Opacity in Japanese and Korean*

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1. Introduction

Rizzi 1990: 7, 26 made the celebrated claim that certain types of intervention effects arise because government is subject to **relativized minimality**, which can be characterized by three major properties. First, government must be **minimal** (or local) in that no other governor may intervene between the intended govern**or** and govern**ee**. Second, 'intervention' is **relativized** in that it takes place only with respect to the **same type of government** — between two instances of: (i) head-government, (ii) antecedent government for A'-chains, (iii) antecedent government for A-chains, and (iv) antecedent government for X^0-chains, respectively. Finally, 'intervention' is **GT-compatible** in that minimality can be established by mere presence of a **potential** rather than actual governor. That is, whether an element is an 'intervening governor' or not is determined simply in terms of its configurational property irrespective of its content. To qualify as an intervening potential **head**-governor, for instance, there is no need for an element to have any of the substantive contents like 'nominal, verbal, agreement or tense' features. Likewise, to qualify as an intervening potential **antece-**

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dent governor, there is no need for an element to have **actual coindexation** — all that is required is mere presence of **any** c-commanding **head** or **specifier** of a relevant type.

As the Minimalist Program evolved out of the Government and Binding Theory, researchers ceased to analyze syntactic relations in terms of government, and accordingly, relativized minimality has come to be rarely taken up in its original form. It seems reasonable to state, however, that the essence of relativized minimality captured in terms of the three properties described above is still widely regarded as a useful and possibly correct generalization. In this paper, we would like to present various 'intervention effects' which are similar to but are crucially different from those captured by relativized minimality in that they seem to require a condition distinct from GT-compatibility. In particular, 'intervention' they involve seems to be defined in terms of the notion of an **actual** rather than potential 'antecedent' or 'licenser'.

2. Problems

2.1 Kim 2000 on K-binding in Korean

Kim 2000 proposed and argued for a novel approach to the interpretation of what are often referred to as wh-words in Korean. Let us first summarize the research presented there, out of which our main topic emerged. As shown in (1), nominals like *nuku* and *mues* provide a constant interpretation as a quantifier when they are accompanied by a particle. *Nuku*, for examples, is interpreted as existentially quantified with *-inka* but is interpreted as universally quantified with *-ina*.

(1) a. nuku-**inka** / -**ina** '**some**one / **every**one'
b. mues-**inka** / -**ina** '**some**thing / **every**thing'

When the same words appear in an interrogative sentence as in (2) without being accompanied by any such particle, however, they can be ambiguously interpreted either as wh-questioned or as existentially quantified.

(2) John-i **mues-**ul sass -**ni**? (i) '**What** did John buy?'
-NOM -ACC bought **Q** (ii) 'Did John buy **something**?'

When more than one such nominal appears in sentences like (3) and (4) below, however, a puzzling restriction emerges — both nominals can be interpreted as wh-questioned or as existentially quantified in an across-the-board (henceforth ATB) fashion as indicated in (3 i) and (3 ii). Mixture of the two readings as in (3 iii) and (3 iv), however, is not permitted in either combination. ('#' indicates the unavailability of the intended interpretation.)

(3) [$_{CP2}$ John-i [$_{CP1}$ **nuku**-ka **mues**-ul sassta-ko] malhaess-**ni**]?
-NOM PERSON THING bought-that said **Q**

(i) **Who** did John say had bought **what**?
(ii) Did John say **someone** had bought **something**?
(iii) #**Who** did John say had bought **something**?
(iv) #**What** did John say **someone** had bought?

(4) [$_{CP2}$ **Nuku-**ka [$_{CP1}$ Mary-ka computer-lul sassta-ko] **nuku**-eykey malhaess-**ni**]
PERSON -NOM computer-ACC bought-that PERSON-DAT said **Q**
(i) **'Who** told **whom** that Mary had bought a computer?'
(ii) 'Did **someone** tell **someone** that Mary had bought a computer?'
(iii) #'**Who** told **someone** that Mary had bought a computer?'
(iv) #'**Who** did **someone** tell that Mary had bought a computer?'

Given the flexibility of the interpretation of *mues* in (2), the restriction here is surprising. To deal with this and many more puzzling phenomena, Kim proposed an analysis centered around the notion 'K-binding'. First, this approach captures the flexible interpretation of nominals like *nuku* and *mues* by regarding them as some type of underspecified nominals denoting only basic semantic properties like 'human (= PERSON)' and 'non-human object (= THING)', reminiscent of Kuroda's 1965 'indeterminate pronouns' in Japanese. Such nominals are labelled as 'K-nominals', 'K' standing for 'kernel'. K-nominals, being underspecified, must enter an operator-variable relation to have their semantic content fully specified. Second, complementizers in Korean are regarded as quantifiers, which bind K-nominals and establish an operator-variable relation. This process is referred to as 'K-binding'. There are two types of complementizers in Korean. One type must bind a K-nominal. As the ungrammaticality of (5) indicates, it is mandatory for the wh-quantifier (**WH$_C$**) *-no* to bind a variable, once it appears in a sentence.

(5) *John-i computer-lul sass-**no**?
-NOM computer- ACC bought-**WH$_C$**

K-nominals bound by **WH$_C$** function as its variables and are wh-questioned. All other complementizers in Korean (e.g. *ko*, *na* in the Kyungsang dialect) are assumed to belong to the second type and function as a default existential quantifier which can, but need not, bind K-nominals. K-nominals bound by these existential complementizers ($\exists_C$) come to be existentially quantified in a way similar to Heim's 1982 'Existential Closure'. The notion K-binding was also combined with the **derivational** approach to quantification developed along the lines of Epstein, et al. 1998, in which K-binding proceeds in a bottom-up fashion, **derivationally** and **unselectively** at each point when Merge introduces a complementizer, whether it is a wh-complementizer (**WH$_C$**) or an $\exists$-complementizer ($\exists_C$) (cf. Chomsky 2000). This approach allows us to predict all of the patterns of K-binding observed in (2)-(4) and more. In order to keep the dis-

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[1] See also the notion 'phase' by Chomsky 2000b and Chomsky 2000a.

cussion simple, however, let us disregard here one source of ambiguity of K-nominals by employing the wh-complementizer *-no* in the Kyungsang dialect as in (6) instead of the ambiguous complementizer *-ni* in the standard Korean.

(6) [$_{CP2}$ **Nuku-**ka [$_{CP1}$ John-i **mues**-ul sassta-**ko**] Mary-eykey malhaess-**no**]?
PERSON THING $\exists_C$ -DAT said **WH$_C$**
(i) **'Who** told Mary **what** John bought?'
(ii) #'Did **someone** tell Mary that John had bought **something**?'
(iii) **'Who** told Mary that John had bought **something**?
(iv) #'Did **someone** tell Mary **what** John had bought? '

Suppose in (6), the $\exists$-quantifier in the lower CP, binds *mues* and yields the existential reading 'something'. When the derivation proceeds to the matrix CP, the matrix **WH$_C$** *-no* must bind the other K-nominal *nuku* and yield a wh-interpretation 'who'. The mixed reading in (6 iii) therefore is expected to be available. When $\exists_C$ in the lower CP does not apply, on the other hand, — recall that the default quantification by $\exists_C$ is optional — both of the K-nominals must be bound by **WH$_C$** in the matrix, and the ATB wh-interpretation in (6 i) is also expected. Since *nuku* is yet to be introduced when $\exists$-quantification may take place in the lower CP, it can never be interpreted as 'someone', and neither of the interpretations in (6 ii) and (6 iv) is available.

2.2 'Recycling' Problems

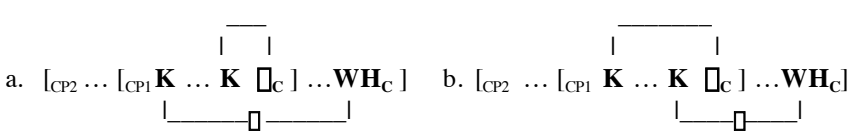
When we continue to deal with the interpretation of K-nominals in this fashion, however, one set of facts remains unexplained. In sentence (7) below, for instance, we correctly predict that the two K-nominals can obtain the ATB wh-interpretation in (7 i) but not the ATB existential interpretation in (7 ii). If $\exists$-quantification does not apply in the lower CP, both K-nominals must be bound by the matrix wh-complementizer, yielding (7 i). If $\exists$-quantification does apply in the lower CP and bind both K-nominals, on the other hand, the matrix wh-complementizer would not be able to bind a variable, which makes the derivation crash and makes (7 ii) unavailable.

(7) [$_{CP2}$ John-i [$_{CP1}$ **nuku**-ka **mues**-ul sassta-**ko**] malhaess-**no**]
PERSON THING bought-$\exists_C$ said **WH$_C$**
(i) **ATB**-reading: **'Who** did John say bought **what**?' (Expected)
(ii) **ATB**-reading : #'John said that **someone** bought **something**.' (Expected)
(iii) **Mixed** reading:#'**Who** did John say bought **something**?' (Unexpected)
(iv) **Mixed** reading:#'**What** did John say **someone** bought?' (Unexpected)

In another possible derivation, however, $\exists$-quantification may apply in the lower CP and bind only one of the K-nominals. Therefore, when the derivation reaches the matrix CP, the wh-complementizer should be capable of binding the other K-nominal, thereby yielding either of the mixed readings in (7 iii) and (7 iv). These interpreta-

tions, however, are not allowed in reality.[2] The restrictions here can be schematically described as in (8), which poses an interesting problem.

(8)



Here, non-local K-binding is prohibited which involves only one of the two K-nominals in the lower CP and the wh-complementizer in the matrix CP. It does not seem appropriate to reduce this restriction to relativized minimality since the -complementizer *ko* as a potential binder of K-nominals does intervene and still permits non-local K-binding, as can be verified by the ATB wh-interpretation in (7 i). Possibility of this non-local wh-quantification also suggests that it is not a matter of cyclicity alone. Kim 2000 stipulated a condition as in (9), which prohibits CP_1 in (8a-b) as the lower cycle from being used more than once as the domain of quantification.

(9) A domain of quantification cannot be 'recycled'.

We now believe, however, that the crucial factor creating the restriction here is the presence of another instance of K-binding in the lower CP, and it intervenes the other instance of K-binding, which leads us to offer a generalization as in (10).

(10) When one instance of K-binding takes place in its domain, that domain becomes **opaque** for other instances of K-binding from outside.

CP_1 in (8a-b) thus becomes an opaque domain for the non-local wh-quantification due to the presence of the local -quantification. When the local -quantification does not take place, on the other hand, CP_1 is not an opaque domain for the non-local wh-quantification, and the ATB wh-interpretation like (7 i) is permitted.

Interestingly, if long-distance scrambling applies to one of the K-nominals in (7) as in (11), it alters the possible range of available interpretations in a peculiar way.

(11) [CP2 **mues**-ul$_1$ John-i [CP1 **nuku**-ka **t**$_1$ sassta-**ko**] malhaess-**no**]
THING PERSON C **WH**C

(i) **ATB**-reading: '**Who** did John say bought **what**?'
(ii) **Mixed** reading : '**What** did John say **someone** bought?'
(iii) **Mixed** reading: #'**Who** did John say bought **something**?'

That is, along with the ATB wh-interpretation in (11 i), we can now obtain one mixed interpretation in (11 ii) while the other mixed interpretation in (11 iii) still remains

[2] The same observation has been also made with respect to Chinese by Li 1992.

unavailable. This puzzling situation, in fact, is exactly what we predict given the restriction in (10). Although local □-quantification took place in the lower CP in (11), scrambling has brought *mues* outside the opaque domain, it therefore may now undergo wh-quantification in the matrix CP without causing the opacity effect and interpreted as 'what'. The other mixed reading in (11iii), on the other hand, is not permitted because when *mues* 'THING' is existentially quantified in the subordinate clause, CP_1 becomes an opaque domain and *nuku* 'PERSON' cannot be non-locally wh-quantified to be interpreted as 'who'.

2.3 Reflexive Binding in Japanese

The question to be asked at this point is if the condition like (10) is peculiar to K-binding in Korean or if it is something of a more general nature. A quest for the answer to this question led us to pay attention to the observation made by Howard and Niyekawa-Howard 1976 with respect to the interpretation of a reflexive pro-form *zibun* in Japanese. To begin with, it has been often noted, with a sentence like (12), that *zibun* can take either local or non-local antecedent.

(12) **Taroo**$_1$-wa [Ziroo$_2$-ga **zibun**$_{1/2}$-ni toohyoo-suru to] omoikondeiru (rasii)
-TOP -NOM self-DAT vote that believe (seem)
'(It seems that) Taro believes that Jiro would vote for himself / him.'

Howard and Niyekawa-Howard (henceforth HNH) 1976: 229-230 report, however, that such flexibility is eliminated in a very peculiar way in some contexts.

(13) karera$_x$-wa/ga [watasi**-**tati$_y$-ga **zibun**-no syasin-o **zibun**-no heya-ni
they$_x$-TOP/NOM we$_y$-NOM **self**'s photo-ACC **self**'s room-in
kazaroo-to-siteiru koto]-o imadani siranai
plan.to.display fact-ACC yet don't.know
'They don't know yet that we are planning to display **each of our/their** portraits in **each of our/their** rooms.'
(i) **ATB**-binding: karera$_x$ … watasi**-**tati$_y$ … zibun$_y$ … zibun$_y$
(ii) **ATB**-binding: karera$_x$ … watasi**-**tati$_y$ … zibun$_x$ … zibun$_x$
(iii) **Mixed**-binding**:** #karera$_x$ … watasi**-**tati$_y$ … zibun$_x$ … zibun$_y$
(iv) **Mixed**-binding**:** #karera$_x$ … watasi**-**tati$_y$ … zibun$_y$ … zibun$_x$

The two instances of *zibun* in (13) can take either the subordinate subject or the matrix subject in an ATB-fashion, as indicated in (13 i-ii). On the contrary, neither of the mixed antecedents is possible (as in (13 iii) and (13 iv)).[3] HNH offer the generalization in (14), which they label as the Reflexive Coreference Constraint (RCC).

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[3] Unless we add some narrow focus accompanied by an emphatic stress. We will deal with such phenomena in an extended version of the present work we are preparing.

(14) Multiple instances of the reflexive pronoun within a given domain must share the same antecedent. (Howard and Niyekawa-Howard 1976: 231)

In (13), unlike in HNH's example, we used plural antecedents in order to ensure that a formal process of binding is involved. Accordingly, we pay attention only to the distributive interpretations arising from such a formal process, and endorse RCC only as a valid generalization on the formal binding of *zibun*. We can obtain the same observations concerning *caki* in Korean (cf. Kim 2000), and the same warning applies.

There does not exist any problem in the mixed binding of multiple *zibun* per se, as illustrated by the availability of a distributed interpretation in (15 iv).

(15) **watasi-tati**$_x$-wa [masaka **karera**$_y$-ga **zibun**$_{x/y}$-ni toohyoo-suru
we$_x$-TOP improbably **they**$_y$-NOM **self**$_{x/y}$-DAT vote
hazu-ga- nai to] **zibun**$_x$-ni omoikomase-yootosita.
wouldn't COMP] **self**$_x$-DAT attempted.to.persuade
'Each of us tried to make **ourselves** believe that they would never vote for **themselves** / each of **us**.'
(i) **ATB**-binding: #watasi-tati$_x$ … karera$_y$ … zibun$_y$ … zibun$_y$
(ii) **ATB**-binding: watasi-tati$_x$ … karera$_y$ … zibun$_x$ … zibun$_x$
(iii) **Mixed**-binding: #watasi-tati$_x$ … karera$_y$ … zibun$_x$ … zibun$_y$
(iv) **Mixed**-binding: watasi-tati$_x$ … karera$_y$ … zibun$_y$ … zibun$_x$

The RCC effect observed in (13) has many significant implications. First, possibility of non-local binding in (13 ii) indicates that similar non-local binding in (13 iii) and (13 iv) in principle is possible. Furthermore, it also suggests that the RCC effect **cannot** be reduced to relativized minimality since non-local binding in (13 ii) is taking place across the subordinate subject NP$_y$ as a potential antecedent of *zibun*. We can, on the other hand, capture the contrast between (13 ii) and (13 iii-iv) when we recognize the blocking effect of non-local reflexive binding arising from the presence of another instance of more local reflexive binding in (13 iii-iv), that is, due to the intervention of NP$_y$ as the **actual** rather than a potential antecedent. We can, in other words, reduce the RCC effect to the generalization in(10) above when we extend it from K-binding to reflexive binding.

Scrambling one instance of *zibun* out of the subordinate clause as in (16) below again permits one type of mixed interpretation ('each of **their** portraits in each of **our** rooms') but not the other ('each of **our** portraits in each of **their** rooms').

(16) **karera**$_x$-wa/ga **zibun**-no-syasin$_1$-o [ano-ziten-de-wa **watasi-tati**$_y$-ga t_1
they$_x$-TOP/NOM **self**'s.portrait$_1$-ACC at.that.point **we**$_y$-NOM |
↑_____|

zibun-no heya-ni kazaroo-to-siteita koto]-o imadani siranai
self's room-in plan.to.display fact-ACC yet don't.know

'They don't know yet that we were planning to display each of **their** portraits in each of **our** rooms at that time.'

Let us also point out here that, even when we combine reflexive binding with negative polarity in the subordinate clause as in (17), we do not detect any negative island effect on non-local reflexive binding.

(17) **aitura**$_x$-wa-hutaritomo [daRE-*MO*^{y} **zibun**$_x$-ni toohyoo-si-*nai*^{y} to]
those.brats$_x$-TOP-both *anyone*^{y} **self**$_x$-DAT vote-*NEG*^{y} COMP]
omoikondeiru (rasii)
believe (seem)
'(It seems that) each of those brats believes that nobody will vote for him.'

The long-distance binding of *zibun*, in other words, is insensitive to a barrier of the type argued for by Beck and Kim 1997. This observation therefore urges us to refrain from pursuing an analysis in which the intervention effect observed in (13) arises when *zibun* undergoes LF-movement and crosses over a barrier of some sort.

3. Proposals — Relativized Opacity

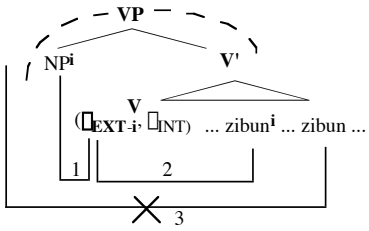
We now propose that the opacity effects observed in both K-binding and reflexive binding are captured in terms of the notion '**relativized opacity**' defined in (18).

(18) a. Opacity: One **actual** instance of head-licensing makes the licensing domain opaque.
b. Domain: The maximal **projection** of the **licensing head** is the domain of licensing.
c. Relativization: This opacity prohibits the **same type of licensing** from outside the domain.

First, K-binding involves quantification of K-nominals by a complementizer head. It therefore can be regarded, rather straightforwardly, as involving a type of licensing by a head item. As illustrated in (8) above, when an actual instance of such 'head-licensing' (by $\square_C$) takes place, the maximal projection of this licensing head (CP_1) becomes an opaque domain, and other instances of the same type of licensing, i.e. K-binding by $\mathbf{WH}_C$ in CP_2, is prohibited out of this domain. This yields the intervention effect we have observed above. Reflexive binding can be also regarded as involving 'head-licensing', though it is somewhat more complex. As illustrated in (19) below, to begin with, the verb as licensing head establishes a selectional relation with its external argument (NP^i) located in its Spec position. The same licensing head then pairs its

Spec with the licens**ee** (*zibun*^{i}) and completes the licensing. The licensing here, in other words, is accomplished by the mediating role of the head verb.[4]

(19) Reflexive binding:



Finally, since an actual instance of head-licensing for reflexive binding (involving *zibun*^{i}) has taken place, the maximal projection of this licensing head (VP) becomes an opaque domain, and other instances of the same type of licensing, i.e. reflexive binding involving other instances of *zibun*, is prohibited out of this domain. Here, the Internal Subject Hypothesis has been adopted for VPs, which can be replaced by *v*Ps if one opts for such an analysis. We will examine the relativized nature of the opacity in question ((18c)) in Section 5 below.

4. Further Motivation

In this section, we will attempt to demonstrate the generality of relativized opacity by further extending our observations. In particular, we will identify two further cases of intervention effects, this time in English, and argue that they too can be reduced to relativized opacity.

4.1 Wh-pairing in English

Our first topic of interest is the interpretation of 'wh-in-situ'. First, a sentence with an embedding CP like (20) is known to permit the wh-in-situ *what* to be paired with the wh-phrase in the Spec of either matrix or subordinate CP (Baker 1970).

(20) [$_{CP}$ **Who** knows [$_{CP}$ **where** we bought **what**]]?

(i) Ans: *John* knows **where** we bought **what** (for instance, *he* knows that we bought the **book** in **Amsterdam**, the **CD** in **Groningen**, etc.)

(ii) Ans: *John* knows **where** we bought the *book* (for instance in Amsterdam), *Mary* knows **where** we bought the *CD* (for instance in Groningen), etc.

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[4] A similar mediating role of the verbal head in binding is also implied in Reinhart and Reuland 1993's rendition of the conditions A and B of the binding theory. In the diagram (19), the linear order of constituents has been altered solely for ease of presentation.

When *what* is paired with *where*, the wh-phrase in the lower CP, it can be felicitously answered as in (20i). When *what* is paired with *who*, the wh-phrase in the higher CP, on the other hand, it will be felicitously answered as in (20ii) (Pesetsky 1987: 99). We will refer to the association of wh-phrases that induces answers like (20i) and (20ii) as '**Wh-pairing**'.

Now in (21) below, we have two wh-phrases in the Spec of CP, **who** and **when**, and two whs-in-situ, *what* and *whom*. We therefore expect to be able to have the pairing of whs (or more precisely, the forming of a set of whs) in **four** distinct ways. In reality, however, **two and only two** distinct ways of such pairing seem to be possible for (21).

(21) [$_{CP}$ **Who** knows [$_{CP}$ **when** George received **what** from **whom**]]?
(i) **ATB**-pairing (= both **what** and **whom** paired with **when**)
Ans: *Al* knows **when** George received **what** from **whom** (for instance, *he* knows George received **money** from **a tobacco company** in **1998**, **a piece of real estate** from **the American Rifle Association** in **1999**, etc.)
(ii) **ATB**-pairing (= both *what* and *whom* paired with *who*)
Ans: *Al* knows **when** George received *money* from *a tobacco company*, and *Joe* knows **when** George received *a piece of real estate* from *the American Rifle Association*, etc.
(iii)**Mixed** pairing (= *what* paired with *who*, and **whom** paired with **when**)
Ans: *#Al* knows **when** George received *money* from **whom**, *Joe* knows **when** George received *a piece of real estate* from **whom**, etc.
(iv)**Mixed** pairing (= *whom* paired with *who*, and **what** paired with **when**)
Ans: *#Al* knows **when** George received **what** *from a tobacco company, Joe* knows **when** George received **what** from *the American Rifle Association*, etc.

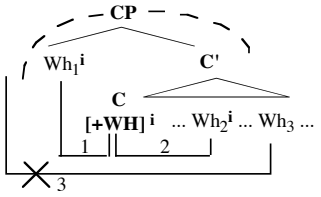
In particular, the two whs-in-situ can be paired with either one of the wh-phrases in the Spec of CP in an across-the-board fashion. Each of the two whs-in-situ, on the other hand, cannot be paired with a distinct wh-phrase in the Spec of CP. Thus, both *what* and *whom* can be paired with *when* in the lower CP, and felicitously answered as in (21i). Similarly, *what* and *whom* can be paired with *who* in the higher CP, and felicitously answered as in (21ii). On the other hand, it seems impossible to interpret the sentence in (21), pairing *what* with *who* and *whom* with *when*, or pairing them in the other mixed fashion. Neither of answers in (21iii) and (21iv) therefore can be provided.

Note that the restriction here cannot be reduced to the superiority effect holding between two whs-in-situ since both instances of mixed pairing described in (21iii) and (21iv) are prohibited. The restriction does not seem to be due to relativized minimality, either, since long-distance pairing across a wh-phrase in the lower CP is possible as in (21 ii). Furthermore, possibility of long-distance pairing also suggests that the intervention effect observed in the mixed pairing is not caused by the wh-island constraint. This observation in fact invites us to speculate that the pair- (or set-) interpretation of whs-in-situ in general may not involve LF-movement but a type of binding

by a complementizer head acting as an operator (cf. Baker's 1970 'Q-morpheme').[5]

We may consider, however, that otherwise puzzling restrictions on Wh-pairing observed in (21) arise due to relativized opacity. All we must do is to reinterpret Baker's 1970 'Q-morpheme' on the head complementizer by recognizing the mediating role it plays in wh-pairing. This mediating role is similar to that played by the verbal head in reflexive binding in (19) above. As illustrated in (22) below, the head COMP in the subordinate clause of (21) establishes a relation with a wh-phrase in its Spec (Wh_1^i), possibly via some kind of agreement process involving a [+WH] feature (or 'Q-morpheme') as often assumed. The same head COMP then pairs a wh-in-situ (Wh_2^i) with its Spec and completes the licensing.

(22) Wh-pairing:



Since an actual instance of head-licensing for a wh-in-situ (involving Wh_2^i) has taken place, the maximal projection of this licensing head (CP) becomes an opaque domain, and the same type of licensing, i.e. Wh-pairing involving another wh-in-situ (Wh_3), is prohibited out of this domain.

4.2 *Differentiation* in English

We can observe still another case of an intervention effect in English with respect to the interpretations of a quantifier-like element *different*. First, as Carlson 1987 points out, sentences involving control as in (23) permit both transparent and opaque interpretations of *different* as indicated in (23 i) and (23 ii), respectively.

(23) **John and Mary** want [**PRO** to visit **different** places next Sunday].

(i) Transparent : *different places* = the place desired by John and the place independently desired by Mary, which happened to have been distinct like a museum and a library.

(ii) Opaque : *different places* = any place that is distinct from the other person's choice, whichever place that may be

Carlson further points out that the licensing of *different* for these distributive interpretations involve the implicit comparison between two or more elements appearing in

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[5] Pesetsky 1987: 109 claims that whs-in-situ move at LF only if they are non-D(iscourse)-linked. We will not take this interesting factor into consideration in this work.

plural eventuality induced by the presence of a plural or distributive NP, which I will refer to as the process of 'Differentiation'. What this observation suggests, therefore, is that the transparent reading of *different* in (23a) is licensed non-locally by the plural eventuality induced by the matrix subject *John and Mary* and the opaque reading is licensed locally by the plural eventuality induced by the subordinate subject *PRO* controlled by the matrix subject. Before we proceed further, let us emphasize here that we are paying attention to the two distinct **distributive** interpretations licensed in these particular ways, and not to a locally-licensed transparent interpretation or any other collective interpretations, which can be detected even in a transitive sentence like 'John and Mary saw different movies'. Here, *different* could mean something like 'distinct from the previous choice', 'distinct from other people's choice', 'novel or unusual choice', and so on. With this background, observe now the sentence (24), which contains two instances of *different* in a similar control structure.

(24) John and Mary want [PRO to visit **different** places on **different** weekends].
   (i) **ATB-transparent**: John wants to visit a museum this weekend, and Mary wants to visit a library next weekend.
   (ii) **ATB-opaque**: John and Mary each wants to visit a place that is not the choice of the other on the weekend that is not the choice of the other.
   (iii) #**Mixed**: John wants to visit a museum, and Mary wants to visit a library, and they each wants to do that on the weekend that is not the choice of the other.
   (iv) #**Mixed**: John and Mary each wants to visit a place that is not the choice of the other, and John wants to do that this weekend and Mary wants to do that next weekend.

Since each instance of *different* is subject to the ambiguous interpretations we saw in (23), (24) is expected to exhibit, in principle, four distinct combinations of interpretations. It seems to be the case, however, that the sentence yields an across-the-board transparent reading as in (24i) or an across-the-board opaque reading as in (24ii), but neither of the mixed interpretations as in (24 iii-iv). As illustrated by (25) below, mixed readings of *different* per se are available in certain discourses with or without the appearance of two instances of *different*.

(25) [John and Mary are breaking up.] Mary wants to move out of their apartment this weekend, but John wants to move out of their apartment next weekend. They do, in other words, want to move out of their apartment on **different** weekends. And they certainly want to live in **different** cities thereafter.

This suggests that the restriction observed in (24) is not due to pragmatic factors. It seems natural, therefore, for us to regard the restriction here as arising from the syntactic interaction of the two instances of the licensing of *different*, i.e. as a type of intervention effect arising in *Differentiation*. Note, however, that an across-the-board transparent reading as in (24i) is possible, and it involves non-local licensing of *different*

crossing over *PRO* as an potential licensor. This again suggests that the intervention effect here is not due to relativized minimality. We can, however, capture the intervention effect here as a case of relativized opacity when we assume that *Differentiation* is a licensing process in which a verb as the licensing head plays a mediating role of associating *different* with a plural NP located in its Spec position, in a way similar to reflexive binding — the actual instance of head-licensing involving the head (V), its Spec (plural NP) and the licensee (*different*) turns the maximal projection of this licensing head (VP) into an opaque domain, out of which another instance of *Differentiation* is prohibited. This licensing can be visually illustrated by simply replacing *zibun* in (19) above with *different*.

5. Relativization of Opacity

The relativized nature of the opacity effect in question ((18c)) can be confirmed when we observe that distinct types of head-licensing do not interact with each other. First, as illustrated in (26), the reflexive proform *zibun* in the lower clause can be bound by the matrix subject *John* despite the presence of wh-pairing for whs-in-situ in the lower clause.

(26) *John to Bill*$_x$-wa [$_{CP}$ Mary-ga **nani-o doko-de** *zibun*$_x$-no-tame-ni
John.and.Bill$_x$-TOP -NOM **what where** *self*$_x$-for
katta **ka**] sit-te-iru.
bought **Q** know
'John and Bill knows where Mary bought what for each of them.'

Likewise, in (27) below, the wh-in-situ in the lower clause and the wh-phrase in the higher CP can be paired even when reflexive binding takes place within the lower clause, permitting an answer like '**Bill** knows where *she* bought a **jewel** for *herself* (for instance in Hong Kong), **Al** knows where *she* bought a **dress** for *herself* (for instance in Paris), etc'.

(27) **Who** knows [$_{CP}$ **where** *Hillary*$_1$ bought **what** for *herself*$_1$]?

The transparent interpretation of *different* induced by *Differentiation* involving the matrix verb in (28) is also possible even when reciprocal binding satisfies the condition A of the binding theory within the lower clause.

(28) *John and Mary* want [**PRO** to hire *different attorneys* for **each other**].

It should be noted here that the notion 'same type of licensing' in relativized opacity is defined in more strict terms than 'same type of government' in relativized minimality since we identified all cases of licensing taking place in (26)-(28) as head-licensing. Tentatively, we identify 'same type of licensing' as 'identical type of licensing' — reflexive binding for reflexive binding, wh-pairing for wh-pairing, and so forth.

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