

Parametrization of Quantificational Determiners and Head-Internal Relatives*

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This paper proposes that there are two types of determiners, one making use of feature checking and the other relying on binding. The typology of head-internal relative clauses (HIRC) is shown to be sensitive to this parametrization of quantificational determiners. Since the syntax of HIRC is generally correlated with that of *wh*-in-situ, it will also be claimed that the parametrization of determiners affects the properties of *wh*-in-situ as well.

Key words: determiners, head-internal relative clauses, *wh*-in-situ

1. Introduction

This paper investigates the factors that determine the typological distribution of head-internal relative clauses (HIRC), especially in view of the fact that there are two types of them. Our focus of attention is on the nature of determiners. Studies by Bonneau (1992), Basilico (1996), and Grosu and Landman (1998) all point to the determiner system as playing a crucial role in HIRC. None of these studies, however, provides a satisfactory principled account of how the determiner system interacts with the syntax of the two types of HIRC. This paper proposes that an explicit theory of parametrization of the determiner system holds the key to understanding the syntactic properties of the two types of HIRC. Specifically, our theory claims that quantificational determiners come in two varieties, one making use of feature checking and the other relying on binding. The typology of HIRC is sensitive to this parametrization of quantificational determiners. The proposal has non-trivial consequences for the analysis of *wh*-questions as well, because it will be shown that the syntax of HIRC is intimately related to that of *wh*-questions.

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Section 2 examines in some detail typological characteristics of those languages having HIRC, taking Japanese and Lakhota as representatives of the two types. This section is essentially a review of literature. Section 3 works out the theory of determiner parametrization and shows how it determines the properties of HIRC. Here, the nature of the *wh*-dependency itself is examined in detail, too. Section 4 concludes the paper.

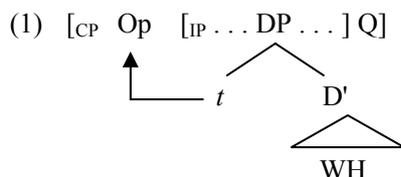
2. Typology of head-internal relative clauses

There are two major hypotheses about what kinds of languages allow HIRC. Watanabe (1992a, b) observes that HIRC is found in a subset of languages using the *wh*-in-situ strategy. Kuroda (1974), on the other hand, notes that HIRC is correlated with the SOV word order, attributing the original observation to S.I. Harada (personal communication). Cole (1987), citing Gorbet (1977) and other works, also assumes that the word-order generalization is on the right track. These two generalizations, however, are not exceptionless. At the same time, they in fact express very similar ideas, because of Bach's (1971) generalization that *wh*-in-situ tends to be found in SOV languages. In this section, I would like to home in on the typological distribution of HIRC more carefully, focusing on the relation to *wh*-in-situ. First, I shall take up the question of what subset of *wh*-in-situ languages have HIRC, reviewing the analyses of various languages. And then, I shall turn to exceptions to the generalization that HIRC is found in a subset of *wh*-in-situ languages. In so doing, I would like to bring into focus the problems to be addressed in this paper.

2.1 Head-internal relative clauses and typology of *wh*-in-situ

Let us start by comparing Chinese and Japanese as representatives of the *wh*-in-situ languages contrasting in HIRC availability.

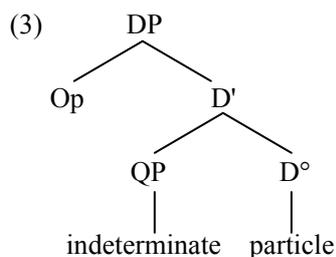
Watanabe (1992a) argues that the island-sensitivity of *wh*-in-situ in Japanese should be attributed to movement of a null *wh*-operator in overt syntax. This operator is assumed to originate in Spec of DP. The schematic representation of the movement of this operator is given in (1).



Under this proposal, Japanese is very similar to English, except that the null *wh*-operator in Spec of DP is separable in Japanese, while it is inseparable in English. Watanabe claims that this difference between English and Japanese is due to the presence of quantificational particles in Japanese attaching to *wh*-elements to form various quantificational expressions, as illustrated in (2).

- (2) a. *Dare-ga ringo-o tabeta no?*
 who-NOM apple-ACC ate Q
 ‘Who ate an apple?’
 b. *Daremo-ga ringo-o tabeta.*
 everyone-NOM apple-ACC ate
 ‘Everyone ate an apple.’
 c. *Daremo ringo-o tabe-nak-atta.*
 anyone apple-ACC eat-NEG-PAST
 ‘No one ate an apple.’
 d. *Dareka-ga ringo-o tabeta.*
 someone-NOM apple-ACC ate
 ‘Someone ate an apple.’

Let us call elements like *dare* in (2) the indeterminate, adopting the terminology of the seminal work by Kuroda (1965). The indeterminate occupies QP and the quantificational particle is located under D°, according to Watanabe (1992a), who posits the structure in (3) for the various quantificational expressions in (2).

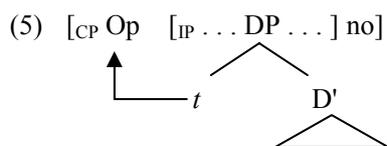


The operator in Spec is “selected” by the particle, which happens to be null for *wh*-phrases.

Watanabe (1992a) extends his overt movement analysis of *wh*-in-situ to HIRC, on the ground that HIRC also displays island-sensitivity, as illustrated with the Complex NP Constraint (CNPC) effect in (4), where the bold-faced phrase is the head of the relative clause.

- (4) a. Mary-ga [John-ga [zibun-nogakusei-ga **juuyouna kasetu-o**
Mary-NOM John-NOM self-GEN student-NOM important hypothesis-ACC
teianshita to] jimanshite-ita no]-no kekkan-o shitekishita.
proposed C° boasted-had C°-GEN defect-ACC pointed out
'Mary pointed out a defect of the important hypothesis which John had
boasted that his student proposed.'
- b. *[John-ga [**subarashii ronbun-o** kaita hito]-o
John-NOM excellent paper-ACC wrote person-ACC
homete-ita no]-ga shuppan-sareta.
praised-had C°-NOM publish-PASS
'An excellent paper which John had praised the person who wrote (it)
was published.'

The same island-sensitivity of HIRC is observed in Navajo (Platero 1974) and in Quechua (Cole 1987, Cole and Hermon 1994). The movement posited for HIRC is shown schematically in (5), where *no* is the nominalizer located in C°.



In contrast to Japanese, Chinese lacks HIRC, despite the fact that it is a *wh*-in-situ language. Interestingly, Chinese also lacks quantificational particles of the kind found in Japanese. Thus, indeterminate phrases can be used as *wh*-phrases and as non-*wh*-quantificational expressions without the help of a particle attached to the indeterminate, as in (6).

- (6) a. ni xiang mai **shenme** (ne)?
you want buy what Q
'What do you want to buy?'
- b. wo bu xiang mai **shenme**
I not want buy anything
'I don't want to buy anything.'
- c. ni xiang mai **shenme** ma?
you want buy something Q
'Would you like to buy something?'
- d. ta dagai mai-le **shenme** le
he probably buy-perf something part
'He probably bought something.'

See Cheng (1995), Li (1992), and Lin (1998) among others for details. Aoun and Li (1993) argue that the absence of HIRC in Chinese is related to the absence of quantificational particles. Assuming that an abstract particle is responsible for movement of the null operator in (5), the absence of such particles in Chinese means that movement of the null operator in (5) is not available for HIRC. Assuming further that movement of the null operator is essential for HIRC, the absence of HIRC in Chinese follows.

But this cannot be the end of the story, because HIRC is found in *wh*-in-situ languages not making use of quantificational particles. Lakhota is such a language. Williamson (1984) and Van Valin (1985) observe that a *wh*-phrase can also be used as a non-*wh* indefinite in Lakhota. Examples from Williamson (1984:255) are given in (7).

- (7) a. Charlotte **taku** kaḡa he?
 Charlotte what make Q
 ‘What did Charlotte make?’
 ‘Did Charlotte make something?’
 b. Charlotte **taku** kaḡe.
 Charlotte what make
 ‘Charlotte made something.’

In the indefinite use, there is no particle attached to the indeterminate. Williamson notes that (7a) is ambiguous between a *wh*-question and a *yes-no* question with an indefinite. The latter will amount to the same thing as the former though, if Ausín (1999) is on the right track; cf. also Bhat (2000).

Lakhota is thus similar to Chinese in lacking quantificational particles that attach to the indeterminate. Significantly, however, it has HIRC. Why is there such a difference?

A hint comes from the fact that the Lakhota HIRC differs from the type of HIRC found in languages like Japanese, Navajo, and Quechua in one significant respect: island-sensitivity. Williamson (1987) observes that the Lakhota HIRC does not exhibit island effects. In (8) below, for example, the head of the higher HIRC is embedded under another HIRC, but the dependency of the higher HIRC is well-formed.

- (8) [[Wichota wowapi wə yawa pi cha] ob wo’uḡlaka pi ki] he
 many-people paper a read PL ind with we-speak PL the that
 L.A. Times e.
 L.A. Times be
 ‘The newspaper that we talk to many people who read (it) is the L.A. Times.’

On the other hand, Japanese examples with a comparable structure are not acceptable. Number (9) illustrates such a case.

- (9) *[John-ga [MIT-no gakusei-ga **subarashii ronbun-o** kaita no]-o
 John-NOM MIT-GEN student-NOM excellent paper-ACC wrote C°-ACC
 posuto-doku-toshite saiyoushite-ita no]-no shuppan-ga okureta.
 post-doc-as adopted-had C°-GEN publish-NOM was-delayed
 ‘Publication of an excellent paper which John had hired as a post-doc an MIT
 student who wrote (it) was delayed.’

We have already seen the CNPC effect in Japanese with a head-external relative in (4b) above. The degree of deviance in (9) seems to be more or less on a par with that in (4b).¹ Navajo similarly prohibits embedding a HIRC under another HIRC, as shown in the example in (10) from Platero (1974:220).

- (10) *[[Hastiin lééchaʔá’í bishxash-éé.] be’eldoq̄h néidiitá-(n)éé.] nahat’in.
 man dog 3.PERF.3.bite-C° gun 3.perf.3.pick-up-C° IMP.3.bark
 ‘The dog that the man who was bitten by (it) picked up the gun is barking.’

The absence of island-sensitivity in the Lakhota HIRC suggests that there is an additional way of licensing HIRC other than movement. Bonneau (1992) analyzes the Lakhota HIRC as making use of unselective binding to explain why it does not show island-sensitivity. Bonneau points to the determiner that comes with HIRC (as well as with ordinary NP) in Lakhota as the unselective binder of the head of HIRC. Lakhota indeed has a full-fledged system of determiners. The examples in (11) illustrate the definite determiner *ki* and the indefinite determiner *wa* in ordinary DPs as well as in HIRC.

- (11) a. [wičháša **ki**] [mathó **wa**] kté.
 man the bear a kill
 ‘The man killed a bear.’
 b. [[Mary owiža **wa** kaḡe] **ki**] he ophewathu.
 Mary quilt a make the DEM 1SG-buy
 ‘I bought the quilt that Mary made.’

¹ Kuroda (1999) proposes that the internal head of HIRC is directly theta-marked from outside HIRC, attributing the CNPC effect to the A-over-A principle that constrains theta marking. The CNPC effect in (9) is problematic to Kuroda’s account, because HIRC itself is considered to be transparent for theta marking.

Kuroda adopts a non-movement analysis of HIRC, on grounds that the CNPC effect is the sole island effect exhibited by HIRC. I shall advocate an analysis of the Japanese HIRC in terms of feature checking without movement in section 3. See Watanabe (2003) for more on the island-sensitivity of HIRC in Japanese.

See Williamson (1984) for more details of the Lakhota determiner system.

In contrast to Lakhota, Chinese lacks the determiner system of this kind. A bare noun can be interpreted as definite, depending on the context, as in (12).

- (12) Hufei he-wan-le tang.
 Hufei drink-finish-PERF soup
 ‘Hufei finished the soup.’

It then follows that Chinese cannot use unselective binding by the determiner; hence the absence of HIRC in Chinese. For more on definite and indefinite expressions in Chinese, see Cheng and Sybesma (1999).

It should be noted at this point that the parallelism between in-situ *wh*-questions and HIRC, which motivated Watanabe’s (1992a) analysis, holds in languages like Lakhota as well. That is, in-situ *wh*-questions do not show island-sensitivity, according to Williamson (1984). Long-distance dependency is possible regardless of an intervening *wh*-island, as indicated in (13).²

- (13) a. Edwin [hel tuwa naži he] keya he?
 Edwin there who stand DUR say Q
 ‘Who did Edwin say was standing there?’
 b. [Tuwa takuwe cheya ha ki] Marie inuğa he?
 who why cry DUR C° Marie you-ask Q
 ‘Who did you ask Mary why (he) was crying?’

It is well-known that Chinese *wh*-questions behave in the same way.³

² There is no CNPC effect, either, as shown by (ia) for Lakhota and by (ib) for Chinese.

- (i) a. [Tuwa wowapi wa owa cha]lawa ha he?
 who book a write ind you-read DUR Q
 ‘Who are you reading a book that (he) wrote?’
 b. Akiu kan-bu-qi [zuo shenme] de ren?
 Akiu look-not-up do what DE person
 ‘What does Akiu despise people who do (it)?’

The CNPC effect, however, is not directly observed in Japanese, because the Complex NP itself can be pied-piped, as proposed by Nishigauchi (1990) and Pesetsky (1987) and adapted for the null *wh*-operator analysis by Watanabe (1992a). See also Watanabe (2001, 2003). The precise mechanism of large-scale pied-piping responsible for the absence of the CNPC effect in languages like Japanese will be taken up in section 3.

³ We abstract away from problems posed by adjuncts. Number (14), for example, lacks the reading in (i).

- (i) *What is the reason *x* such that you wonder what I bought for *x*?

The matrix reading of the adjunct *wh* is also impossible in (13b), as noted by Williamson

- (14) ni xiang-zhidao [wo weishenme mai shenme]?
 you wonder I why buy what
 ‘What do you wonder why I bought?’

But this parallel behavior of in-situ *wh*-questions and HIRC in Lakhota differs from that of the Japanese counterparts in one significant respect. In Japanese, both *wh*-questions and HIRC display island-sensitivity. The *Wh*-Island effect for *wh*-questions is illustrated in (15).⁴

- (15) ??John-wa [Mary-ga nani-o katta kadooka] Tom-ni tazunetano?
 John-TOP Mary-NOM what-ACC bought whether Tom-DATasked Q
 ‘What did John ask Tom whether Mary bought?’

If the two Japanese constructions are analyzed as involving movement, it is reasonable to account for the absence of island-sensitivity in the Lakhota counterparts by saying that they involve unselective binding. Bonneau (1992) in fact proposes to treat not only HIRC but also *wh*-questions in Lakhota in terms of unselective binding. Tsai (1994, 1999), too, proposes the unselective binding analysis of Chinese *wh*-in-situ (cf. also Aoun and Li 1993) and develops a theory of why *wh*-in-situ is different in Chinese and Japanese. According to this theory, the operator is located at the clausal level in Chinese (hence no need for movement), whereas it is found within DP in Japanese, as in Watanabe’s (1992a) account briefly reviewed above. The position of the operator is determined by whether the indeterminate is accompanied by a quantificational particle in its non-*wh* use(s). If yes, the operator is found inside DP.

To conclude, there are three types of *wh*-in-situ languages, as summarized in (16) according to the analyses proposed in the past.

(16)	<i>wh</i> -dependency	HIRC	determiner system
a. Chinese	unselective binding	——	no
b. Lakhota	unselective binding	unselective binding	yes
c. Japanese	movement	movement	particles

(1984). Chinese and Lakhota thus behave similarly in this respect, too.

⁴ Deguchi and Kitagawa (2002) claim that cases like (15) are clearly interpretable as direct *wh*-questions, given an appropriate prosodic pattern. It should be noted, however, that interpretability and acceptability are different notions. I regard (15) as degraded even with the stress pattern in question. See also Nishigauchi (1990:33-36) for relevant discussion.

HIRC is possible in addition if the language has either a determiner system or a particle system. The determiner system provides unselective binding for HIRC, while the particle system induces movement. We may regard particles as a special kind of determiners, following Watanabe's (1992a) proposal to generate them under D° .

At this point, however, we should delve deeper and ask why things are as they are. That is, why must the dependency in HIRC match the *wh*-dependency? In other words, why must the use of quantificational particles with the indeterminate induce movement for HIRC, which does not make use of an indeterminate, whereas determiners are unselective binders for HIRC? If things were the other way round, we would find the Lakota HIRC sensitive to islands and the Modern Japanese HIRC violating subjacency, contrary to fact. We need a more principled account of why *wh*-in-situ and HIRC behave in the same way, once HIRC is made possible.

2.2 Word order, head-internal relative clauses, and *wh*-in-situ

The parallelism between in-situ *wh*-questions and HIRC is also reinforced by a historical change that took place in Old Japanese. Watanabe (2002b) observes that overt phrasal *wh*-movement was lost around the beginning of the Heian Period (9th-12th century). Interestingly, HIRC appeared at the same time, according to Kondo (1981), correlating with the loss of overt phrasal *wh*-movement.⁵

The word order generalization about the typological distribution also points to the close relation between *wh*-in-situ and HIRC. It was mentioned above that the works by Cole (1987), Gorbet (1977), and Kuroda (1974), among others, observe that HIRC is found in SOV languages. Bach's (1971) generalization says that *wh*-in-situ tends to be found in SOV languages. Thus, *wh*-in-situ and HIRC are found in the same type of languages, as far as word order is concerned. Fukui and Takano (1998, 2000) propose a general theory connecting syntactic properties to word order that attempts to cover the typological distribution of both *wh*-in-situ and HIRC.

There are reasons, however, to believe that word order is not a primary factor regulating the distribution of *wh*-in-situ and HIRC at the level of UG principles. First, *wh*-in-situ and HIRC are found in languages that are not SOV. As Tellier's (1989) study shows, Mooré is SVO but has both *wh*-in-situ and HIRC. Old Japanese, on the other hand, continued to be SOV both before and after the loss of overt phrasal *wh*-movement and the concomitant appearance of HIRC. Aldridge (2002) claims that verb-initial languages like Seediq have HIRC. See also Tsai (2000) for the nature of *wh*-in-situ in Seediq. Thus, the relation between word order and the distribution of HIRC is

⁵ The observation about the appearance of HIRC during the Heian Period goes back to Ishigaki (1955).

not tight. Second, more significantly, Bach's (1971) generalization receives a learnability account, so that it is redundant to reduce Bach's generalization to UG principles which may also account for the distribution of HIRC. Watanabe (2002b) argues that overt phrasal *wh*-movement is difficult for children to detect in SOV languages, because the only visible trigger is consistent placement of a *wh*-phrase in front of an overt subject, as shown in (17a).

- (17) a. *wh*-obj **subj** *t* V (SOV languages)
 ↑ |
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 b. *wh*-obj (subj) **V** *t* (SVO languages)
 ↑ |
 └────────────────┘
 c. subj-top *wh*-obj **t_{subj}** *t* V (SOV languages with subject topicalization)
 ↑ |
 └────────────────┘

In SVO languages, on the other hand, *wh*-movement of post-verbal elements crosses the verb as well as the subject as in (17b), so that children do not have to pay attention to the relative position of the *wh*-phrase vis-à-vis the subject. Watanabe suggests that the loss of overt phrasal *wh*-movement in Old Japanese is due to the increase of subject topicalization, taking away the crucial trigger for setting the positive value of overt phrasal *wh*-movement, because the topicalized subject appears in front of the preposed *wh*-phrase as in (17c).

The diachronic change in Old Japanese suggests strongly that the correlation between *wh*-in-situ and HIRC is a manifestation of deeper UG principles. Note that HIRC appeared out of nowhere in Old Japanese, which was SOV both before and after the change. Recall also from section 2.1 that the dependency in HIRC mimics that for *wh*-in-situ. It is more reasonable to assume that the apparent relation between HIRC and word order is simply created by the UG mechanism that connects *wh*-in-situ and HIRC, plus Bach's generalization about *wh*-in-situ, following as a result of learnability considerations. The rest of this paper is devoted to explicating this UG mechanism.

However, this idea is challenged by languages like Imbabura Quechua, which has HIRC, but raises *wh*-phrases obligatorily. We thus need to provide a principled explanation for the parallelism between *wh*-in-situ and HIRC, accommodating the exceptional behavior of Imbabura Quechua at the same time.

3. Indeterminates and typology of determiners

In this section, I would like to take up the challenges elaborated on in the previous section. The starting point of my proposal is that both the Japanese-type and the Lakhota-type HIRC have the structure in (18).

$$(18) [\text{DP} [\text{CP} \dots \text{head} \dots] \text{D}^\circ]$$

This structure is essentially the one posited by Basilico (1996), except that D° directly takes IP under Basilico's proposal. CP is posited in (18), because a complementizer is found in the Japanese-type HIRC. Section 3.3 will return to this point.

The underlying structure that Kayne (1994) proposes for both head-internal and head-external relatives is the same as (18), except that Kayne always posits a head-initial structure. Kayne derives HIRC by first extracting the head NP to Spec of CP and then preposing IP to Spec of DP, as in (19).

$$(19) [\text{DP} [\text{IP} \dots \text{NP}_{\text{head}} \dots]_i \text{D}^\circ [\text{CP} \overset{\text{NP}}{\text{NP}} \text{C}^\circ t_i]]$$

The NP in Spec of CP is deleted at PF. In head-external relatives, the IP-internal head is deleted. By proposing an analysis of this kind, Kayne tries to capture the apparent correlation between the head-final word order and the distribution of HIRC. As already seen above, this correlation is only apparent, so that there is no more motivation for deriving HIRC from the head-initial structure by preposing IP. I simply assume the hierarchical structure in (18), leaving the source of word order open in this paper.

Even though they share the structure in (18), Japanese and Lakhota differ in the type of relation that holds between the CP-internal head and D° : feature checking in Japanese and binding in Lakhota. Another difference is that D° is overt in Lakhota, but covert in Modern Japanese. I claim that the contrast between Modern Japanese and Lakhota with respect to HIRC is a matter of parametrization of determiners. The question raised in section 2.1 is now reformulated as why the D° -head relation in (18) mimics the relation between C° and *wh*-in-situ. To answer this question, I shall take a closer look at the structure of *wh*-questions first.

3.1 Internal and external relations

Let us start with the assumption mentioned in section 2.1 that quantificational particles in languages like Japanese are determiners. Treating quantificational particles as determiners points us to an interesting difference between Modern Japanese and

Lakhota: quantificational particles in Modern Japanese are selective, whereas determiners in Lakhota are not. Thus, the particle *ka* in Modern Japanese, which forms an existential quantifier, can only attach to an indeterminate, as in (20).

- (20) a. Dare-**ka**-ga kita.
 who-KA-NOM came
 ‘Someone came.’
 b. *Otoko-**ka**-ga kita.
 man-KA-NOM came
 ‘Some man came.’

Number (20b) is ill-formed, because the particle *ka* cannot combine with an ordinary NP. Determiners in Lakhota, on the other hand, do not show such a restriction. The examples in (11) above, repeated here as (21), illustrate the definite determiner *ki* and the indefinite determiner *wa* with ordinary NPs.

- (21) a. [wičháša **ki**] [mathó **wa**] kté.
 man the bear a kill
 ‘The man killed a bear.’
 b. [[Mary owižša **wa** kaže] **ki**] he ophewathu.
 Mary quilt a make the DEM 1SG-buy
 ‘I bought the quilt that Mary made.’

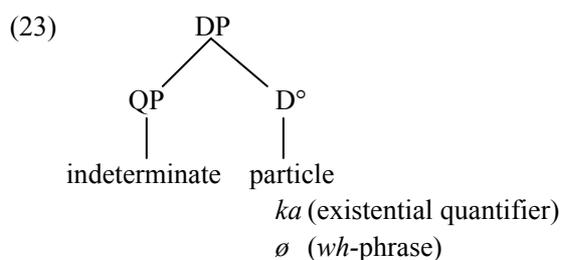
The choosiness of the Modern Japanese quantificational particles can be explained by the requirement that these quantificational particles must undergo checking with an indeterminate. Assuming that feature checking does not involve categorial features (Chomsky 2000), the relation between the determiner and a nominal in Lakhota, on the other hand, cannot be established by checking. It must make use of unselective binding.

Thus, *wh*-questions in languages like Japanese involve two checking relations: one between the D° head and the indeterminate in QP, and the other between C° and the D° head, as schematically shown in (22).

- (22) [CP [... [DP QP D°] ...] C°]


Let us call the former the internal relation and the latter the external relation. Here, I depart from the analysis in Watanabe (1992a) in getting rid of the null operator in Spec of DP posited in (3). I assume that the D° head directly undergoes checking with the

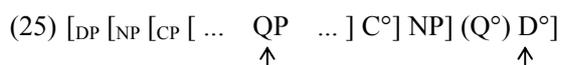
interrogative C° . The structure assumed here for *wh*-phrases and non-*wh* quantificational expressions built out of *wh*-phrases such as those in (2) and (20a) is:



The internal relation can cross clause boundaries. If this happens, we have large-scale pied-piping. Examples are given in (24).

- (24) a. [[[Mary-ga nani-o katta o] omotta] hito]-ga kubini-natta no?
 Mary-NOM what-ACC bought C° thought person-NOM was-fired Q
 ‘The person who thought that Mary bought what got fired?’
 b. [[nani-o doko-de katta] hito]-ga kubini-natta no?
 what-ACC where-LOC bought person-NOM was-fired Q
 ‘The person who bought what where got fired?’

Though various technical implementations of large-scale pied-piping have been proposed (Nishigauchi 1990, Watanabe 1992a, Hagstrom 1998, Tanaka 1999, and Richards 2000, among others), I would like to claim that this is another instance of the internal relation holding between the null particle in D° and the indeterminate, as shown schematically in (25).⁶



In this case, the interrogative C° accesses the D° that heads the Complex NP, not the indeterminate *wh* within the Complex NP. Hence no CNPC effect.

Essentially the same analysis of large-scale pied-piping is proposed by Takahashi (1999) for cases of non-*wh* quantificational particles, in particular the universal quantifier *-mo*. I am following the insight of his analysis in this paper, though there are two differences between Takahashi’s proposal and my own. First, Takahashi treats the

⁶ Assuming that the relative clause is CP, though nothing hinges on it. I leave open the question of whether the containing DP has a vacuous QP projection.
 Note also that D° can enter into a checking relation with multiple indeterminates, as in (24b).

relation between the particle and the indeterminate in terms of selection, so that the particle is always generated as the sister to the indeterminate. For us, the relation between the two is mediated by feature checking, so that the particle does not have to be generated as the sister to the indeterminate. An argument for the checking analysis comes from the fact that the indeterminate has to be aided by a particle to have a fixed interpretation. The very nature of the indeterminate is that it cannot fix the interpretation by itself. Then, the feature characterizing the indeterminate is most likely to be [-interpretable]. If so, checking is needed to delete this feature. Second, as a consequence of being generated as the sister to the indeterminate, the particle undergoes head movement to D° under Takahashi's analysis. Because of the somewhat controversial status of head movement (Chomsky 2000, etc), I would like to avoid this option. All in all, our analysis is trying to capture the correlation of the indeterminate and large-scale pied-piping uniformly in terms of feature checking. Despite these differences, the spirit of the analysis is the same.⁷

Let us now consider what feature is involved in the internal relation. At this point, the external relation also becomes relevant, because the two relations interact in an interesting way, as shown in (26).

- (26) ??[[[Mary-ga nani-o katta ka dooka]Tom-ni tazuneta]
 Mary-NOM what-ACC bought whether Tom-DAT asked
 hito]-ga kubini-natta no?
 person-NOM was-fired Q

The internal relation is sensitive to the *wh*-island, as reported in Watanabe (1992a:59). This means that the internal relation looks for the same feature as the external relation does. According to Chomsky (2000), the external relation involves the Q feature of C° and the *wh*-phrase, with the Q feature of C° being [-interpretable]. The *wh*-feature of the *wh*-phrase is assumed to be [-interpretable], making it active.

- (27) Chomsky's (2000) proposal about the external relation
 a. probe: uninterpretable Q feature in C°
 b. goal: interpretable Q feature in D° & uninterpretable *wh*-feature

⁷ Hagstrom (1998) also proposes a head movement analysis of large-scale pied-piping in *wh*-questions similar to Takahashi's, though the landing site of the head movement in question is only vaguely specified as the edge of the island.

Cf. Richards (2000) on movement internal to the island in Basque and Quechua, both of which make use of the indeterminate. I take up large-scale pied-piping in Basque and Quechua again in section 3.3.

Watanabe (2002b) has argued that what makes the *wh*-phrase active is not the *wh*-feature but the [-interpretable] focus feature. This point becomes significant in the next subsection. Here, what matters is the interpretability of the Q feature in C° .

In (26), the *wh*-island blocking the internal relation is a *yes-no* question. An important property of Japanese *yes-no* questions is that long-distance association is impossible, in contrast to the English counterparts. As observed by Larson (1985), English *yes-no* questions allow ambiguity as to whether the choice of affirmation and negation is associated with the higher clause or with the lower clause in cases like (28).⁸

- (28) I don't know whether John claimed that Bill left or not.
 a. I don't know whether John claimed or did not claim that Bill left.
 b. I don't know whether John claimed that Bill left or did not leave.

(28a, b) are the two readings in question. Larson analyzes the ambiguity as arising from the movement nature of *whether*, associated with disjunction. In Japanese, however, only the local association is possible, as shown in (29).

- (29) [John-ga [Bill-ga kita to] itta ka dooka] watashi-wa shira-nai.
 John-NOM Bill-NOM came C° said whether I-TOP know-NEG
 'I don't know whether John said or did not say that Bill left.'

The absence of ambiguity in *yes-no* questions in Japanese indicates that there is no operator movement involved. It then follows that if *yes-no* questions in Japanese have a Q feature in C° , it must be interpretable, for it is not going to be deleted. We can extend this conclusion to the Q feature in *wh*-questions and *yes-no* questions in general. The ambiguity in English *yes-no* questions is simply due to the availability of an operator bearing an uninterpretable (focus) feature. Number (30) summarizes our hypothesis about the features involved in the external relation.

- (30) External Relation for *wh*-in-situ
 a. probe: interpretable Q feature in C°
 b. goal: interpretable Q feature in D° & uninterpretable focus feature

Thus, we do not have to limit the probe to uninterpretable features, unlike Chomsky (2000). Chomsky (2001: note 57) indeed leaves open whether the *wh*-dependency

⁸ Larson notes, though, that root *yes-no* questions do not allow such ambiguity. This asymmetry may be due to the I-to-C movement in root questions. The I° head, which is 'activated' by negation as part of disjunction, may be incompatible with the I-to-C movement in questions.

justifies the requirement that both the probe and the goal must be active for Agree to apply. If we are on the right track, the goal must be active, but the probe need not be.

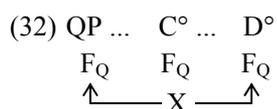
Number (30) receives independent support from the nature of *wh*-in-situ in Chinese. Recall that Chinese *wh*-in-situ is treated in terms of unselective binding under Tsai's (1994, 1999) account. If interrogative clauses are characterized by the Q feature in C° , it cannot be uninterpretable in Chinese. Since Chinese *wh*-in-situ does not involve feature checking, the derivation would always crash if the Q feature in C° were uninterpretable. Assuming that the Q feature in C° gives a universal characterization of interrogative clauses, (30) should be adopted as the external relation for those languages making use of feature checking in *wh*-questions. Note also that this way of handling Chinese *wh*-in-situ leads to the conclusion that the Chinese *wh*-phrase differs from the Japanese counterpart in not having an uninterpretable focus feature. This is a nice consequence, because the Chinese indeterminate is not associated with a D° particle. The same story applies to Lakhota.

Once (30) is established, the *wh*-island effect shown by the internal relation in (26) can now be accounted for by saying that the Q feature is used in the internal relation as well. The minimal hypothesis for the internal relation then is:

(31) Internal Relation

- a. probe: interpretable Q feature in D°
- b. goal: uninterpretable Q feature in the indeterminate

The configuration of the Q features in (26) is shown schematically in (32).



The checking relation between the indeterminate and D° is blocked by the intervening Q feature under the interrogative C° . It should also be noted that in well-formed cases schematized in (22), the external relation from C° as probe cannot reach the indeterminate in QP. The interpretable Q feature in D° blocks such a relation. The external relation therefore must have the Q feature in the D head of the *wh*-phrase as its goal.

The idea embodied in our hypothesis in (31) is that the indeterminate can be associated with various features receiving interpretation under D° , but are uninterpretable within the indeterminate itself.⁹ Such an uninterpretable feature of the indeterminate

⁹ The internal relation for non-*wh* quantifiers will be:

- (i) a. probe: interpretable quantificational feature in D°
- b. goal: uninterpretable quantificational feature in the indeterminate

induces checking with D° . The indeterminate in languages like Chinese and Lakhota, on the other hand, simply lacks this option. Binding, therefore, is the only option provided by UG to supply an appropriate interpretation. It might appear at first that this runs counter to the idea mentioned above that the indeterminate must have an uninterpretable feature by its very nature of being indeterminate semantically. The Chinese and Lakhota indeterminate not having an uninterpretable feature, however, is not unreasonable. There is some reason to believe that the Chinese indeterminate occupies a lower syntactic position than the Japanese counterpart. If so, the difference in interpretation is also expected. In a way, the indeterminate is more like an ordinary noun in Chinese and Lakhota. See Watanabe (2002d) for the position of indeterminates within nominal expressions in Chinese and Japanese.

3.2 Focus connection

The discussion in the previous subsection has relied on the hypothesis about the external relation summarized in (30) above. In the framework of Chomsky (2000), both phrasal movement and feature checking without phrasal movement should involve the same set of features in the probe-goal relation, the only difference being that the EPP feature of the head that contains the probe is also needed for phrasal movement. The correlation of HIRC with *wh*-in-situ suggests that the external relation in *wh*-questions as defined in (30) without the EPP is playing a crucial role in the Japanese-type HIRC. As noted in section 2.2 above, however, Imbabura Quechua is problematic for this perspective, because it has HIRC even though overt phrasal *wh*-movement is obligatory in this language.

Overt phrasal *wh*-movement in Imbabura Quechua is illustrated by the following examples from Cole and Hermon (1994):

- (33) a. Ima-ta-taj ya-ngui [Juan randishka-ta]?
 what-ACC-Q think-2PL. Juan bought-ACC
 ‘What do you think that Juan bought?’
 b. *Ya-ngui [Juan ima-ta-taj randishka-ta]?
 think-2PL. Juan what-ACC-Q bought-ACC

The fronted phrase precedes even a topic, as can be seen from the following examples from Cole (1982:17), where the particle *-ka* marks the topic:

- (34) a. Ima alku-ta-taj Marya-ka chari-n?
 what dog-ACC-Q Maria-TOP have-3
 ‘What kind of dog does Maria have?’
 b. Mayjan wasi-pi-taj kan-paj wawki-ka kawsa-n?
 which house-in-Q you-of brother-TOP live-3
 ‘Which house does your brother live in?’

The *wh*-phrase in Imbabura Quechua is formed on the basis of the indeterminate, to which the particle *-pash* can be attached to create a non-*wh* existential quantifier, as in (35a).

- (35) a. Pi-**pash** shamurka.
 who-even came
 ‘Someone came.’
 b. Pi-wan-**taj** Juan parlarka?
 who-with-Q Juan spoke
 ‘Who did Juan speak with?’

It is interesting to compare Imbabura Quechua with Old Japanese, because overt phrasal *wh*-movement is also obligatory in Old Japanese during the Nara Period, as discussed in detail in Watanabe (2002b). An example is given in (36).

- (36) Kado tate-te to-mo sashi-taru-wo izuku-yu-ka imo-ga
 gate close-CONJ door-also shut-PAST-ACC where-through-KA wife-NOM
 iriki-te ime-ni mie-tsuru?
 enter-CONJ dream-LOC appear-PERF
 ‘From where did my wife come and appear in my dream, despite the fact that I closed the gate and shut the door?’ (Man'youshuu #3117)

Notice that the *wh*-phrase precedes the nominative subject. This is a consistent pattern found during the Nara Period. Old Japanese is quite similar to Imbabura Quechua in other respects as well. First, the *wh*-phrase is marked by a special particle, which is *-taj* in Imbabura Quechua and *-ka* in Old Japanese. Second, Old Japanese also employs the indeterminate system, as illustrated below.

- (37) a. ...itsu-**mo** itsu-**mo** hito-no yurusa-mu koto-wo-shi mata-mu.
 when-MO when-MO person-NOM accept-will word-ACC-PRTwait-for-will
 ‘I will always wait for the woman to accept me.’ (Man'youshuu #2770)

- b. ...tare-to ihu hito-**mo** kimi-ni-ha masa-ji.
 who-quot say person-MO you-than-TOP superior-NEG
 ‘Nobody would be nicer than you.’ (Man'youshuu #2628)

The particle that can be attached to the indeterminate is *-mo* ‘also, even’, forming a universal quantifier as in (37a) or a negative concord item as in (37b). Note also reduplication in (37a). It continues to be used till the present day, except that reduplication is no longer productive in Modern Japanese. According to Ohshika (1991), *-mo* is the only productive particle in Old Japanese.¹⁰

Despite these similarities, Old Japanese during the Nara Period lacks HIRC, in contrast to Imbabura Quechua. HIRC appeared during the Heian Period, as noted above, apparently at the same time as the loss of overt phrasal *wh*-movement. Why is there such a difference?

Interestingly, Imbabura Quechua has a system of in-situ focus making use of so-called validators (Cole 1982). In (38), the focus is marked by the validator *mi*.

- (38) Kan-paj ushi-wan Agatu-pi-**mi** tupari-rka-ni.
 you-of daughter-with Agato-in-FOC meet-PAST-1
 ‘I met your daughter in Agato.’

The focus of *yes-no* questions is also in-situ, judging from the examples in (39) from Cole and Hermon (1994).

- (39) a. Juan Quito-man-**chu** rirka?
 Juan Quito-to-Q went
 ‘Did Juan go to Quito?’
 b. Pi-wan-**taj** Juan parlarka?
 who-with-Q Juan spoke
 ‘Who did Juan speak with?’

In Old Japanese during the Nara Period, in contrast, focused constituents undergo raising, judging from data in Sasaki (1992). In (40) are examples of declarative clauses containing a focus, marked by *so* or *koso*.

¹⁰ The particle *-ka*, which forms an existential quantifier in Modern Japanese as in (2d), is apparently a descendant of the particle marking the *wh*-phrase in Old Japanese. See Ogawa (1976-77).

- (40) a. ...ikoma-yama koete-**so** a-ga kuru imo-ga me-wo hori.
 Ikoma-mountain go-beyond-SO I-NOM come wife-GEN eye-ACC want
 ‘I come from behind Mr. Ikoma to see my wife.’ (Man'youshuu #3589)
- b. ...masura wonoko-no kofure-**koso** wa-ga yufu kami-no
 brave man-NOM yearn-KOSO I-NOM do-up hair-NOM
 hichi-te nure-kere.
 be-soaked-CONJ loosen-PERF
 ‘My hair I did up has got loose soakingly, because my brave man is yearning
 for me.’ (Man'youshuu #118)

The focus of *yes-no* questions, marked by *ka* or *ya*, also undergoes focus movement, as shown in (41).

- (41) a. ...Hatsuse-no kaha-ha ura na-mi-**ka** fune-no
 Hatsuse-GEN river-TOP shore absent-ness-KA boat-NOM
 yori-ko-nu?...
 approach-come-NEG
 ‘Is it because Hatsuse River has no shore that no boat comes near?’
 (Man'youshuu #3225)
- b. ...chichi haha-wo oki-te-**ya** nagaku a-ga
 father mother-ACC leave-CONJ-YA for-ever I-NOM
 wakare-na-mu.
 be-separated-PERF-would
 ‘Will I be separated from my parents for ever, leaving them behind?’
 (Man'youshuu #891)

The data on Imbabura Quechua and Old Japanese are summarized in (42).

(42)		indeterminate	HIRC	<i>wh</i> -Q	focus
	Imbabura Quechua	particle	yes	movement	in-situ
	Old Japanese (Nara Period)	particle	no	movement	movement

It seems plausible to attribute the possibility of HIRC in Imbabura Quechua to the availability of the in-situ focus strategy. The absence of HIRC in Old Japanese during the Nara Period is a reflection of the fact that both *wh*-questions and focusing employed phrasal displacement. During the Heian Period, phrasal *wh*-movement was lost, as can be seen from the post-subject positioning of the *wh*-phrase in (43a, b).

- (43) a. Medurashiki hodo-ni-nomi aru gotaimen-no **ikade-ka**-ha
 rare extent-in-only is meeting-NOM how-ka-TOP
 oroka nara-mu?
 slack be-will
 ‘How could such an infrequent rendezvous not be passionate?’
 (Tale of Genji, Sakaki)
- b. Ito ayashiki mi-kokoro-no, geni, **ikade**
 very curious HON-character-NOM indeed how
 naraha-se-tamahi-kemu?
 develop-HON-HON-would.have
 ‘How has his curious character developed indeed?’ (Tale of Genji, Ukifune)
- c. [Kano Joukyau-den-no-mae-no-**matsu**-ni yuki-no
 that Joukyau-den-GEN-front-GEN-pine.tree-LOC snow-NOM
 furikakari-keru]-wo orite,...
 fall-PERF-ACC snap-CONJ
 ‘She snapped off a branch of the pine tree covered with snow in front of
 that Joukyau-den, and ...’ (Tale of Yamato)

And then, HIRC, illustrated by (43c), suddenly became available. See Kuroda (1974) for numerous examples of HIRC during the Heian Period.

Basque also contrasts with Imbabura Quechua in lacking HIRC, despite the fact that it has indeterminate expressions and obligatory overt *wh*-movement, as Imbabura Quechua does. The indeterminate system is illustrated in (44), drawing on Saltarelli et al. (1988) and Haspelmath (1997).

- (44) a. nor ‘who’
 b. nor-bait ‘someone’
 c. i-nor ‘anyone’

Wh-movement in Basque, however, is a special case of focus movement, as studied extensively by Ortiz de Urbina (1989, 1995) and Uriagereka (1999), among others. The preposed *wh*-phrase must be adjacent to the participial verb, as the contrast between (45a) and (45b) shows.

- (45) a. Nor ikusi du Jonek?
 who seen has John
 ‘Who has John seen?’
 b. *Nor Jonek ikusi du ?
 who John seen has

Similarly, the phrase immediately preceding the participial verb receives the focus interpretation in (46).

- (46) Miren ikusi du Jonek.
 Mary seen has John
 ‘It is Mary that John has seen.’

Crucially, Basque does not have HIRC.¹¹

Thus, the generalization is that those languages where overt phrasal *wh*-movement is obligatory allow HIRC if focusing uses the in-situ strategy. I would like to suggest that Imbabura Quechua recruits the in-situ focus strategy for its HIRC, just as Modern Japanese recruits *wh*-in-situ for its HIRC. It follows that *wh*-in-situ and focus-in-situ must share something. Looking back at (30), repeated below, we notice that a good candidate is the uninterpretable focus feature on the goal.

- (30) External Relation for *wh*-in-situ
 a. probe: interpretable Q feature in C°
 b. goal: interpretable Q feature in D° & uninterpretable focus feature

We are led to conclude that HIRC also makes use of this feature.

3.3 Head-internal relative clauses

We are now in a position to address the questions about the behavior of HIRC. The reason why the D°-head relation in HIRC mimics the relation between C° and *wh*-in-situ is that the same feature is involved, namely, an uninterpretable focus feature.

The idea that focus is involved in HIRC is not new. Tellier (1989) claims that the head of HIRC in Mooré must have a focus marker *ninga*, as shown in (47).¹²

- (47) m̄ mĩ [f̄ s̄n t̄w̄ bīg *(níngá) zaámé w̄á].
 I know you REL insult child NINGA yesterday DET
 ‘I know the child that you insulted yesterday.’

¹¹ Thanks are due to Itziar San Martín (personal communication) for the information about Basque.

¹² Tellier notes that *ninga* functions as an indefinite determiner in simple sentences, as in (i).

(i) m̄ kármà sébr níngá zaámé.
 I read book NINGA yesterday
 ‘I read a certain book yesterday.’

It is interesting to note that an indefinite determiner *cha* in Lakhota has a focusing function, according to Williamson (1984:49-50).

Tellier goes on to show that this focus-marked internal head can undergo overt movement within HIRC, in which case a parasitic gap can be licensed. Similarly, Aldridge (2002) proposes an analysis of Seediq HIRC, according to which the head of HIRC moves to the focus position within HIRC.

Since neither Tellier nor Aldridge discuss the island-sensitivity of HIRC, I do not know whether Mooré and Seediq belong to the Lakhota type or the Japanese type.¹³ If they belong to the Lakhota type, we cannot say that an uninterpretable focus feature is involved, because no feature checking takes place in the Lakhota-type HIRC. If they turn out to be of the Japanese type, on the other hand, it is not unreasonable to hypothesize that an uninterpretable focus feature in the Japanese-type HIRC can be paired up with its interpretable counterpart.¹⁴ We can then say that the Lakhota-type HIRC and the Japanese-type HIRC share the property of marking the internal head with an interpretable focus feature. The difference between them is that the head of the Japanese-type HIRC has in addition an uninterpretable focus feature, which forces checking.

I leave the question of focus semantics in HIRC to future research. Instead, I shall concentrate on the parallelism in the syntax of *wh*-in-situ and HIRC. An important question for us is why HIRC recruits the feature that is involved in the checking between *wh*-in-situ and C° . This is directly related to the question that we started with at the beginning of this section.

Now, it does not seem to be a coincidence that the Japanese-type HIRC is found in languages making use of the indeterminate system with quantificational particles. Modern Japanese, Imbabura Quechua, and Navajo all possess such an indeterminate system.¹⁵ Navajo *wh*-in-situ, and positive and negative indefinites are illustrated by examples in (48) from Hale and Platero (2000).

- (48) a. Shi-zhé'é ha'át'íi-lá nayiisnii?
 my-father what-LA 3.P.3.buy
 'What did my father buy?'
 b. Shi-zhé'é ha'át'íi-shíí nayiisnii'.
 my-father what-indef 3.P.3.buy
 'My father bought something.'

¹³ Our proposal predicts that Mooré is the Lakhota type, given the presence of ordinary determiners.

¹⁴ Kuroda's (1975-76) relevancy condition may be understood in terms of focus semantics, though it is a future task to work out the idea.

¹⁵ It is difficult to show conclusively whether HIRC in Old Japanese during the Heian Period belongs to the Japanese type, since there is no way of detecting island sensitivity in a dead language. Old Japanese continued to have an indeterminate system of the Japanese type during the Heian Period, though.

- c. Shi-zhé'é doo ha'át'íi-**da** nayiisnii'-da.
 my-father NEG what-DA 3.P.3.buy-DA
 'My father didn't buy anything.'

As we have seen above, *wh*-in-situ involves two checking relations schematized in (22), repeated below as (49).

$$(49) [_{CP} [\dots [_{DP} QP \quad D^\circ] \dots] C^\circ]$$

The diagram shows the structure [CP [... [DP QP D°] ...] C°]. There are two upward-pointing arrows: one from DP to QP, and another from QP to D°.

I would like to claim that the Japanese-type HIRC makes use of these two checking relations in a unified way. Suppose that the head of HIRC is also QP and that the checking relation involving an uninterpretable focus feature holds between D° and QP, as in (50).

$$(50) [_{DP} [_{CP} [\dots QP \dots] C^\circ] \quad D^\circ]$$

The diagram shows the structure [DP [CP [... QP ...] C°] D°. There is a long upward-pointing arrow from the QP inside the CP to the D° outside it.

This checking uses the same structural configuration as the internal relation of *wh*-in-situ.

Notice that the D° head is phonologically null in the Japanese-type HIRC, as can be seen from the examples in (51).

- (51) a. Modern Japanese
 Mary-ga [John-ga [zibun-no gakusei-ga **juuyouna kasetu**-o
 Mary-NOM John-NOM self-GEN student-NOM important hypothesis-ACC
 teianshita to] jimanshite-ita **no**]-no kekkan-o shitekishita.
 proposed C° boasted-had C°-GEN defect-ACC pointed out
 'Mary pointed out a defect of the important hypothesis which John had
 boasted that his student proposed.'
- b. Imbabura Quechua (Cole and Hermon 1994:248)
 [Wambra **wagra**-ta randi-**shka**] ali wagra-mi.
 boy cow-ACC bought-C° good cow-VALIDATOR
 'The cow that the boy bought is a good cow.'
- c. Navajo (Platero 1974:226)
 [Ashkii **t'iis** yi-yaa-di sidá-(h)á.á.] naa'íiké.é.z.
 boy tree 3-beneath-at PERF.3.sit-C° PERF.3.fall
 'The tree under which the boy was sitting fell over.'

The element appearing at the end of HIRC in each example is a complementizer: *-no* in Modern Japanese, *-shka* in Imbabura Quechua, and *-á a* in Navajo. The particle *-no* in Modern Japanese has multiple uses, but it is a complementizer in HIRC. See Yoshimura (2001) for evidence from the Yatsushiro dialect of Japanese. The complementizer encodes tense information in Imbabura Quechua (Cole 1982)¹⁶ and Navajo (Platero 1974).

Since the indeterminate is not used, it is reasonable to consider that the features participating in the internal relation cannot be invoked for the checking in HIRC. Significantly, however, the D° head of the *wh*-phrase also takes part in the checking relation with an external head, namely, C° . Suppose that the D° -QP relation needed for HIRC recruits this external relation. This is possible, because it does not require a special morphological marking to impose an uninterpretable focus feature on the internal head of HIRC. As noted by Haspelmath (1997), non-*wh* quantificational expressions are always derived from *wh*-phrases in the indeterminate system when there is a basic-derived distinction. That means that the D° head posited for the *wh*-phrase built out of an indeterminate is consistently null. This D° is the locus of an uninterpretable focus feature in the external relation. Assume now that the existence of an indeterminate system makes it possible for QP to host an uninterpretable feature even when QP is not occupied by an indeterminate, but that in such cases, this uninterpretable feature in QP is limited to those not requiring overt morphological realization. The QP head in HIRC fits this characterization.

Likewise, the presence of a null D° in *wh*-phrases allows a similar null D° for HIRC in the structure in (50). One may attribute to the recruitment of the null D° from *wh*-phrases the maximalization effect found in the Japanese-type HIRC, discussed in Grosu and Landman (1998), Grosu (2000), Hoshi (1995), and Shimoyama (1999). *Wh*-questions are associated with exhaustivity, which is argued to be the same thing as maximality in Beck and Rullmann (1999). If exhaustivity/maximality is due to the nature of the null D° of *wh*-phrases, it is expected to show up in the Japanese-type of HIRC, also involving a similar null D° .

The Navajo *wh*-question, illustrated above in (48a), at first sight seems to require an overt D° , but the particle *-lá* is separable from the *wh*-phrase itself as in (52), suggesting that it is not D° .

¹⁶ The literature on Quechua, including Cole (1982), treats an element like *-shka* as a nominalizer. Since it encodes tense information, the complementizer status will be more appropriate. The fact that subject agreement follows it in some Quechua languages is not incompatible with the complementizer status. The agreement in question can be an instance of complementizer agreement found in Germanic languages, studied in detail by Zwart (1997). See also Watanabe (2000).

- (52) Shi-zhé'é **lá** ha'át'íi nayiisnii'?'
my-father LA what 3.P.3.buy
'What did my father buy?'

See Barss, Hale, Perkins, and Speas (1991) and Schauber (1979) for the behavior of this particle.

The status of the question particle attached to a *wh*-phrase in Imbabura Quechua as in (53) needs to be addressed, too.¹⁷

- (53) Pi-wan-**taj** Juan parlarka?
who-with-Q Juan spoke
'Who did Juan speak with?'

Following Cole (1982), who treats it on a par with validators, I would like to suggest that it is a kind of focus marker on a par with a similar particle in Old Japanese. Recall that Old Japanese during the Nara Period is quite similar to Imbabura Quechua in having overt phrasal *wh*-movement and an indeterminate system. The Japanese particle *-ka*, attached to the *wh*-phrase in (54a), cannot be D° , since it can be attached to a non-*wh* focus expression in *yes-no* questions as in (54b).

- (54) a. Kadotate-te to-mo sashi-taru-wo izuku-yu-**ka** imo-ga
gate close-CONJ door-also shut-PAST-ACC where-through-KA wife-NOM
iriki-te ime-ni mie-tsuru?
enter-CONJ dream-LOC appear-PERF
'From where did my wife come and appear in my dream, despite the fact that I closed the gate and shut the door?' (Man'youshuu #3117)
- b. ...Hatsuse-no kaha-ha ura na-mi-**ka** fune-no
Hatsuse-GEN river-TOP shore absent-ness-KA boat-NOM
yori-ko-nu?...
approach-come-NEG
'Is it because Hatsuse River has no shore that no boat comes near?'
(Man'youshuu #3225)

¹⁷ The fact that *-taj* appears after the postposition in (53) is not conclusive evidence that it is not D° , since it can be analyzed as a result of a morphological operation that flips the order. See Watanabe (2002d) for an analysis along this line applied to particles that are attached to an indeterminate in Modern Japanese.

The particle *-taj* in Imbabura Quechua is not limited to *wh*-phrases, either. Cole (1982: 167-168) observes that it indicates exclusivity in (55) and that the same can reasonably be said about its use with *wh*-phrases.

- (55) Chay-ta-**taj** muna-ni.
 that-ACC-FOC want-1
 ‘I want that very one.’

Being a focus marker, it is not D° .

Now, an overt focus marker appears on Imbabura Quechua in-situ focus as well. Recall that the checking relation in (50) for HIRC is recruited from the in-situ focus strategy in Imbabura Quechua. I assume that such a focus marker carries an uninterpretable focus feature, realized overtly in this case.¹⁸ Thus, morphological realization of the uninterpretable focus feature differs, depending on the context in which it appears. It can be null within DP. It is realized overtly as a focus marker outside DP.

To sum up, the Japanese-type HIRC recruits the structural configuration from the internal relation and the uninterpretable focus feature on the goal from the external relation for the *wh*-phrase, or from the in-situ focus strategy in case the *wh*-phrase is overtly displaced.

- (56) Sources of Checking Relation in HIRC
 internal relation: QP-D
 external relation: uninterpretable focus feature on the goal, without the EPP
 on the probe

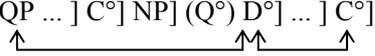
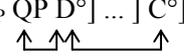
This recruitment relies crucially on the null realization of the uninterpretable focus feature within DP.

Let me note that the checking relation between QP and D° itself can be long-distance, regardless of whether the checking relation involving the uninterpretable focus feature makes use of phrasal movement. Thus, both Imbabura Quechua and Basque allow large-scale pied-piping with overt displacement, as illustrated by (57).

¹⁸ The overt focus marker attached to a *wh*-phrase cannot be assumed to carry an uninterpretable focus feature, since the *wh*-phrase itself has one already. For such focus markers, one might posit another uninterpretable feature related to generalized categorial pied-piping (not necessarily large-scale) in the sense of Chomsky (1995).

- (57) a. [Ima-ta randi-shka runa]-ta-taj riku-rka-ngui?
 what-ACC buy-C° man-ACC-Q see-PAST-2
 ‘What did you see the man who bought (it)?’
- b. [Nork idatzi zuen liburua] irakurri du Peruk?
 who-ERG write AUX book read AUX Peter-ERG
 ‘Who did Peter read the book that (he) wrote?’

Number (57a) is an Imbabura Quechua example from Cole (1982:24). Notice that the focus particle *-taj* is attached to the entire CNPC island. Number (57b) is a Basque example from Ortiz de Urbina (1989:249). Recall that both Imbabura Quechua and Basque have an indeterminate system of the Japanese type. I would like to claim that large-scale pied-piping is possible in these languages precisely because they have an indeterminate system. The long-distance internal relation of the type in (58a) holds within the displaced phrases in (57), in contrast to the situation in (58b), corresponding to *wh*-questions without large-scale pied-piping.

- (58) a. [CP [... [DP [NP [CP [... QP ...] C°] NP] (Q°) D°] ...] C°]

 internal rel. external rel.
- b. [CP [... [DP QP D°] ...] C°]

 int. rel. ext. rel.

Thus, languages without an indeterminate system will not allow large-scale pied-piping, since there is no long-distance internal relation in such languages (or no internal relation at all).

For HIRC to be possible, the presence of an indeterminate system of the Japanese type is not sufficient. The dependency involving the uninterpretable focus feature must be in-situ. In other words, the Japanese-type HIRC is possible in a proper subset of languages that allow large-scale pied-piping in *wh*-questions.¹⁹ Note that large-scale pied-piping is not available for HIRC, since only a single checking relation is involved as in (50).

Let us turn to the Lakhota-type HIRC, where the D°-head relation uses unselective binding. This relation is needed to provide a connection between the nominal head and the determiner also holding in ordinary DPs, as in (59).

¹⁹ The parallelism of large-scale pied-piping and HIRC may be strengthened by the fact that internal raising is observed both within the CNPC island (Richards 2000) and within HIRC (Aldridge 2002, Basilico 1996).

(59) owiža ki
 quilt the
 ‘the quilt’

The definiteness effect in the Lakhota HIRC observed by Williamson (1987) should be understood as due to blocking of the determiner-nominal association, as argued by Basilico (1996). In (60a), the indefinite determiner on the internal head is semantically empty and does not block the determiner-nominal association.

(60) a. [[Mary owiža wa kaže] ki] he ophewathu.
 Mary quilt a make the DEM 1SG-buy
 ‘I bought the quilt that Mary made.’
 b.*[[Mary owiža ki kaže] ki] he ophewathu.
 Mary quilt the make the DEM 1SG-buy

In (60b), however, the definite determiner outside HIRC has no nominal to be associated with. Hence the ill-formedness.

The determiner-nominal association in HIRC, however, does not come for free. Languages like English also have a determiner system like that of Lakhota, but HIRC is not allowed. The difference again seems to be due to whether overt phrasal *wh*-movement is obligatory or not. Recall that in Lakhota, *wh*-in-situ employs unselective binding. The reason why the determiner-nominal association in ordinary DPs cannot be used directly in HIRC is that it should be local in the default case. Note that the determiner-nominal association in ordinary DPs does not cross a clause-boundary. In HIRC, however, it must cross IP and CP. The dependency in *wh*-questions is designed to be able to cross clause-boundaries, and therefore is recruited when the EPP is not invoked at the same time.

One may wonder why in-situ intonational focus cannot be recruited for HIRC in English. One possibility is to rule out the option of unselective binding for in-situ focus. It is then predicted that the Lakhota-type HIRC will not be made possible by the in-situ focus strategy.

More significantly, however, English does not have an indeterminate system. I would like to put forth the hypothesis that the existence of an indeterminate system of the Lakhota type makes it possible for an ordinary NP to be associated with a binding D° across clause-boundaries. Recall that Lakhota has an indeterminate system not making use of a quantificational particle. Since English lacks this option, it cannot have HIRC. If this story is on the right track, the indeterminate system plays a vital role both

in the Japanese-type and in the Lakhota-type HIRC.²⁰ I advance the following conjecture as a generalization to be tested in further cross-linguistic investigation:

(61) HIRC-Indeterminate Generalization

Languages with an indeterminate system make available for ordinary nominal expressions the long-distance dependency (checking or binding) used by the indeterminate. This recruitment makes HIRC possible.

At this point, it becomes possible to offer a deeper explanation for why things are as they are. The indeterminate system in Lakhota does not use quantificational particles, unlike its Japanese counterpart. The absence of quantificational particles which can be attached to the indeterminate seems to be correlated with the existence of the binding determiner system. Suppose that in those languages with an indeterminate system, determiners can come only in a single variety, either binding or checking. Since Lakhota chooses the binding determiner system, it cannot use a checking determiner for *wh*-phrases. The only alternative for *wh*-phrases is to make use of unselective binding, which is also recruited for HIRC. If the language chooses to use no determiner at all, HIRC is impossible, and *wh*-questions must rely on unselective binding. This is what happens in Chinese. The table in (16) in section 2.1 should be revised as follows:

(62)		wh	HIRC	indeterminate	determiner
	a. Chinese	binding	——	no particle	no
	b. Lakhota	binding	binding	no particle	binding
	c. Japanese	checking	checking	particle	checking

Thus, the three properties having to do with *wh*-questions, HIRC, and the availability of quantificational particles are reduced to the nature of the determiner system.²¹

Note incidentally that our characterization of the parametrized determiner system may have consequences for external relativization as well. Apart from the particles attached to an indeterminate, the determiner in Japanese is phonologically null. If the relative pronoun is also D° as suggested in Kayne (1994), it is not surprising that the

²⁰ Though it is not clear which type Seediq belongs to, it has an indeterminate system. See Tsai (2000).

²¹ Languages like Shoshone which distinguish between the *wh*-reading and the non-*wh* existential reading only in terms of whether movement takes place or not (Bhat 2000), where the movement option gives rise to the *wh*-question interpretation, raise an interesting question in this connection. See Bruening (2001) for a detailed study of such a language from the Algonquian family, Passamaquoddy, which also has HIRC and focus-in-situ. The topic goes well beyond the scope of this paper, though.

relative pronoun in Japanese is phonologically null. Furthermore, if movement of a relative operator is a necessary part of external relativization (the resumptive pronoun strategy aside), it is predicted that Lakhota lacks external relativization, since Lakhota does not have an appropriate D° which can undergo feature checking and movement. Just as predicted, HIRC is the only available relativization strategy in Lakhota, according to Williamson (1987). No principled account has so far been proposed for the fact that there are languages allowing HIRC but lacking external relativization. I hope that the suggestion here will be the beginning of proper understanding of this curious parametric possibility.

One potential problem for this line of attack is the fact that Chinese has external relativization, though it does not have D° . On the basis of German data, Wiltschko (1998) argues that the relative pronoun is not just D° , but has additional internal structure. The availability of external relativization in Chinese may be attributed to this additional material below D° , which Lakhota should not be able to make use of, though full exploration of the issue goes well beyond the scope of this paper. I would like to end these speculative remarks by stressing that DP-internal syntax may hold the key to understanding the nature of relativization (both internal and external), contrary to the predominant tendency in the literature to state generalizations in terms of word order.

To return to the parametrization of D° , the exclusive choice between binding and checking seems to be limited to the languages with an indeterminate system. In English, for example, the determiner system apparently uses binding, but overt phrasal *wh*-movement is obligatory, so that we seem to be driven to the conclusion that the D° head of *wh*-phrases takes part in checking as well. In other words, both binding and feature checking are used, depending on which D° head is involved. Together with (61), we can probably say that the indeterminate system implies strong uniformity in the properties of nominals and determiners. The existence of an indeterminate system itself is a manifestation of the uniformity in the expression of quantification, as can be seen from (2).²² Extrapolating from this fact, we can say that if a language chooses to have an indeterminate system, the properties of *wh*-phrases will be generalized to non-*wh* nominals. I hypothesize that this is the fundamental parameter responsible for the parallel behavior of *wh*-phrases and HIRC.

(63) Indeterminate Parameter

The nominal system, including determiners (if there is any), is uniform in languages with an indeterminate system.

²² It is interesting to observe that the indeterminate system just covers universal and existential quantification (including negative polarity and concord) in typical cases. It is a topic for future research whether other types of quantification, such as ‘most’, are excluded in principle or not.

The relevant structures for *wh*-in-situ and HIRC in the Lakhota-type and Japanese-type languages are summarized in (64) and (65).

- (64) Lakhota-type system
- a. [DP [CP [IP ... NP (D°) ...] C°] D°] <HIRC>
 \uparrow
 long-distance binding
- b. [CP [IP ... NP ...] C°] <*wh*-in-situ>
 \uparrow
 long-distance binding
- (65) Japanese-type system
- a. [DP [CP [IP ... QP ...] C°] D°] <HIRC>
 \uparrow \uparrow
 F_{focus}
 [-int]
- b. [CP [IP ... [DP QP D°] ...] C°] <*wh*-in-situ>
 \uparrow \uparrow \uparrow
 F_Q F_Q
 [-int] [+int]
 F_{focus} F_Q
 [-int] [+int]
- b'. [CP [IP ... XP-particle ...] C°] <focus-in-situ>
 \uparrow \uparrow
 F_{focus} F_{focus}
 [-int] [+int]

I represent the Lakhota-type indeterminate tentatively as NP to express the idea that it is closer to an ordinary noun than the Japanese-type indeterminate is. I also leave open the feature on D° that participates in checking in the Japanese-type HIRC.²³ What matters for our purposes is that the goal has an uninterpretable focus feature. In the case of focus-in-situ in Imbabura Quechua, I simply assume that the probe is an interpretable focus feature on C°.

4. Conclusion

I hope to have shown that the nature of determiners and indeterminates holds the key to understanding the properties of HIRC and *wh*-phrases. HIRC and *wh*-in-situ

²³ Hasegawa (2002) proposes that it is a theta feature.

behave in the same way once HIRC is made possible, because *wh*-phrases and the head of HIRC enter into the same long-distance in-situ dependency relation in languages with an indeterminate system. A particular long-distance dependency is selected once and for all by parametrization concerning determiners, the presence of which is a prerequisite for HIRC. Crucially, the choice is uniform in languages with an indeterminate system. The Japanese-type system opts for feature checking, and the Lakhota-type unselective binding. As suggested in Tsai (1994, 1999), feature checking and unselective binding are the two modes of dependency made available by UG.

The presence of an indeterminate system has far-reaching consequences. In addition to being relevant for HIRC, it is responsible for large-scale pied-piping. This option is a long-distance manifestation of the internal relation found with indeterminates of the Japanese type. The mechanism that allows large-scale pied-piping is very similar to the one that makes the Japanese-type HIRC possible. Large-scale pied-piping is available, however, regardless of whether *wh*-phrases are visibly displaced or not.

I have also proposed that an uninterpretable focus feature resides on the internal head of the Japanese-type HIRC. This proposal solves the problem posed by Imbabura Quechua, having HIRC but raising the *wh*-phrase overtly. Significantly, Imbabura Quechua makes use of in-situ focus marked with particles. The in-situ status of focus guarantees that the uninterpretable focus feature can be used without the EPP feature in HIRC. The uninterpretable focus feature is also shown to play an important role in *wh* and focus movement (Watanabe 2002b) as well as in negative concord (Watanabe 2002a, c). We may regard it as an A-bar analogue of Case. Let me add that the indeterminate system is relevant for negative concord, too.

This paper has dealt with the Japanese-type and the Lakhota-type HIRC as representative of those which are correlated with *wh*-in-situ. Baker (1996) discusses another type of HIRC found in languages like Mohawk, arising through discontinuous constituency. Baker argues that a null operator undergoes movement to Spec of CP in this type of HIRC. Not surprisingly, *wh*-phrases are also raised overtly to Spec of CP in Mohawk. Baker points to the absence of a true determiner system as the source of discontinuous constituency. In that sense, his analysis is in line with the general theme of this paper, which picks out D° as an important player in HIRC, but HIRC in Mohawk is not correlated with *wh*-in-situ or focus-in-situ.

Hiraiwa's (2002) work on Buli should be mentioned in this context, too, because Buli has HIRC even though it apparently lacks an indeterminate system. It is an important question for future research to find out whether the mechanisms proposed in this paper cover the entire range of the real in-situ HIRC allowed by UG.

References

- Aldridge, Edith. 2002. Internally headed relative clauses in Austronesian languages. Paper presented at GLOW in Asia 2002. Hsinchu: National Tsing Hua University.
- Aoun, Joseph, and Y.-H. Audrey Li. 1993. On some differences between Chinese and Japanese *wh*-elements. *Linguistic Inquiry* 24:365-372.
- Ausín, Adolfo. 1999. Chinese-type questions in English. *Proceedings of WCCFL* 17, 30-43. Stanford: CSLI.
- Bach, Emmon. 1971. Questions. *Linguistic Inquiry* 2:153-166.
- Baker, Mark. 1996. *The Polysynthesis Parameter*. Oxford: Oxford University Press.
- Barss, Andrew, Ken Hale, Ellavina Tsosie Perkins, and Margaret Speas. 1991. Logical form and barriers in Navajo. *Logical Structure and Linguistic Structure*, ed. by C.-T. James Huang and Robert May, 25-47. Dordrecht: Kluwer.
- Basilico, David. 1996. Head position and internally headed relative clauses. *Language* 72:498-532.
- Beck, Sigrid, and Hotze Rullmann. 1999. A flexible approach to exhaustivity in questions. *Natural Language Semantics* 7:249-298.
- Bhat, D. N. S. 2000. The indefinite-interrogative puzzle. *Linguistic Typology* 4:365-400.
- Bonneau, José. 1992. *The Structure of Internally Headed Relative Clauses*. Montréal: McGill University dissertation.
- Bruening, Benjamin. 2001. *Syntax at the Edge: Cross-Clausal Phenomena and the Syntax of Passamaquoddy*. Cambridge: MIT dissertation.
- Cheng, Lisa Lai-Shen. 1995. On *dou*-quantification. *Journal of East Asian Linguistics* 4:197-234.
- Cheng, Lisa Lai-Shen, and Rint Sybesma. 1999. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30:509-542.
- Chomsky, Noam. 1995. Categories and transformations. *The Minimalist Program*, 219-394. Cambridge: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89-155. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 1-52. Cambridge: MIT Press.
- Cole, Peter. 1982. *Imbabura Quechua*. Amsterdam: North-Holland.
- Cole, Peter. 1987. The structure of internally headed relative clauses. *Natural Language and Linguistic Theory* 5:277-302.
- Cole, Peter, and Gabriella Hermon. 1994. Is there LF *wh*-movement? *Linguistic Inquiry* 25:239-262.

- Deguchi, Masanori, and Yoshihisa Kitagawa. 2002. Prosody and syntax. Paper presented at GLOW in Asia 2002. Hsinchu: National Tsing Hua University.
- Fukui, Naoki, and Yuji Takano. 1998. Symmetry in syntax: Merge and demerge. *Journal of East Asian Linguistics* 7:27-86.
- Fukui, Naoki, and Yuji Takano. 2000. Nominal structure: An extension of the symmetry principle. *The Derivation of VO and OV*, ed. by Peter Svenonius, 219-254. Amsterdam: John Benjamins.
- Gorbet, L. 1977. Headless relatives in the Southwest: Are they related? *Proceedings of the Berkeley Linguistics Society* 3, 270-278.
- Grosu, Alexander. 2000. The semantic diversity of internally-headed relative clauses. *Naturally!: Linguistic Studies in Honour of Wolfgang Ulrich Dressler Presented on the Occasion of His 60th Birthday*, ed. by Chris Schander-Wolles, John Rennison, and Friedrich Neubarth, 143-152. Torino: Rosenberg & Sellier.
- Grosu, Alexander, and Fred Landman. 1998. Strange relatives of the third kind. *Natural Language Semantics* 6:125-170.
- Hagstrom, Paul. 1998. *Decomposing Questions*. Cambridge: MIT dissertation.
- Hale, Ken, and Paul Platero. 2000. Negative polarity expressions in Nevajo. *The Athabaskan Languages: Perspectives on a Native American Language Family*, ed. by Theodore B. Fernald and Paul R. Platero, 73-92. Oxford: Oxford University Press.
- Hasegawa, Nobuko. 2002. Shuyoubu naizaigata kankeisetsu: DP bunseki. *Scientific Approaches to Language* 1:1-33. Chiba: Kanda University of International Studies.
- Haspelmath, Martin. 1997. *Indefinite Pronouns*. Oxford: Oxford University Press.
- Hiraiwa, Ken. 2002. Relativization in Buli. To appear in *MITWPL*, ed. by Michael Kenstowicz. Cambridge: MIT.
- Hoshi, Koji. 1995. *Structural and Interpretive Aspects of Head-Internal and Head-External Relative Clauses*. Rochester: University of Rochester dissertation.
- Ishigaki, Kenji. 1955. *Joshi-no Rekishi-teki Kenkyuu*. Tokyo: Iwanami Shoten.
- Kayne, Richard S. 1994. *The Antisymmetry of Syntax*. Cambridge: MIT Press.
- Kondo, Yasuhiro. 1981. Chuukogo-no juntai-kouzou-nituite. *Kokugo to Kokubungaku* 58.5:18-31.
- Kuroda, S.-Y. 1965. *Generative Grammatical Studies in the Japanese Language*. Cambridge: MIT dissertation.
- Kuroda, S.-Y. 1974. Pivot-independent relativization in Japanese (I). *Papers in Japanese Linguistics* 3:9-93. Reprinted in Kuroda 1992.
- Kuroda, S.-Y. 1975-76. Pivot-independent relativization in Japanese (II). *Papers in Japanese Linguistics* 4:85-96. Reprinted in Kuroda 1992.
- Kuroda, S.-Y. 1992. *Japanese Syntax and Semantics*. Dordrecht: Kluwer.

- Kuroda, S.-Y. 1999. Shubu naizai kankeisetsu. *Kotoba-no Kaku-to Shuuen*, ed. by S.-Y. Kuroda and Masaru Nakamura, 27-103. Tokyo: Kurosio.
- Larson, Richard K. 1985. On the syntax of disjunction scope. *Natural Language and Linguistic Theory* 3:217-264.
- Li, Y.-H. Audrey. 1992. Indefinite *wh* in Mandarin Chinese. *Journal of East Asian Linguistics* 1:125-156.
- Lin, Jo-wang. 1998. On existential polarity *wh*-phrases in Chinese. *Journal of East Asian Linguistics* 7:219-255.
- Nishigauchi, Taisuke. 1990. *Quantification in the Theory of Grammar*. Dordrecht: Kluwer.
- Ogawa, Kunihiko. 1976-77. Where diachronic and synchronic rules meet: A case study from Japanese interrogatives and kakari-musubi. *Papers in Japanese Linguistics* 5:193-242.
- Ohshika, Tadahisa. 1991. Man'youshuu-niokeru futeigo to futei-no gimon. *Kokugogaku* 165:53-66.
- Ortiz de Urbina, Jon. 1989. *Parameters in the Grammar of Basque*. Dordrecht: Foris.
- Ortiz de Urbina, Jon. 1995. Residual verb second and verb first in Basque. *Discourse Configurational Languages*, ed. by Katalin É. Kiss, 99-121. Oxford: Oxford University Press.
- Pesetsky, David. 1987. *Wh*-in-situ: Movement and unselective binding. *The Representation of (In)definiteness*, ed. by Eric Reuland and Alice ter Meulen, 98-129. Cambridge: MIT Press.
- Platero, Paul R. 1974. The Navajo relative clause. *International Journal of American Linguistics* 40:202-246.
- Richards, Norvin. 2000. An island effect in Japanese. *Journal of East Asian Linguistics* 9:187-205.
- Sasaki, Takashi. 1992. Joudaigo-niokeru *ka-ha*-no koubun. *Kokugo-Kokubun* 61.5:17-33.
- Saltarelli, Mario et al. 1988. *Basque*. London: Routledge.
- Schauber, E. 1979. *The Syntax and Semantics of Questions in Navajo*. New York: Garland.
- Shimoyama, Junko. 1999. Internally headed relative clauses in Japanese and E-type anaphora. *Journal of East Asian Linguistics* 8:147-182.
- Takahashi, Daiko. 1999. Determiner raising and scope shift. Manuscript. Sendai: Tohoku University.
- Tanaka, Hidekazu. 1999. LF *wh*-islands and the minimal scope principle. *Natural Language and Linguistic Theory* 17:371-402.
- Tellier, C. 1989. Head-internal relatives and parasitic gaps in Mooré. *Current*

- Approaches to African Linguistics*, vol.6, ed. by Isabelle Haïk and Laurice Tuller, 298-318. Dordrecht: Foris.
- Tsai, W.-T. Dylan. 1994. *On Economizing the Theory of A-bar Dependencies*. Cambridge: MIT dissertation.
- Tsai, W.-T. Dylan. 1999. On lexical courtesy. *Journal of East Asian Linguistics* 8:39-73.
- Tsai, W.-T. Dylan. 2000. Lexical courtesy revisited: Evidence from Tsou and Seediq *wh*-constructions. *Proceedings of the Nanzan GLOW: The Second GLOW Meeting in Asia*, 461-485. Nagoya: Nanzan University.
- Uriagereka, Juan. 1999. Minimal restrictions on Basque movements. *Natural Language and Linguistic Theory* 17:403-444.
- Van Valin, Robert. 1985. Case marking and the structure of Lakhota clause. *Grammar Inside and Outside the Clause*, ed. by J. Nichols and A. Woodbury, 363-413. Cambridge: Cambridge University Press.
- Watanabe, Akira. 1992a. *Wh-in-situ, Subjacency, and Chain Formation*. MIT Occasional Papers in Linguistics 2. Cambridge: MIT.
- Watanabe, Akira. 1992b. Subjacency and S-structure movement of *wh*-in-situ. *Journal of East Asian Linguistics* 1:255-91.
- Watanabe, Akira. 2000. Feature copying and binding: Evidence from complementizer agreement and switch reference. *Syntax* 3:159-181.
- Watanabe, Akira. 2001. *Wh-in-situ languages*. *The Handbook of Contemporary Syntactic Theory*, ed. by Mark Baltin and Chris Collins, 203-225. Oxford: Blackwell.
- Watanabe, Akira. 2002a. Feature checking and neg-factorization in negative concord. *Proceedings of the Sophia Symposium on Negation*, ed. by Yasuhiko Kato, 51-77. Tokyo: Sophia University.
- Watanabe, Akira. 2002b. Loss of overt *wh*-movement in Old Japanese. *Syntactic Effects of Morphological Change*, ed. by David Lightfoot, 179-195. Oxford: Oxford University Press.
- Watanabe, Akira. 2002c. The genesis of negative concord. Manuscript. Tokyo: University of Tokyo.
- Watanabe, Akira. 2002d. Functional projections of nominals in Japanese: Syntax of classifiers. Manuscript. Tokyo: University of Tokyo.
- Watanabe, Akira. 2003. *WH* and operator constructions in Japanese. *Lingua* 113:519-558.
- Williamson, Janis. 1984. *Studies in Lakhota Grammar*. San Diego: University of California dissertation.
- Williamson, Janis. 1987. An indefiniteness restriction for relative clauses in Lakhota. *The Representation of (In)definiteness*, ed. by Eric Reuland and Alice ter Meulen, 168-190. Cambridge: MIT Press.

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- Wiltschko, Martina. 1998. On the syntax and semantics of (relative) pronouns and determiners. *Journal of Comparative Germanic Linguistics* 2:143-181.
- Yoshimura, Noriko. 2001. Suyoubu naizaigata kankeisetsu-no kouzou: Hougen kenkyuu-kara-no ichikousatsu. *Kotoba to Bunka* 5:133-146. Shizuoka: Shizuoka Prefectural University.
- Zwart, C. Jan-Wouter. 1997. *Morphosyntax of Verb Movement*. Dordrecht: Kluwer.

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量化定語的參數化與 「內含主要語的關係子句」

渡邊明

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本文將定語的類型分為兩類，一類參與「屬性檢核」(feature checking)的運作，另一類則可作為「非選擇約束語」(unselective binder)。本文指出，「內含主要語的關係子句」(head-internal relative clauses, HIRC)的語言類型依定語的類型而有不同。同時，由於 HIRC 的語法與 *wh-in-situ* 的語法有關連，本文也探討了定語參數化跟 *wh-in-situ* 的性質。

關鍵詞：定語，內含主要語的關係子句，*wh-in-situ*