i/j}-no-kogaisya-no
 [2-CL-GEN its subsidiary company-GEN
 [Toyota ka Honda]_i-nitaite-no kokuhatu]-ga...
 [Toyota or Honda]-against-GEN accusation]-NOM
- b. [[[Toyota ka Honda]_i-nitaite]_k-no ni-do-no
 soko_{i/j}-no-kogaisya-no t_k kokuhatu]-ga...
 ‘(lit.)two accusations by its subsidiary company against
 Toyota or Honda’

At this stage, we have a prediction: if the WCO analysis is the right analysis for SC, A-scrambling of a Wh-phrase (across an offending variable) can remedy the ill-formedness of the sentence. Coming back to presuppositionality in Japanese (as observed in (5) and (6)), there are several patterns among the association with an unfloatable numeral quantifier. ((5a) and (5b) are repeated in (17a) and (17b), respectively.) (17c-d) are also unfloatable cases.

- (17) a. *? [Susi-no gakusei]-ga 3-nin doitugo-ga umai.
 [Susi-GEN students]-NOM 3-CL German-NOM good
- b. [3-nin-no Susi-no gakusei]-ga doitugo-ga umai.
- c. [Susi-no 3-nin-no gakusei]-ga doitugo-ga umai.
- d. [Susi-no gakusei 3-nin]-ga doitugo-ga umai.
 ‘Three students of Susi’s are good at German.’

Consider their Wh-counterparts. We have already seen that (18a) and (18b) are ungrammatical, and, in particular, that ungrammaticality in (18b) is evidence for SC in Japanese.

- (18) a. *?**[dare-no** gakusei]-ga 3-nin doitugo-ga umai no?
[whose students]-NOM 3-CL German-NOM good Q
- b. ***[3-nin-no dare-no** gakusei]-ga doitugo-ga umai no?
'(lit.)*Three of whose students are good at German?'

Consider (19a) and (19b), which are the Wh-counterparts of (17c) and (17d), respectively. Their subjects are presuppositional because of their compatibility with the individual-level predicate. Since Wh-dependency occurs out of presuppositional subjects, it may be predicted that both (19a) and (19b) should be ungrammatical. Unlike (18b), however, they are grammatical.

- (19) a. **[dare-no 3-nin-no** gakusei]-ga doitugo-ga umai no?
[whose 3-CL-GEN students]-NOM German-NOM good Q
- b. **[dare-no** gakusei 3-nin]-ga doitugo-ga umai no?
'(lit.)*Three of whose students are good at German?'

The WCO analysis predicts their grammaticality if it is assumed that the Wh-phrase in (19a) and the constituent containing the Wh-phrase in (19b) undergo DP-internal A-scrambling across the offending variable. Then, (19a) and (19b) should have (20a) and (20b) as their underlying structures, respectively. Note that, their grammaticality is not predicted by Diesing's (1992) analysis, since extraction out of a presuppositional DP is always prohibited in her analysis.

- (20) a. **[dare-no_i [3-nin-no A-t_i gakusei]]**-ga doitugo-ga umai no?
- b. **[[dare-no** gakusei]_i 3-nin A-t_i]-ga doitugo-ga umai no?

Note that, what the A-scrambling of a Wh-phrase can repair is not restricted to the WCO effect; it also repairs the intervention effect by quantifiers. In fact, Japanese shows the intervention effect, as shown in (21a), and A-scrambling of the Wh-phrase repairs its ill-formedness, as shown in (21b). Then, alternatively, one might claim, by pointing out the quantificational nature of the unfloated numeral quantifier, that the intervention effect on Wh-movement occurs in (18b).

- (21) a. ?? *daremo*-ga **nani**-o kaimashita ka?
everyone-NOM what-ACC bought Q
- b. **nani**-o_i [*daremo*-ga A-t_i kaimashita] ka?
'What did everyone buy?' (Hoji 1985)

However, I do not think that (18b) involves the intervention effect. First, this analysis has to assume that the subject of (7) is not quantificational.

Second, it wrongly predicts the ungrammaticality of the sentence in (22). Note that, as shown in (21a), QPs can be interveners. Also, since the quantificational status of the subject in (22) is basically the same as the quantificational status of the subject in (18b), this alternative analysis has to assume that the subject in (22) is an intervener for the Wh-movement of *nani-go* ‘what language’. Then, contrary to the grammaticality of the sentence, (22) is predicted to be ungrammatical.

- (22) [3-*nin-no* *gakusei*]-ga **nani-go**-ga *umai* *no*?
 [3-CL-GEN *students*]-NOM *what-language*-NOM *good* Q
 ‘What language are three of the students good at?’

4 **Proposal 1: syntax**

So far we have seen empirical evidence for the claim that SC is an instance of WCO. If SC involves WCO, there exists an offending variable in a SC sentence between the scope position of the Wh-phrase and its trace. Moreover, such an offending variable is present if and only if a DP containing a Wh-trace is context dependent.

This conclusion is not unreasonable. Suppose that a context dependent DP must bear a discourse reference or an ‘index’. For example, in the case of *the picture of whom*, the value assigned as its index is dependent on the value of the Wh-phrase, since the indexical value of the picture cannot be the value of a picture where ‘whom’ is not (included in) the subject(s) for the photography.

Then, one might think that an offending variable for the Wh-dependency is embedded within the index of a context dependent DP. This is not correct, however. Indexicality is basically a pragmatic matter, while WCO may be a syntactic matter. It is not clear how a syntactic constraint can be guided by a pragmatic entity.

Moreover, even if indices were syntactically associated with context dependent DPs, the WCO effect in SC does not follow. Suppose that a syntactically realized index denotes an individual, as in (23a). Then, its structure will be expressed as in (23b), where I use *e* to visualize such an individual.⁵ (23b) apparently falls in the WCO configuration due to *e*’s dependent nature on the Wh-phrase. Now, compare (23b) and (23c), both of which have the same structural configurations. Although the value of *SPE* (an individual) is dependent on the value of the Wh-phrase, (23c) does not show any ill-formedness. Therefore, I conclude that indexicality is not a source of the WCO effect in SC.

- (23) a. */?/? Who_i did you see the picture of t_i ?
 b. who_i ... [eⁱ the [picture of t_i]]

⁵ In addition to this, (23) uses upper indices to visualize their dependent values on Wh-phrases.

- c. What_i is SPEⁱ a book about t_i ?

I propose that a covert constituent containing an NP which is ‘superficially’ identical to the complement NP, in short, a covert constituent containing its copy, is additionally associated with a context dependent DP. (24b) is the underlying structure for (24a).

- (24) a. [the [picture of Madonna]_{NP}]
 b. [the [[...picture of Madonna...] [picture of Madonna]]]
 (The underlined part indicates an unpronounced part.)

In this analysis, the WCO effect in SC is predicted. Since the complement NP of the object DP in (25a) contains a Wh-variable, its copy within the covert constituent also contains a variable co-indexed with the Wh-operator, as shown in (25b). Due to the presence of this variable, (25a) falls in the WCO configuration (25c).

- (25) a. */?? Who_i did you see the picture of t_i ?
 b. who_i [... [the [[...picture of x_i...] [picture of t_i]]]]
 c. */?? Op_i [... x_i ... t_i]

The next section addresses two questions: (i) why is such a covert constituent present only in a context dependent DP; and (ii) how is it involved in context dependency? In any case, I assume that a covert constituent is absent within the context independent DP (26a). Thus, the absence of SC in (26a) is predicted: it does not fall in the WCO configuration, since no offending variable exists as shown in its structure (26b).

- (26) a. */?? Who_i did you see a picture of t_i ?
 b. who_i [... [a [picture of t_i]]]

The grammaticality of our crucial examples observed in Section 3.2 is correctly predicted in this analysis. The underlying structure of (27a) is expressed as (27b), which falls in the WCO configuration.

- (27) a. * [3-*nin*-no **dare-no** gakusei]-ga doitugo-ga umai no?
 [3-CL-GEN whose students]-NOM German-NOM good Q
 ‘(lit.)*Three of whose students are good at German?’
 b. [wh-Op_i [...[3[[...students of x_i...] [students of wh-t_i]]]...]]

As mentioned in the previous section, I assume that the Wh-phrase in

(28a) and the constituent containing the Wh-phrase in (28b) undergo DP-internal A-scrambling. Hence, the Wh-traces are created in the surface positions of the Wh-phrases. Their underlying structures (28c-d) do not exhibit the WCO configuration since no offending variable exists between the Wh-operators and their Wh-traces as a result of A-scrambling.

- (28) a. [**dare-no**_i [3-*nin*-no A-t_i gakusei]]-ga doitugo-ga
 [whose [3-CL-GEN students]]-NOM German-NOM
 umai no?
 good Q
- b. [[**dare-no** gakusei]_i 3-*nin* A-t_i]-ga doitugo-ga umai no?
 ‘(lit.)*Three of whose students are good at German?’
- c. [wh-Op_i[...[wh-t_i [3[[...[students of x_i]]...][...A-t_i...]]]] ...]]
- d. [wh-Op_i[...[[...wh-t_i...]_j [3[[...[students of x_i]]...][A-t_i]]]]...]]

(29) formalizes my proposal about the syntax of context dependent DPs.

- (29) Det P₁ => Det P₀P₁ iff Det is a context dependent determiner where (i) P₁ is the complement NP and (ii) P₀ is a constituent containing a copy of the complement NP.

5 Proposal 2: semantics

The following are the next questions that I now have to address: (i) what is the status of P₀ and P₁ in (29); and (ii) how are they involved in context dependency, in particular, why must P₀ be associated with a DP if and only if the DP is context dependent?

Consider again the contrast between (1) and (2), which is the primary concern of this paper. The truth values of the sentences in (1) can be determinate without any context, while the truth values of the sentences in (2) cannot. I suspect that overtly pronounced complement NPs (or overt restrictions) are not restricted contextually. Compare (30) and (31).

- (30) situation: *What Mary saw was not a unicorn but a horse, and the speakers not only believe that no unicorn exists, but also notice her misunderstanding.*
- a. #Mary saw a unicorn.
- b. Mary saw a horse.
- c. Mary believes that she saw a unicorn.

- (31) situation: *Basically the same as (30), but, this time, Mary is the speaker.*
I saw a unicorn.

Although the content of (30a) is the same as those of (30b) and (31), it is infelicitous (perhaps, false). I suspect that the reason why (30a) is infelicitous is that the set denoted by *unicorn* is empty in the assertion world of the speakers. The contrast between (30a) and the others suggests that the overtly pronounced complement NP must be evaluated in a certain situation, which I call the assertion situation.⁶

- (32) $P_1 = asf(P) = \{x \mid x \text{ is a member of } P \text{ and is in } as \text{ (the assertion situation)}\}$

(32) is my proposal about the semantics of the overtly pronounced complement NP. Thus, the meaning of context independent *some picture of Madonna* is obtained in the following way.

- (33) $\lambda Q. \text{some } asf(P)Q \quad \text{s.t. } asf(P) \cap Q \neq \emptyset \text{ and } P = \{x \mid x \text{ is a picture of Madonna}\}$
-

Returning to context dependent DPs, I propose that P_0 in the definition in (29) is a locus of contextual information. Note that, this does not mean that contextual values are syntactically present. Since truth values of the sentences in (2) are indeterminate without any context, the value of P_0 is underspecified both syntactically and semantically. Thus, I propose that a function, which is a contextual variable, takes a property P . (34) is a tentative proposal about the semantics of P_0 .

- (34) $P_0 = cof(P) = \{x \mid x \text{ is a member of } P \text{ and is in } co \text{ (the previously established context)}\}$

I propose that the domain of quantification for a context dependent determiner is obtained by intersecting P_0 and P_1 , which I call 'updating' (cf. Kamp 1981, Heim 1982). Therefore, the meaning of *every picture of Madonna* is obtained in the following way.

- (35) $\lambda B. \text{every } AB \quad \text{s.t. } A = cof(P) \cap asf(P), A \subseteq B \text{ and } P = \{x \mid x \text{ is a picture of Madonna}\}$
-

⁶ Cf. Kratzer (2004).

6 Remaining issues

This section discusses two problems in my semantics of context dependent DPs. First, since $P_0 \subseteq P_1$ in most cases, the ontology of P_0 is weak. Hence, I have to show that there is a case where this subset relation does not hold. That is (36). Since the individual denoted by *the unicorn* has already been made familiar by the preceding utterance (36a), it should be a member of P_0 . However, since P_1 is empty in the speakers' belief world as the situation suggests, (36b) is infelicitous without *she believes that*.⁷ Therefore, $P_0 \subseteq P_1$ does not hold, and at the same time, updating (\cap) is necessary to exclude infelicitous (36b) (see also Heim 1982).

(36) situation: the same as (30)

- a. Mary believes that she saw a unicorn_i.
- b. And, #(she believes that) the unicorn_i was white.

The second problem is the semantics of P_0 with respect to the domain of quantification. If we assume a set of contextual individuals Kc (cf. Stanley & Szabó 2000), P_0 is defined as (37a). The question then is why Kc must be restricted by P within P_0 . As shown in the equation in (37b), restriction by P within P_0 may not affect the semantics of the domain restriction of a context dependent DP.

(37) a. $P_0 = Kc \cap P$

- b. $P_0 \cap P_1 = Kc \cap P \cap asf(P) = Kc \cap asf(P)$ (since $asf(P) \subseteq P$, see (32))

Nevertheless, I claim that Kc must be restricted by P within P_0 . As we have seen in (36b), the individual denoted by *the unicorn* in (38b) can be a member of a set of unicorns in Mary's belief (or assertion) world. In addition to this, since this individual is identical to the individual denoted by *a horse* in (38a) under this situation, it is contextually familiar. If we adopt $Kc \cap asf(P)$ as the domain restriction, it is predicted that *a horse* in (38a) and *the unicorn* in (38b) can be co-indexed, contrary to its infelicitousness.⁸ I suspect that the only

⁷ What is crucial in (36) is that, since (36b) is not a continuation of the embedded clause of (36a), it is not in the scope of *Mary believes*. In fact, (i) is felicitous as a continuation of (36a).

(i) And, that the unicorn_i was white.

⁸ One might think that, due to the difference of overt restriction, *the unicorn* in (38b) is infelicitous. This is not correct, however. For example, if John notices that the person Mary saw was Norvin Richards and he also knows that Norvin Richards is an excellent juggler, coreference between *a man with a long beard* and *the juggler* is possible, as shown in (i).

way to ban this co-indexation is to exclude this individual from P_0 (i.e. the set of contextually familiar unicorns). At this stage, however, I leave the semantics of P_0 as future research.

- (38) situation: the same as (30)
- a. Mary saw a horse;_i.
- b. #And, she believes that the unicorn_i was white.

7 Conclusion

A DP with context dependent restriction must be additionally associated with a covert constituent containing a copy of the complement NP, and this constituent is a locus of contextual information. Its presence is evidenced by SC: (i) SC is an instance of WCO, and (ii) its WCO effect follows only if a covert copy of the complement NP is present as a syntactic object (or constituent). Since a covert copy in SC necessarily contains a variable that must be bound by the Wh-operator, it is offending to the operator variable binding.

By assuming that the property denoted by the overtly pronounced complement NP must be evaluated by the assertion situation at the moment of its pronunciation, I further claim that the domain restriction for a context dependent determiner is obtained by intersecting the property denoted by the complement NP and the locus of contextual information.

Still, one question remains: why is the locus of contextual information covert? I leave this as an open question.

Appendix: Context dependency of *the NP*, *a NP* and *every NP*

First, consider the meaning of *the NP*. It is often assumed that *the NP* is context dependent. Now, look at (39). Although the object DPs are headed by *the*, the sentences in (39) do not show any ill-formedness due to a violation of the SC.

- (39) a. Which country_i did James Bond kill the king of t_i ?
- b. Which company_i did Forbes introduce the president of t_i ?
(Jon Nissenbaum p.c.)

I would like to cast a doubt on the naïve assumption that *the NP* is

-
- (i) situation: *Mary was not familiar with Norvin Richards*.
Mary: Last week, I went to Department of Linguistics and Philosophy in MIT.
There, I saw a man with a long beard;_i.
John: On! How was the juggler_i?

always context dependent. Many previous researches about the meaning of *the NP* share at least one view: its meaning is not simple. Discussions here pick up familiarity and uniqueness from the meanings *the NP* can bear.

NPs like *king, president*, etc. typically require uniqueness, but it seems that their familiar readings are unavailable in (39). If an individual denoted by *the NP* is familiar, it may be possible to say that *the NP* is context dependent since, by familiarity, such an individual must be present in the previous context. On the other hand, whether or not its uniqueness requires context dependency is less clear. For example, *king* is a relational noun with respect to his country and uniqueness simply requires that he should be unique in his country. Thus, if his country is not presupposed, it seems hard to presuppose his existence. In fact, answers in (40) are felicitous to the question (39a).

- (40) a. No country.
b. He did not kill any king.

As for *a NP*, I would like to mention two things. First, I assume that *a certain NP* is also context dependent. The truth value of (41a) is indeterminate, without any shared knowledge about which picture of Madonna is in the set of certain pictures of hers. Hence, (41b) should be in the same group as (3).

- (41) a. John saw a certain picture of Madonna.
b. * Who_i did Mary say you saw a certain picture of t_i ?

Second, Diesing (1992) observes that (42b) exhibits the SC. She claims that, since verbs of destruction (e.g. *burn, destroy, tear up*, etc.) denote events about destroying something that exists in the world, their object DPs are presuppositional (see also Davies & Dubinsky 2003, Erteschik-Shir 1981). She further claims that, since verbs of using (e.g. *play, read, see*, etc.) can take non-presuppositional DPs as their object, (42a) does not exhibit the SC.

- (42) a. Who_i did you see a picture of t_i ?
b. *Who_i did you destroy a picture of t_i ? (Diesing 1992)

What is unclear in this argumentation is to what extent what is seen and what is destroyed differ in presuppositionality. Since *see* denotes an event about seeing something that exists in the world, its object DP should be presuppositional. (Interestingly, contrary to her observation, many native speakers accept (42b).)

Furthermore, there seems to be a case where the object DP of a verb of destruction is not presuppositional. The second answer by B in (44), which denies the existence of books by Yukio, seems felicitous. This answer, just like the second answer by B in (43), does not seem to be a strong utterance that

involves presupposition cancellation.

- (43) A: Did you read a book by Noam?
 B: Yes, I read Barriers.
 A: Then, did you read a book by Yukio?
 B: No, he has not written any book yet.
- (44) A: Did you burn a book by Noam?
 B: Yes, I burned Barriers.
 A: Then, did you burn a book by Yukio?
 B: No, he has not written any book yet.

Finally, consider *every NP*. One might claim that the subject DPs of (45) are context independent, since truth values for (45) are apparently determinate. One speculation is that common grounds (about mathematical knowledge, baseball, etc.) are part of contextual information. There is another problem in (45a). The set denoted by *prime number* is an infinite set. Once we admit that an infinite set can be the domain restriction for *every*, why does (2b) fail to take an infinite set as its domain restriction? I leave this as an open question.

- (45) a. Every prime number has exactly two dividers.
 b. Every Red Sox fan hates Yankees.

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