

On the Structure of the So-called Head Internal Relative Construction

Daeho Chung
University of California, Los Angeles
daeho@humnet.ucla.edu

Abstract

There have been two opposing views on the so-called head internal relative construction (HIRC) in Korean/Japanese, i.e., a view that analyzes the HIRC categorially as a nominal projection and functionally as an argument (Kuroda 1992, Watanabe 1992, Hoshi 1994, Jhang 1991/1994, among others) vs. a view that analyzes the HIRC categorially as an adjunct clause and functionally as a non-argument (Murasugi 1994). This paper on the one hand points out several phenomena indicating that Murasugi's analysis is more viable, while on the other hand proposing a more complex structure than Murasugi's to account for other facts as well. The *no/kes* clause in the HIRC will be analyzed as the complement of a null perception verb whose projection constitutes part of an adjunct clause.

1. Introduction

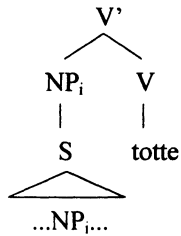
There have been two opposing views on the structure of the HIRC in languages like Korean and Japanese, e.g., α in (1) below:

- (1) a. John-un [α sakwa-ka cepsi-wiey iss-nun kes]-ul tulle, ...
J.-Top apple-Nom dish-on exist-Adn C-Acc pick;up ...
'John picked up an apple which was on a plate, and ...'
b. Taro wa [α ringo ga sara no ue ni atta no o] totte, ...
T. Top apple Nom dish Gen on at exist NO Acc pick;up
'Taro picked up an apple which was on a plate and ...' Kuroda (1992:147)

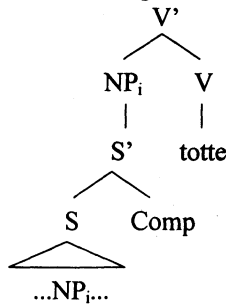
Kuroda (1992), Watanabe (1991, 1992), Hoshi (1994), and Jhang (1991, 1994) analyze α categorially as a nominal projection and functionally as an argument of the matrix predicate, albeit they differ as to the internal structure of α . Murasugi (1994), however, analyzes α as a circumstantial adjunct (Harada 1973) and posits *pro* as a matrix argument, which is anaphorically related to an NP within α . Their schematic structures are provided below:

(2) Argument Analyses of α

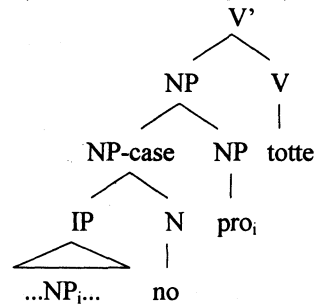
a. Kuroda (1992)



b. Jhang (1991:271)

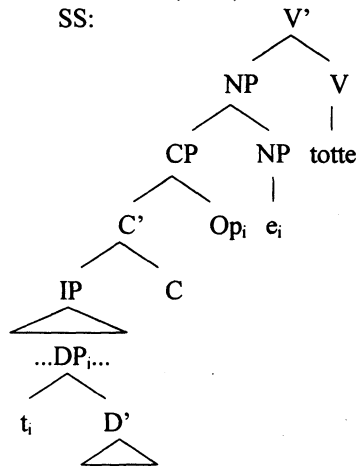


c. Hoshi (1994)

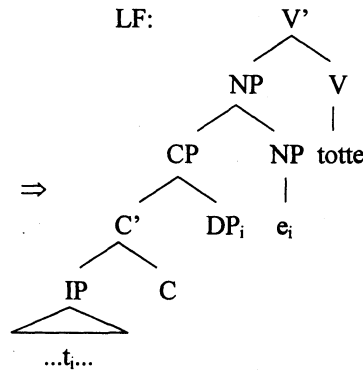


d. Watanabe (1992)

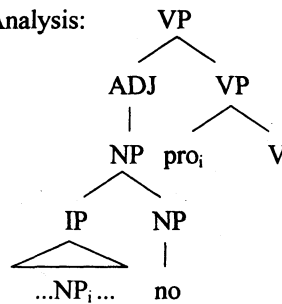
SS:



LF:



(3) Murasugi's (1994) Adjunct Analysis:



This paper, on the one hand, points out several phenomena indicating that Murasugi's analysis is more viable, while on the other hand proposing a more complex structure than Murasugi's to account for other facts as well. The *no/kes* clause will be analyzed as the complement of a null perception verb whose projection constitutes part of an adjunct clause.

2. Some Facts in Favor of Murasugi's Analysis

In this section we take several phenomena which points in favor of Murasugi's adjunct analysis of the HIRC.

2.1. Split Antecedence

As Kuroda (1992) observes, a ‘split pivot (head)’ is possible in Japanese head internal relative construction, as in (4) below.¹ A similar structure is possible in Korean, too, as in (5) below:

- (4) Zyunsa ga doroboo o kawa no hoo e oitumete itta no ga ikioi amatte
 policeman thief river toward track-down went power exceed
 hutriotomo kawa no naka e tobikonda
 both-two river in jump
 ‘A policeman was tracking down a thief toward the river, who both,
 losing control, jumped into the river.’ (Kuroda 1992:155)
- (5) na-nun [kay-ka koyangi-wa nol-ko iss-nun kes]-ul twulta katwu-ess-ta.
 I-Top dog-Nom cat-with play-ing bet-Adn C-Acc both pen-Pst-DE
 ‘I penned both the dog and the cat which played together.’

The sum of the two underlined parts in (4) and (5) functions as the “internal heads.”

Murasugi, who assumes *pro* as a matrix element independently of the *no/kes* clause, predicts the existence of the split pivot since *pro*, as a pronominal, may have split antecedents.² Kuroda’s and Jhang’s structure are mute about this. Watanabe’s analysis, which assumes a null operator movement out of a DP at SS followed by an LF movement of the residue of the DP, does not account for this without postulating some sort of absorption process as in multiple interrogative constructions, which seems unavailable in relativization in general.³ As far as the split pivot phenomenon is concerned, Hoshi’s structure seems as equally viable as Murasugi’s since *pro* is involved. But notice that his structure includes a configuration where BT(C) is violated. Hoshi assumes along with Cole (1987) that BT(C) is nullified when names precede their binder. This, however, seems to be conceptually untenable, precedence being irrelevant at LF. Empirically also, a (overt) pronominal head noun cannot be coindexed with an overt NP inside relative clauses, as was observed by Saito (1985). (This was pointed out by Murasugi.)⁴

2.2. Partitive Reading of Floating Quantifiers

A second fact in favor of Murasugi is that floating numeral quantifiers (FNQs) apparently associated with α only have a partitive reading as in (6), as observed by Hoshi (1994):

- (6) na-nun [α John-i sakwa-lul sao-n kes-ul] twu kay mek-ess-ta.
 I-Top J.-Nom apple-Acc buy-Adn C-Acc two cl eat-Pst-DE
 ‘I ate two apples, among those which John bought.’

To have a partitive reading only, FNQs must be locally associated with a null argument (Kitagawa and Kuroda 1992). Therefore, the FNQ in (6) must be associated with a null argument. This well fits Murasugi’s structure, which has *pro* independently of α . It is not compatible with Kuroda’s and Jhang’s structure since no null element is at hand. Apparently, Hoshi’s and Watanabe’s structure are workable since a null element (*e* in Watanabe and *pro* in Hoshi) is available. But notice that an

NQ, once floated, is associated with the top node of a nominal expression. In other words, the association of an NQ with an element properly contained in another category is not generally allowed in Japanese and Korean. Thus the FNQ in (6) can be associated with the top node, but not exclusively with the null element in Hoshi's or Watanabe's structure. The top node containing a lexical content in Watanabe's or Hoshi's structure, the sole partitive reading cannot be explained.⁵

2.3. Realization of the Matrix Argument

A third fact in favor of Murasugi is that the matrix argument can be overtly realized independently of α as in (7).

- (7) [α nayngcangko an-ey cyusu-ka iss-nun kes-ul] sikthak wi-uy mwul-man
 refrigerator in-at juice-Nom exist-Adn C-Acc table on-Gen water-only
 masi-ess-ta.
 drink-Pst-DE
 '(Not knowing) that juice was in the refrigerator, I only drank water on the
 table.'

Murasugi predicts the co-existence of α and the underlined matrix argument in (7), and the non-constituency of the two elements, since the matrix element can simply be regarded as a replacement of pro. The co-existence of the two elements is unexpected in the other analyses. In Kuroda's structure in (2a) and Jhang's structures in (2b), α itself is conceived as the matrix argument. Although Hoshi's structure in (2c) and Watanabe's structure in (2d) posit a null element, i.e., pro and e respectively, the null element and α form a constituent in their structures. Thus, none of the four analyses properly accounts for the co-existence of the *no/kes* clause and the matrix argument and the non-constituency of the two elements.

2.4. A Constituency Test with Pseudo-Cleft

The grammaticality of the sentences like (7) already indicates that the HIRC is not a simple nominal projection. In this section, it will be shown that a pseudo-cleft test also conforms to Murasugi's structure but not to the other analyses. Note that α is hardly clefted, as exemplified in (8b) below:

- (8) a. na-nun [α emeni-ka konghang-ey tochakha-n kes]-ul mosieo-ess-ta.
 I.-Nom mother-Nom airport-at arrive-Adn C-Acc take;in-Pst-DE
 (Roughly) 'I took home my mother, who arrived at the airport.'
 b. *[nay-ka e mosyeo-n kes]-un [α emeni-ka konghang-ey
 I.-Nom take;in-Adn C-Top mother-Nom airport-at
 tochakha-n kes]-i-ess-ta
 arrive-Adn C-be-Pst-DE
 (Roughly) 'It was my mother, who arrived at the airport, that I took home.'

Murasugi predicts the unacceptability of the sentence (8b) in the following way. (8b) would take the structure in (9a) or (9b), depending on whether or not pro is clefted

along with α (= [emeni-ka konghang-ey tochakha-n kes]):

- (9) a. *[John-i e_i e_j mosieo-n kes]-un [α ... NP_i ...]_i pro_j-i-ess-ta.
 b. *[John-i e_i pro_j mosieo-n kes]-un [α ... NP_i ...]_i-i-ess-ta.

Clefting of two separate elements or backward pronominalization is hardly allowed in Japanese and Korean, as exemplified in the following Korean sentences:

- (10) a. *[John-i e_i e_j mek-un kes]-un ecey_i sakwa_i-i-ta.
 J.-Nom eat-Adn C-Top yesterday apple-be-DE
 'It was yesterday and apples that John ate.'
 b. *[John-i ku_i-uy tongsayng-eykey e_i cwu-n-kes]-un Bill_i-uy chayk-i-ta.
 J.-Nom he-Gen brother-to give-Adn-C-Top B.-Gen book-be-DE
 'It was Bill_i's book that John gave e_i to his_i brother.'

The ungrammaticality of the sentence in (9) is a burden to the other analyses since there is no *a priori* reason for a nominal argument not to be clefted.

2.5. Non-Nominalhood of α

Fifth, there are indications that α is not a nominal projection. For example, relativization or genitivization of α is impossible, as the following examples show:

- (11) *[John-i e cip-ulo mosieo-n] [α sensayngnim-i konghang-ey tochakha-n kes] ...
 J.-Nom home-to take-Adn teacher-Nom airport-at arrive-Adn C
 'the teacher who arrived at the airport that John took to his home'
 (12) * [α sensayngnim-i konghang-ey tochakha-n kes]-uy any
 teacher-Nom airport-at arrive-Adn C-Gen wife
 'the wife of the teacher who arrived at the airport'

Murasugi is able to account for these since α , being an adjunct clause, is neither relativized nor genitivized. With the other analyses, however, there is no *a priori* reason for a nominal projection not to be relativized or genitivized.

3. α as a Complement CP of a Perception Verb

Despite the essential correctness of Murasugi's analysis, I propose a more complex structure to accommodate other facts as well as the ones discussed in the previous section. The structure I propose for the sentence in (1) is (13) below, where α is analyzed as the complement CP of a null perception verb (PRED) like KNOW, SEE, REALIZE, etc. whose projection constitutes part of an adjunct clause.

- (13) ...[ADJ e_j... [α =CP ...APPLE_i...no/kes] PRED...] [_{VP} pro_i PICK;UP] ...

(13) accounts for all the facts discussed in the previous section since α is analyzed as a part of an adjunct clause and pro is posited as a matrix argument. (13) also explains various other facts which Murasugi could not explain or is silent about at best.

3.1. Overt Realization of PRED

First, PRED can be overtly realized as a perception verb with an adverbial ending, e.g., *po-ko* 'see-ing,' after α as exemplified in (14):

- (14) John-i [α sakwa-ka cepsi wi-ey iss-nun kes]-ul po-ko pro mek-ess-ta.
J.-Nom apple-Nom dish on-at exist-Adn C-Acc look-ing eat-Pst-DE
'John, seeing an apple on the dish, ate it.'

The possibility of having such a predicate after the *kes* clause would not be accounted for by Murasugi's analysis as well as the other analyses mentioned in section 2.

3.2. Complementizer Selection

α in the HIRC is a clause introduced by complementizer *no/kes*. Notice that *no/kes* is the complementizer that perception verbs always take.

- (15) a. John-un [ku totwuk-i tomangha-nun kes]-ul po-ess-ta.
J.-Top the thief-Nom run;away-Adn C-Acc see-Pst-DE
b. John-wa [sono doroboo-ga hashirisaru no]-o mita.
J.-Top the thief-Nom run;away C-Acc saw
'John saw the thief run away.'

Thus, the postulation of a (sometimes null) perception predicate accounts for why α ends with the complementizer *no/kes* in Japanese and Korean, The other analysis including Murasugi's are silent about this.

3.3. Case Mismatch

Third, α may have an accusative case even when the matrix predicate does not assign an accusative case, as in (16):

- (16) e [α John-i cip-ey eps-nun kes]-ul (molu-ko) cenhwaha-ess-ta.
J.-Nom home-at not;be-Adn C-Acc not;know-ing call;up-Pst-DE
'(Not knowing) that John was not home, I called him up.'

The verb *cenhwaha* 'to call up' takes a dative, not an accusative, complement in Korean. The source of case on α can be attributed to the case assigning property of the (null) perception verb. Again the other analyses are silent about this.

3.4. Case Restriction

Another fact in favor of the structure in (13) is that the case on α is restricted to accusative cases at least in Korean, if the 'internal head' is an element denoting a human being. Compare (8a), repeated below, with the ones in (17) below:

- (8) a. na-nun [_α emeni-ka konghang-ey tochakha-n kes]-ul mosieo-ess-ta.
 I.-Nom mother-Nom airport-at arrive-Adn C-Acc take;in-Pst-DE
 (Roughly) 'I took (home) my mother, who arrived at the airport.'
- (17) a. *[emeni-ka konghang-ey tochakha-n kes]-i na-eykey cenhwaha-si-ess-ta.
 mother-Nom airport-at arrive-Adn C-Nom I-Dat call-Hon-Pst-DE
 'My mother, who arrived at the airport, called me up.'
- b. *na-nun [_α emeni-ka konghang-ey tochakha-n kes]-eykey insaha-ess-ta.
 I-Top mother-Nom airport-at arrive-Adn C-Dat greet-Pst-DE
 'I greeted my mother, who arrived at the airport.'

Apparently other (non-accusative) cases are possible but they are so only when the internal head is an NP denoting a non-human thing or a human being with a derogatory or diminutive sense.

- (18) a. Mary-nun [pro mwul-ul kkulhi-n kes]-ulo khophi-lul tha-ess-ta.
 M.-To water-Acc boil-Adn thing-with coffee-Acc make-Pst-DE
 'Mary prepared a cup of coffee with the water that she boiled.'
- b. [ai-ka eli-n kes]-i yenge-to cal ha-n-ta.
 child-Nom young-Adn thing-Nom English-even well do-Pres-DE
 'The child who is young speaks English, too.'

The existence of the semantic agreement between the so-called internal head and *kes* 'thing' in sentences like (18) and the lack of it in sentences like (8a) indicates that they are two different structures. The fact that α exclusively takes an accusative case conforms to our structure in (13), where PRED as a null perception verb assigns an accusative case.

4. Conclusion

This paper has argued that the so-called head internal relative clauses in Korean and Japanese are not true head internal relative clauses but are best analyzed as a complement clause of a null perception verb whose projection constitutes part of an adjunct clause.⁶ I'd like to finish the paper with bringing up the following two questions, among many others that have not been addressed in this paper. First, how can children detect the null perception predicate postulated in (13)? It is not clear but, as alluded in the section 3.2, the type of complementizers helps to identify the type of verbs that select the complement clause. Complementizer *kes*, for example, is selected by a limited types of verbs including the perception verb type. Korean seems to allow predicate deletion in other contexts. Predicates that take an embedded interrogative clause can sometimes be deleted, as exemplified below (See Chung and Park 1995, Chung 1996 for the discussion of the question predicate deletion.):

- (19) John_i-un [e [_{e_i} ka-ess-nun-ci] (molu-eto)] cal an-poi-n-ta.
 J.-Top go-Pst-Adn-Q not;know-although well Neg-be;seen-Pres-DE
 '(Although I do not know) where John went, he is not seen often.'

In this case also, the question morpheme *-ci* helps to identify the types of the deleted predicate. A second question is whether the "internal head" is restricted to subjects or

objects. (Jhang 1991, 1994) I claim that elements other than subjects or objects can function as “internal heads,” as the following sentences illustrate:

- (20) a. kyengchal-un [A hoysa kanpwu-ka B cangkwan-eykey noymwul-ul
 police-Top company director-Nom minister-to bribe-Acc
 cwu-ko iss-nun kes]-ul hyencang-eyse twulta cheyphoha-ess-ta.
 give-ing be-Adn C-Acc on;the;spot both arrest
 ‘Policemen arrested both the director of company A and minister B while
 the former was giving a bribe to the latter.’
- b. han simin-i [kangto-ka khal-lo hayngin-ul wihyepha-ko
 one citizen-Nom robber-Nom knife-with pedestrian-Acc threat-ing
 iss-nun kes]-ul wihem-ul muluphssu-ko cayppali ppayas-ess-ta.
 be-Adn C-Acc danger-Acc risk-ing quickly snatch-Pst-DE
 ‘While a robber was threatening a pedestrian with a knife, a citizen snatched
 it, risking danger.’

In (20a), a dative NP is at least part of “internal heads.” In (20b), an instrumental NP function as an “internal head.” Then why are internal heads most frequently subjects or objects? I speculate that this is so because subjects or objects are most salient among the elements in α that may affect the event of the matrix clause. Other elements can be “internal heads,” if they receive a sufficient pragmatic saliency.

Notes

¹ According to David Basilico (p.c.), there seem to be no such languages among the ones that typically allow HIRCs.

² See Chomsky (1981:285) and Lasnik (1989:139) for some discussion on the split antecedent.

³ In case of the across-the-board movement, an element in a landing site binds two or more positions in the launching sites. The empty operator movement in the context of split pivots, however, does not entertain the privilege due to the fact that the split antecedents may take different grammatical functions within the clause.

⁴ Furthermore, his structure in (2c), where α is properly embedded under another NP, has difficulty in accounting for the case morphology. Note that α would not have any structural relation with the case assigner, e.g., the matrix predicate.

⁵ This goes against Hoshi’s original intent that tries to capture the exclusive partitive reading of the sentence in terms of his structure.

⁶ There are two characteristics of HIRCs observed in the literature: (a) HIRCs are closed off generally by a definite determiner (Williamson 1987) or sometimes by a universal determiner (Reinhart 1987); and (b) internal heads are indefinite, not definite. Basilico (1996) tries to capture the two characteristics in terms of his quantifier analysis of the HIRCs. The determiner, semantically translated as an (iota) operator, requires a variable to bind. An indefinite NP, but not a definite NP, can be an internal head, since the former, but not the latter, provides a variable, along the lines of Heim (1982).

The HIRCs in Korean and Japanese, however, do not seem to show either of the two characteristics. First, α ends with a complementizer, i.e., *no* in Japanese and *kes* in Korean, which are not determiners. Second, definite NPs like proper nouns can be “internal heads”:

- (i) ku hyengsa-nun [John-i pang-eyse nao-nun kes]-ul cheyphoha-ess-ta.
 the detective-Top J.-Nom room-from come/out-Adn C-Acc arrest-Pst-DE
 ‘The detective arrested John, who was coming out of the room.’

John, which is hardly regarded as an indefinite NP, is construed as the internal semantic head. Therefore, the indefiniteness requirement would not hold in Korean.

Watanabe (1991:70), however, does not regard Japanese proper nouns as definite, based on the fact that they can take modifiers, e.g., *kinoo-no John* 'yesterday's John.' He further claims that internal heads in Japanese do display the indefinite effect, based on the following contrast:

(ii) (based on Watanabe 1991:71-72, his (153) and (154))

[John-ga (*sono/*ichiban naggai/*youitus-no) ronbun-o kaita-no]-ga LI-ni notta.
 J.-Nom the/most long/only-Gen paper-Acc wrote-C-Nom LI-Loc appeared
 '(The/longest/only) paper that John wrote appeared in LI.'

As opposed to bare common noun, an NP that is modified by *sono* 'that,' by superlative, or by ONLY, cannot be an internal head. Thus it seems that an NP denoting a unique entity in the world is not allowed as an internal head.

A more inclusive data reveals not only that proper nouns do show the definiteness effect, but also that (semantically) definite NPs can be "internal heads." Proper nouns behave differently from indefinite NPs in story telling contexts. A bare proper noun cannot be used in the beginning of a story. Instead, expression *X-ilanun salam* 'a man called X' is used:

(iii) acwu olayn yesnal-ey {John-ilanun salam-i/*John-i} sal-ess-nuntey, ...
 very long old;days-in J.-called man-Nom/John-Nom live-Pst-and
 'Once upon a time, there lived John, ...'

If proper nouns in Korean/Japanese were descriptions denoting 'a person having such and such a name,' as Watanabe claims, both sentences in (iii) should be fine, which is not true.

Furthermore, expressions denoting unique entities are not absolutely prohibited from functioning as internal heads. Consider the following sentences:

(iv) ku hyengsa-nun [ku totwuk-i/John-uy matatul-i pang-eyse nao-nun
 the detective-Top the thief-Nom/John-Gen eldest;son room-from come;out-Adn
 kes]-ul cheyphoha-ess-ta.
 C-Acc arrest-Pst-DE
 'The detective arrested the thief/John's eldest son, who was coming out of the room.'

Although *ku totwuk* 'the thief' and *John's matatul* 'John's eldest son' denote unique entities in the world, they can be internal heads. Superlatives and phrases modified by ONLY can also be internal heads if they are positioned in proper contexts. Consider the following sentences, for example:

(v) [[John-i ssu-n] {yuilhan-n/kacang kil-un} nonmwun-i chayksang-wiey iss-ten ul
 J.-Nom write-Adn only-Adn/most long-Adn paper-Nom desk-on exist-Adn
 kes]-Tom-i kacayeka-ess-ta.
 C-Acc T.-Nom take;away-Pst-DE
 'Tom took away the {unique/longest} paper that was on the desk that John wrote.'

Nonmwun 'paper' in (v), which is modified by *yuilhan/kacang kil-un* 'only/most long,' functions as the external head for the most embedded relative clause and at the same time as the internal head for the next higher clause. This indicates that the indefiniteness effect does not apply to Korean HIRC. I conjecture that the contrast between (ii) and (v) may be a reflex of subject/object asymmetries briefly discussed in section 3.4, in relation to case restrictions.

To sum up, the so called internal heads in Korean/Japanese need not be indefinite. Not only proper names but also definite descriptions may function as internal heads in HIRCS in

Korean/Japanese. We have seen that proper names are not merely descriptions as Watanabe claims since in a certain context they behave differently from regular common nouns. Definite nouns are also allowed as internal heads freely or with some syntactic manipulation. Therefore, the indefiniteness effect does not seem to apply to Korean/Japanese HIRCs.

References

- Basilico, David. 1996. Head position and internally relative clauses. *Language* 72.3: 498-532.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Foris. Dordrecht.
- Chung, Daeho. 1996. *On the representation and licensing of Q and Q-dependents*. Los Angeles: University of Southern California dissertation.
- Chung, Daeho and Hong-keun Park. 1995. An indirect question analysis of Korean \exists/\forall -quantifiers. MIT working papers Vol. 19. (to appear).
- Cole, Peter. 1987. The structure of internally headed relative clauses. *Natural language and linguistic theory* 5: 277-302.
- Harada, S. I. 1973. Counter Equi NP deletion. *Annual bulletin. Research Laboratory of Logopedics and Phoniatrics. University of Tokyo* &: 113-143.
- Heim, Irene. 1982. *The semantics of definite and indefinite noun phrases*. Amherst: University of Massachusetts dissertation.
- Hoshi, Koji. 1994. The head-internal relative clause in Japanese: An empty head noun approach, To appear in *The proceedings of the 5th Japanese/Korean linguistics conference*.
- Jhang, Sea-eun. 1991. Internally headed relative clauses in Korean. *Harvard studies in Korean linguistics*, ed. by Susumu Kuno et al, Vol.IV: 269-280.
- Jhang, Sea-eun. 1994. *Headed nominalizations in Korean: Relative clauses, clefts, and comparatives*. Simon Fraser University dissertation.
- Kitagawa, Yoshihisa and Shige-Yuki Kuroda. 1992. *Passive in Japanese*. ms., University of Rochester and University of California at San Diego.
- Kuroda, Shige-Yuki. 1992. *Japanese syntax and semantics*, Kluwer Academic Publishers.
- Lasnik, Howard. 1989. *Essays on anaphora*. Kluwer Academic Publishers.
- Murasugi, Keiko. 1994. Head-internal relative clauses as adjunct pure complex NPs. *Synchronic and diachronic approaches to language: A festschrift for Toshio Nakao*, ed. by S. Chiba et al. Tokyo: Liber Press.
- Reinhart, Tanya. 1987. Specifier and operator binding. *The representation of (in)definites*, ed. by E. Reuland and A.G.B.ter Meulen, 130-67. Cambridge, MA: MIT Press.
- Saito, Mamoru. 1985. *Some asymmetries in Japanese and their theoretical implication*. Cambridge: MIT dissertation.
- Watanabe, Akira. 1991. Wh-in-situ, subjacency, and chain formation. ms. MIT.
- Watanabe, Akira. 1992. Subjacency and S-structure movement of wh-in-situ. *Journal of East Asian linguistics* 1: 255-291.
- Williamson, Janis. 1987. An indefiniteness restriction on relative clauses in Lakhota. *The representation of (in)definites*, ed. by E. Reuland and A.G.B. ter Meulen, 168-90. Cambridge, MA: MIT Press.