Evidence for movement in the derivation of relative clauses in Japanese

Hisashi MORITA

1. Introduction

Analyses of Japanese relative clauses have been controversial.\(^1\) The reason is clear: Japanese does not resort to overt independent operators such as *wh*-expressions in English. Therefore, it is not clear whether movement is involved to derive the structure. Furthermore, as will be shown, Japanese has developed use of the complex NP construction, which tolerates wider range of constructions than English. This special construction may make movement in relative clauses unnecessary as Murasugi (1991, 2000a, b) argues. However, this paper will show that movement is indeed employed to derive relative clauses.

This paper is organized as follows. In section 2, I will introduce a non-movement approach to Japanese relative clauses and its theoretical and empirical problems. In section 3, I will discuss a movement approach and its shortcomings. In section 4, I will refine a few pieces of evidence for the movement approach. In section 5, I will summarize the main points.


In this section, I will mainly introduce Murasugi (1991, 2000a, b) as important representative works of a non-movement approach to Japanese relative clauses. Several reasons have been presented and will be introduced

\(^1\) In this paper I will not discuss so called head-internal relative clauses.
below for the non-movement approach.

2.1 No island effects

The first reason is that the head noun of a relative clause seems to be able to cross islands. Consider the following example:

(1) Kuno (1973: 239, slightly adapted)

\[
\begin{array}{l}
[\text{DP} [\text{DP} [e_i \text{ kiteiru} [\text{yoohfuku}]_j \text{-ga yogoreteiru}[\text{sinsi}],]]]\\
\text{wearing.is suit-Nom dirty.is gentleman}\\
\text{\textquoteright(Lit.) a gentleman who the suit that (he) is wearing is dirty}\text{'}
\end{array}
\]

\textit{Sinsi} 'gentleman' is the head noun of a relative clause in (1). Interestingly, it is also the subject of \textit{kiteiru} 'wear', which is employed inside another (further embedded) relative clause; therefore, it seems that \textit{sinsi} crosses the most deeply embedded relative clause to serve as the head noun in (1) if it indeed moves. However, relative clauses are islands, and extraction out of relative clauses is disallowed. Hence, it is possible to consider that \textit{sinsi} is base-generated at the surface position in (1).

2.2 No anaphoric reconstruction effects

The second reason is that the connectivity or reconstruction effect which is normally observed with movement does not seem to be existent in Japanese relative clauses. There are two types of data which suggest lack of reconstruction. The first one is lack of anaphoric relation between the head noun of a relative clause and a DP inside the relative clause, which I will introduce in this subsection. Examine the following example:

\footnote{Conventionally, \textit{t} is employed to denote a trace of a moved phrase. However, the existence of movement is currently being discussed, so I utilize \textit{e} to be theory-neutral. In other words, \textit{e} can be a covert pronoun as the non-movement approach claims or a trace as the movement approach argues.}
Evidence for Movement in the Derivation of Relative Clauses in Japanese

(2) Hasegawa (1988: 59)

*[[DP [John\(\_\)-ga \(e\_\) taipusita] [zibun\(\_\)-no ronbun]\(j\)]]

-Nom typed self-Gen paper

‘(Lit.) self\(\_\)'s paper (that) John\(\_\) typed’

Zibun is an anaphoric element and refers to a c-commanding subject, but as the example above shows, it cannot refer to John. Therefore, it is plausible to think that the head noun zibun-no ronbun ‘self’s paper’ is base-generated at the surface position.

2.3 No scope reconstruction effects

The other case of (lack of) reconstruction is lack of scope interaction between the head noun and a QP inside the relative clause. Consider the following example:

(3) Aoun and Li (2003: 198, the example of which is attributed to Hoji (p.c.))

[[DP [TP Toyota-sae-ga \(e\_\) uttaeta] [hutatu-no kaisha]\(j\)-ga tubureta]

-even-Nom sued two-Gen company-Nom went.bankrupt

‘(The) two companies that even Toyota sued went bankrupt’

Following Hoji’s judgment, Aoun and Li (2003) argue that hutatu-no kaisha ‘two companies’ takes only wide scope with respect to Toyota-sae ‘even Toyota’. If this judgment is correct, it supports the non-movement approach. However, I disagree with the judgment. Specifically, (3) can be uttered in a situation where, for example, Nissan sued two companies (say, A and B), Honda sued two companies (say, C and D), and even Toyota sued two companies (say, E and F), and E and F went bankrupt. If the judgment is correct, the example does not support the non-movement approach.
2.4 Relativization of reason/manner adjunct PPs

The last reason why there is no movement in Japanese relative clauses is peculiar behavior of reason/manner adjunct PPs. These adjuncts seem to be sensitive to island effects as follows:


a. *[DP[TP[DP[TP e_i e_j kubi-ni natta] hitoj]-ga minna okotteiru] riyuu_i]
   was.fired person-Nom all angry.is reason
   'the reason that all the people who were fired for it are angry'

b. *[DP[TP[DP[TP e_i e_j mondai-o toita] hitoj]-ga minna siken ni otiru] hoohoo_i]
   problem-Acc solved person-Nom all exam in fail method
   'the method that all the people who solves problems by it fail the exam'

In contrast to (1), the head nouns, riyuu 'reason' and hoohoo 'method', cannot be related to the reason of being fired and the method of solving the problems respectively in (4).

Saito (1985) shows that the relativization of reason/manner adjunct PPs is more constrained; in other words, long distance relativization of reason/manner adjuncts is forbidden as follows:

(5) Murasugi (2000a: 218)

a. [[[Mary-ga [John-ga e_i kaetta to] omotteiru] riyuu_i]
   -Nom -Nom left C think reason
   'the reason, that Mary thinks [that John left t_i]'

b. [[[Mary-ga [John-ga e_i mondai-o toita to] omotteiru] hoohoo_i]
   -Nom -Nom problems-Acc solved C think method
   'the method, that Mary thinks [that John solved the problem t_i]'

Although there is no island between the head of a relative clause and e in (5)a and b, the examples are unacceptable, which may suggest that
movement is not involved in relativization of reason/manner adjuncts. In fact, since long distance interpretation of the head nouns is all prohibited in the case of reason/manner adjuncts, Murasugi (1991, 2000a, b) argues that there is no relativization of reason/manner adjuncts, and in fact, the examples which look like relative clauses are complex NP constructions where there is no gap (see also Kaplan and Whitman 1995 for the same conclusion as far as relativization of reason/manner adjuncts is concerned). Since they are complex NPs, the head nouns are related only to the immediately subordinate clauses, and hence, lack of long-distance interpretation for reason/manner adjuncts follows. Murasugi (2000a, b) goes further by claiming that there is no relative construction in Japanese, and data which appear to be relative constructions are all complex NP constructions.

Interestingly, relativization of time/place adjunct PPs behaves differently from reason/manner adjunct PPs. Examine the following examples:

(6) Murasugi (1991: 131, slightly adapted)
   a. [TP[DP[TP ei ej mensetu-o uketa] gakusei]-ga minna ukaru] hi
      job.interview-Acc received student-Nom all.of.them passes day
      'the day that all of the students that received the job interview pass'
   b. [TP[DP[TP ei ej mensetu-o uketa] gakusei]-ga minna ukaru] kaigisitu
      job.interview-Acc received student-Nom all passes conference.room
      'the conference room that all of the students that received the job interview pass'

(7) Murasugi (1991: 133, slightly adapted)
   a. [TP John-ga [CP Mary-ga ei sentakusita to] itta] hi
      -Nom -Nom washed Comp said day
      'the day that John said that Mary washed ei,'
   b. [TP John-ga [CP Mary-ga ei mondai-o toita to] itta] tokoro
      -Nom -Nom problem-Acc solved Comp said place
      'the place that John said that Mary solved the problem ei,'
Unlike relativization of reason/manner adjuncts, relativization of time/place adjunct PPs (as well as of argument DPs as in (1)) does not appear to be subject to island conditions as in (6). Moreover, as (7) shows, long-distance relativization of time/place adjuncts is possible unlike the reason/manner counterparts, (5). In other words, relativization of time/place adjuncts behaves exactly like relativization of argument DPs. In other words, only relativization of reason/manner adjunct PPs shows exceptional behavior.

To account for the contrast above, Murasugi (1991, 2000a, b) argues that there are two kinds of adjunct PPs, and that while a zero pronoun (*pro*) is available for time/place adjunct PPs as well as argument DPs, it is not so for reason/manner adjuncts. Since *pro* is available for argument DPs and time/place adjunct PPs, a long-distance construction, which is also an instance of complex NP constructions according to her, is possible. However, since *pro* is unavailable for reason/manner adjuncts, long-distance interpretation is impossible. Furthermore, Murasugi (1991, 1992, 2000a, b) and Miyamoto (2006) argue that time/place adjunct PPs are not pure adjunct PPs but arguments, and hence, they allow *pro*.

In addition, Japanese allows wider range of complex NP constructions than English:

(8) Murasugi (2000a: 219)

a. [[TP sakana-ga yakeru][nioi]]
   fish-Nom burn smell
   ‘the smell of a fish burning’
   ‘*the smell that a fish is burning’

b. [[TP doa-ga simaru] [oto]]
   door-Nom shut sound
   ‘the sound of a door shutting’
   ‘*the sound that a door is shutting’
Murasugi (2000a) concludes that since a variety of complex NP constructions are available, there is no necessity to assume movement-based relative constructions in Japanese.

2.5 Problems

There are several problems with the non-movement approach. As will be shown in the following sections, there are several pieces of evidence for the existence of movement such as reconstruction effects of scope and idiom chunks. In addition, there are a few theoretical questions for the non-movement approach.

First, the fact that Japanese allows wider variety of complex NP constructions does not automatically prove that no movement is involved in the derivation of Japanese relative clauses. Second, although it is true that relativization of reason/manner and that of time/place adjuncts are different, it does not necessarily mean that one allows pro and the other does not; hence, the jury is still out.

Finally, the examples which seem to show the lack of island effects can be analyzed in a different way. Hoshi (2004a-c), following Sakai (1994), claims that what is raised in such examples is a major subject, which is generated outside the islands. If this approach is adopted, (1) is derived as follows:

(9) Hoshi (2004a: 117, slightly adapted)

a. \([TP \ (sono) \ sinsi,\text{-}ga \ [DP \ [pro;_i \ t_j \ \text{kiteiru}] \ [yoohuku,\text{j}]-ga \ \text{yogoreteiru}]\]
   \(\text{that \ gentleman-Nom \ wearing.is \ suit-Nom \ dirty.is}\)
   \(\text{‘(that) gentleman is such that the suit that he is wearing is dirty’}\)

b. \([DP \ [TP \ t_i \ [DP \ [pro;_i \ t_j \ \text{kiteiru}] \ [yoohuku,\text{j}]-ga \ \text{yogoreteiru}][sinsi,\text{j}]\]
   \(\text{wearing.is \ suit-Nom \ dirty.is \ gentleman}\)
   \(\text{‘(Lit.) a gentleman who the suit that (he) is wearing is dirty’}\)
As in (9)a, *sinsi* 'gentleman' is base-generated as a major subject at spec-T or higher in the matrix clause, hence, outside the relative clause. Accordingly, the movement from there does not violate the subadjacency condition in (9)b.

Similarly, the examples of time/place adjuncts, (6)a and b, which have been argued not to show an island effect, allow major subjects; hence, legitimate relativization is possible as follows:

(10) a. \([TP \text{sono hi}_j\text{-ga} ] [DP[TP t_i \text{proj} \text{mensetu-o uketa} ] gakusei_i\text{-ga minna ukaru}] \]

that day-Nom job.interview-Acc received student-Nom all.of.them pass

'that day \(j\) is such that all of the students [that received the job interview then\(j\)] pass'

b. \([TP t_j [DP[TP t_i \text{proj} \text{mensetu-o uketa} ] gakusei_i\text{-ga minna ukaru}] hi_j \]

'the day that all of the students [that received the job interview (then)] pass'

(11) a. \([TP \text{sono kaigisu}_j\text{-ga} ] [DP[TP t_i \text{proj} \text{mensetu-o uketa} ] gakusei_i\text{-ga minna ukaru}] \]

that conference.room-Nom job.interview-Acc received student-Nom all.passes

'the conference room \(j\) is such that all of the students [that received the job interview there\(j\)] pass'

b. \([TP t_j [DP[TP t_i \text{proj} \text{mensetu-o uketa} ] gakusei_i\text{-ga minna ukaru}] kaigisu_j \]

'the conference room that all of the students that received the job interview pass'

If (6)a and b are derived from (10)a and (11)a respectively, no island is crossed, and hence, no island effect is expected.\(^3\) Therefore, the examples

\(^3\) Strictly speaking, (10)a and (11)a are not representations of (6)a and b before relativization: NPs in major subject positions contain *sono* 'that' in (10)a and (11)a, while head nouns in (6)a and b do not. However, this difference does not affect the current argument because the difference seems to be semantic or pragmatic in nature. For example, definite NPs rather than indefinite NPs are more natural in major subject positions, which may be related to information structure of Japanese. On the other hand, if head nouns are definite, their relative clauses may be non-restrictive relative clauses, the discussion of which is beyond the scope of the current paper.
above are compatible with the fact that no movement is allowed to cross islands (the subjacency condition). Hence, they are not counterexamples to the movement approach.

In contrast, the examples of reason/manner adjuncts, (4)a and b, do not allow major subjects as follows:

(12) *[TP sono riyuu]-ga [DP[TP e_i tj kubi-ni natta] hito_j]-ga minna okotteiru]
that reason-Nom was.fired person-Nom all angry.is
'the reason is such that all the people who were fired for it, are angry'

(13) *[TP sono hooho]-ga [DP[TP e_i tj mondai-o toita] hito_j]-ga minna siken ni otiru]
that method-Nom problem-Acc solved person-Nom all exam in fail
'the method is such that all the people who solves problems by it, fail the exam'

Although it is not clear why major subjects are not allowed in (12) or (13), it is possible to claim that since underlying structures such as (12) and (13) are unacceptable, their derived structures such as (4)a and b are also unacceptable. In this manner, the ungrammaticality of (4)a and b can be explained independently of the subjacency condition.

In conclusion, argument and time/place adjunct relativization such as (1), (6)a and (6)b seem to violate the subjacency condition; however, they do not if their relative operators are base-generated as major subjects. Moreover, the ungrammaticality of reason/manner adjunct relativization such as (4)a and b does not seem to arise from the violation of the subjacency condition. Accordingly, it is possible to claim that all possible relative clauses in Japanese conform to the subjacency condition, so there is no reason to assume that movement is not involved in the derivation of relative clauses in Japanese.

There are two types of movement approach. One is called the head-external analysis, where an independent operator is raised to spec-C (cf. Chomsky (1977) for English, Hasegawa (1984/85, 88), Ishii (1991) for Japanese, among others). The other approach is called the promotion (or head-raising) analysis, where a head noun of a relative clause itself is raised from within the relative clause (cf. Brame (1968), Schachter (1973), Vergnaud (1974), Åfarli (1994), Kayne (1994), Bianchi (2000a, b) for English, Hoshi (2004a-c), Kitao (2005, 09, 10), and Morita (2006) for Japanese, among others). I will introduce a few pieces of evidence for the promotion analysis as a movement approach in this section.

3.1 Anaphoric reconstruction effects

Although the opposite conclusion was reached by Murasugi (2000a, b), anaphors show a reconstruction effect.

(14) Ishii (1991: 29)

Mary-wa [[John-ga e_j taipusita] [karezisin,-no ronbun]-o mottekita
-Top -Nom typed kimself-Gen paper-Acc brought

‘Mary brought himself’s paper that John typed’

Ishii (1991) claims that the antecedent of zibun is always a subject whereas karezisin ‘himself’ and kanojozisin ‘herself’ have no such constraint, and hence, they are more similar to English anaphors.

Nevertheless, it is also possible to find reconstruction effects with zibun. Consider the following examples:
Evidence for Movement in the Derivation of Relative Clauses in Japanese

(15) [John\textsubscript{j}-ga \textit{e}, taipusita] [zibun\textsubscript{j}-nituite-no ronbun\textsubscript{i}-ga shuppans\textsubscript{are}ta]

-Nom typed self-about-Gen paper-Nom was.published

\textquote{[A paper about himself\textsubscript{j}], that John\textsubscript{j} typed \textit{t\textsubscript{i}} was published.}

(16) [Mary\textsubscript{j}-ga \textit{e}, totta] [zibun\textsubscript{j}-no shasin\textsubscript{i}-ga soko-ni aru.]

-Nom took self-Gen picture-Nom there-at is

\textquote{[Pictures of herself\textsubscript{j}], that Mary\textsubscript{j} took \textit{t\textsubscript{i}} are there.}

In the examples above, \textit{zibun} `self' can refer to the subjects in the relative clauses. It seems that if \textit{zibun} is in the spec of NP or DP as in (2), the reconstruction is disallowed. Otherwise, the reconstruction is allowed as in (15) and (16). If these observations are correct, the examples support the movement approach.

3.2 Idiom chunks

One of the reasons why the promotion approach has been supported in English is relative constructions with idiom chunks.

(17) Schachter (1973: 31-2)

\begin{enumerate}
\item a. The careful track that she's keeping of her expenses pleases me.
\item b. The headway that we made was impressive.
\item c. I was offended by the lip service that was paid to civil liberties at the trial.
\end{enumerate}

The head DPs in the examples above are part of idiom chunks: \textit{keep track of}, \textit{make headway}, and \textit{pay lip service to}. Since idioms are supposed to form constituents after their composing items have merged, it is reasonable to assume that the head DPs are first base-generated within the relative clauses and then are raised out of them.

Similarly, Japanese relative clauses can be formed with idiom chunks:
(18) Inoue (1973: 214)

[[Karera-ga magarinarinimo e, tuketa] kettyaku,-wa amari yorokobarenakatta
they-Nom somehow came.to settlement-Top not.so pleasing
‘(Lit.) The settlement that they somehow came to was not so pleasing’

‘The conclusion that they reached was not so pleasing’

(19) Morita (2006: 120)

Sono eiga-wa [Mary-ga e, watatta] abunai hasi,-o migotoni saigensita.
that movie-Top -Nom crossed dangerous bridge-Acc elegantly reconstruct
‘(Lit.) That movie elegantly reconstructed the dangerous bridge Mary crossed’
‘That movie elegantly reconstructed the dangerous action Mary committed’

(20) Kitao (2009: 33)

Raibaru-wa [[John-ga mizukara e, hotta] boketu,]-o totemo yorokonda.
rival-Top -Nom himself dug grave-Acc very happy
‘(Lit.) The rival was very happy about the grave that John himself dug’
‘The ruin John himself brought about made his rival happy’

The relative clauses above are made from idiom chunks such as \textit{kettyaku-o tukeru} (settlement-Acc come.to) ‘reach a conclusion’, \textit{boketu-o horu} (grave-Acc dig) ‘bring about one’s ruin’, and \textit{abunai hasi-o wataru} (dangerous bridge-Acc cross) ‘make a dangerous action’. Thus, these data seem to promote the movement approach.

However, as noted in Hoshi (2004b), not all idioms are possible in relative constructions:

(21) Hoshi (2004b: 67-8)

*[[kare-ga hutatabi onazi ayamati-o sumaito katameteita] hozo
he-Nom again the.same mistake-Acc never.to.make strengthen navel
‘(Lit.) the navel that he has strengthened never to make the same mistake.’
‘the firm decision that he made not to make the same mistake’

\textit{Hozo-o katameru} (navel-Acc strengthen) ‘make a final decision’ is relativized
 Evidence for Movement in the Derivation of Relative Clauses in Japanese

without success in (21). Accordingly, one may claim that the evidence of idioms is not very decisive. However, in section 4, I will show that reconstruction of idiom chunks is real evidence for the movement approach.

3.3 Scope reconstruction effects

Another reason to promote the movement approach is that scope reconstruction effects are observed in relative clauses in Japanese. Examine the following examples:

(22) Morita (2006:122)

[kinoo minna-ga $t_i$ zibun-no ie-de mita] eiga,-no namee-o (zenbu) osiete

yesterday everyone-Nom self-Gen home-at saw movie-Gen name-Acc all tell.me

'Tell me all the names of movies that everyone$_j$ watched in his$_j$ house'

'every' $->$ 'names of movies'; 'names of movies' $->$ 'every'

(23) Morita (2006: 123)

[cp $t_i$ minna-o tataita] futari-no shoonen,-ga tukamatta
everyone-Acc hit two-Gen boy-Nom was.caught

'The two boy who hit everyone was caught'

only 'two boys' $->$ every


[cp kinoo John matawa Mary-ga $t_i$ katta] nisatu-no hon,-o yonde kudasai

yesterday or -Nom bought two-Gen book-Acc read please

'Please read (for us) two books that John or Mary bought yesterday'

'two books' $->$ 'John or Mary'; 'John or Mary' $->$ 'two books'


[cp $t_i$ John matawa Mary-o damasita] futari-no shoonen,-ga tukamatta

or -Acc cheated two-Gen boy-Nom was.caught

'The two boys who cheated John or Mary was caught'

only 'two boys' $->$ 'John or Mary'

In (22), the universal quantifier *minna* can take either wide or narrow scope
with respect to the head noun *eiga* 'movie'. The fact that the universal quantifier can take wide scope suggests that the head noun is first base-generated in \( t_i \), and then is raised to the surface position. In contrast, (23) is unambiguous; that is, the head noun always has to take scope over the universal quantifier. This fact is easily accounted for because the base-generated position, \( t_i \), is higher than the universal quantifier throughout the derivation in (23). Therefore, even after reconstruction of the head noun into \( t_i \), the universal quantifier cannot take wide scope. The contrast between (24) and (25) receives the same explanation.

However, some of the evidence presented above for scope reconstruction is not so conclusive. According to Hoji (2003), Morita's (2006) examples employ certain quantifiers which are unreliable to judge scope hierarchy: QPs such as *minna* 'everyone' in (22) and (23), and *A matawa B* 'A or B' in (24) and (25) may not be real quantifiers. In fact, if *minna* is replaced with *daremo* 'everyone' in (22) and *A matawa B* is replaced with *A ka B* 'A or B' in (24), scope ambiguity disappears:

(26) \[ \text{[kinoo daremo-ga } t_i \text{ zibun-no ie-de mita] eiga}_{1,-}\text{-no nameae-o (zenbu) osiete} \]
\[
\text{yesterday everyone-Nom self-Gen home-at saw movie-Gen name-Acc all tell.me}
\]
\['Tell me all the names of movies that everyone}_j \text{ watched in his}_j \text{ house'}
\only 'names of movies' » 'every'

(27) \[ \text{[cp [kinoo John ka Mary-ga } t_i \text{ katta]] nisatu-no hon}_{1,-}\text{-o yonde kudasai} \]
\[
\text{yesterday or -Nom bought two-Gen book-Acc read please}
\]
\['Please read (for us) two books that John or Mary bought yesterday'
\only 'two books' » 'John or Mary'

Thus, the use of scope interaction to show reconstruction also remains problematic.

(However, I will present scope reconstruction of *daremo* in section 4.)

\[^4\] This observation is first made in Miyagawa (1993).
3.4 Problems

In addition to the problems above, the movement approach suffers from a few problems. First, the long-distance relativization of reason/manner adjuncts remains to be accounted for, which I will discuss in section 4. Secondly, Miyamoto (2007) presents the following argument to argue against the movement approach:

(28) Ishii (1991: 41)

a. \[er_{[\text{soit}u_{-}\text{ga hihansita onna]-o nagutta}] otoko,}\]
   \begin{center}
   he-Nom criticized woman-Acc hit man
   \end{center}
   'the man who hit the woman he criticized'

b. *\[[soit}u_{-}\text{ga hihansita onna]-ga er_{ nagutta}] otoko,\]
   \begin{center}
   he-Nom criticized woman-Nom hit man
   \end{center}
   'the man who the woman he criticized hit'

If there is movement in relativization, (28)b is a case of weak crossover (WCO) in that the trace of *otoko* 'man' does not bind *soit}u* 'he'. However, Miyamoto claims that *otoko* could have been scrambled to an A-position before relativization as follows:

(29) Miyamoto (2007: 603)

\[_{TP} t_{1}, {TP} soit}u_{-}\text{ga hihansita onna]-ga t_{1} nagutta}] otoko,\]

In (29), *otoko* is first A-scrambled to spec-T, which is generally possible in Japanese. If this operation were possible, WCO would be lifted and (28)b would be grammatical. Since it is not, there is no movement of *otoko* from inside the relative clause, Miyamoto claims.

Note that in the case of wh-movement, lifting WCO is possible due to scrambling in Japanese as follows:

(i) \[[CP_{[TP dare-o,} [soit}u_{-}\text{no haaoya-ga t_{1} aiteiru]} no] \begin{center}
   who-Acc he-Gen mother-Nom love Q
   \end{center}
   'Who does his mother love?'

Thus, Miyamoto (2007) concludes that there is no movement (of the head DP) in Japanese relative clauses.

-81-
Although it is a problem to the movement approach, (28) is also a problem to the non-movement approach. Even if the head noun *otoko* is base-generated outside the clause in (28)b, it is in an A-position and c-commands *soitu*, so that its bound interpretation should be possible contrary to the fact.

Moreover, *soitu* may not be an appropriate bound pronoun to judge the existence of movement. Instead, *soko* 'there' is employed as follows:

(30) a. [e; *soko*-no juugyoin-o kaikosita] kaisha{-ga} tubureta
    there-Gen employee-Acc fired company-Nom went.bankrupt
    'a company which, fired its, employees went bankrupt'

    b. [soko{-no jugyoin-ga e; uttaeta] kaisha{-ga} tubureta
    there-Gen employee-Nom sued company-Nom went.bankrupt
    'a company which, its, employees sued went bankrupt'

Although (30)b is a case of WCO while (30)a is not, both of the examples are grammatical. Specifically, (30)b is fine despite WCO because *kaisha* is scrambled to a position where it binds *soko* before relativization as expected. Therefore, examples with *soitu* such as (28) may not play decisive roles.

4. Refined evidence for the movement approach

In this section, I will reexamine the two pieces of evidence for the movement approach, idiom chunks and scope reconstruction, and show that they can serve as real evidence for the movement approach. Moreover, I will present examples of long-distance reason/manner adjunct relativization, which further supports the movement approach.

4.1 Idiom chunks revisited

As has been shown in the previous section, there are idiom examples in
favor of and against the movement approach. Particularly, (21) shows that not all idiom chunks allow relativization. (21) is repeated below:

(21) *[[kare-ga hutatabi onazi ayamati-o sumaito katameteita] hozo
he-Nom again the.same mistake-Acc never.to.make strengthen navel
'the firm decision that he made not to make the same mistake'

Despite the counterexample, it is possible to use idiom chunks as evidence for the movement approach if we can provide an independent reason why certain idioms allow relativization and others do not. In fact, if a DP of an idiom represents part of its idiomatic meaning by itself, it is likely to be also used as the head DP of a relative clause. In the case of the grammatical examples, (18), (19), and (20), the head DPs such as kettyaku ‘settlement,’ boketu ‘downfall,’ and abunai hasi ‘dangerous action’ are meaningful in idiomatic sense by themselves. On the other hand, in the case of (21), the head DP, hozo means ‘navel’, but it alone does not express any idiomatic sense.

Since we now know the appropriate context for relativization of idiom chunks, it is possible to present more examples:

(31) a. Mary-ga ageasi-o totta.
   -Nom lifted.leg-Acc took
   '(Lit.) Mary took lifted legs'
   'Mary pointed out someone’s mistake'

   b. [Mary-ga ti totta] ageasi;

(32) a. Ken-ga menboku-o usinatta.6
   -Nom face-Acc lost
   'Ken lost face'

   b. [Ken-ga ti usinatta] menboku;

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6 I would like to thank Yasuyuki Kitao (p.c.) for this example.
In (31), an idiom chunk *ageasi-o toru* (lifted.leg-Acc take) ‘point out someone’s mistake’ is employed. It is possible to relativize the chunk as in (31)b because the head noun *ageasi* ‘lifted.leg’ easily conveys the meaning of mistake by itself. Similarly, *memboku-o usinau* (face-Acc lose) ‘lose face’ can be relativized as in (32)b because the head noun *memboku* ‘face’ can mean reputation or pride by itself.

The same observation can be made in English. Consider the following examples:

(33) *The bucket that she kicked was horrible.*
(34) *The spot that Japanese food hit yesterday was unforgettable.*
(35) *The jackpot that he hit was enormous.*

In (33), *bucket* alone has nothing to do with ‘death’, and in (34), it is hard to retrieve part of the idiomatic meaning only from *spot*. Thus, these idioms cannot be used in relative constructions (at least in the manner above). In contrast, in (35) *jackpot* itself is easily associated with ‘success,’ so the relative construction is possible. Since the reason for the unavailability of relativization in certain idioms is independent of its syntactic process, there is good reason to believe that relativized idiom chunks serve as strong evidence for the movement approach.

4.2 Scope reconstruction revisited

In the previous section, the data of scope interaction between a QP in a relative clause and the head DP are presented to support the movement approach. However, they may not be strong support because of the use of problematic quantifiers according to Hoji (2003). Furthermore, if they are replaced with proper quantifiers, scope interaction disappears as in (26) and
Evidence for Movement in the Derivation of Relative Clauses in Japanese

(27), which may support the non-movement approach on the contrary. In this subsection, I will show that scope interaction via reconstruction is a real phenomenon even if one uses proper quantifiers such as daremo ‘everyone’.

Before we consider the reason why scope interaction is unobserved in (26) and (27), let us examine scope interaction between a wh-expression and a QP:

(36) ??Daremo-ga nani-o katta no? Hoji (1985: 270, slightly changed)
everyone-Nom what-Acc bought Q
‘What did everyone buy?’
‘what’ >> ‘everyone’ only

(37) Daremo-ga sorezore nani-o katta no? Miyagawa (2002: 10)
everyone-Nom each what-Acc bought Q
‘What did everyone buy?’
‘everyone’ >> ‘what’

As Hoji (1985) notes, (36) is deviant. This is because a quantifier daremo ‘everyone’ is placed between C and a wh-expression, which is called an intervention effect (cf. Beck (1996), Beck and Kim (1997), Tanaka (1997), Hagstrom (1998), Morita (2002, 2009), Endo (2007), Tomioka (2007, 2009), and Miyagawa (2010) among others for intervention effects). According to Hagstrom (1998), Endo (2007), Morita (2002, 2009), and Miyagawa (2010), the ungrammaticality is due to the minimality effect; in other words, checking or Agree relation must be established between C and the wh-expression, but the quantifier intervenes in the relation because it is closer to C than the wh-expression. In contrast, (37) does not exhibit an intervention effect. To account for the contrast, Miyagawa (2002), following May (1985), argues that daremo with sorezore is raised to spec-C at LF, so that nothing intervenes in between C and the wh-expression, and

7 Actually, Hoji (1985) claims that (37) is unacceptable, but I disagree with his judgment.
no intervention effect arises in (37).

There is another interesting fact in (36) and (37). That is, although daremo c-commands nani at surface structure, it cannot take scope over the wh-expression at LF in (36). Thus, the question can be answered by, for example, ‘Everyone bought a candy’, but not by ‘John bought a pen, Mary bought a box, Ted bought a hat, ...’, the latter of which is called a pair-list answer and is thought to be derived when a quantifier takes scope over a wh-expression (cf. May (1977, 1985)). In contrast, if sorezore ‘each’ is added to daremo ‘everyone’ as in (37), the quantifier can take scope over the wh-expression and allows a pair-list interpretation. According to Hoji (1985, 2003), surface order dictates scope order in Japanese; therefore, (36) is exceptional to the generalization.

To explain why a pair-list reading is allowed in (37), but not in (36), I assume the following tree structure for (37):

(38) CP$_1$------daremo-ga sorezore$_j$ C$_1'$
     CP$_2$---------nani-o$_i$ C$_2'$
     TP

Following Rizzi (1997), I assume split-CP, and further assume that daremo-ga sorezore is raised to a higher CP (CP$_1$) whereas wh-movement raises the wh-expression nani-o to a lower CP (CP$_2$). If this is the representation at LF for (37), the reason why (36) does not allow pair-list interpretations is clear: daremo without sorezore is not high enough to take scope over, i.e. c-command, the wh-expression.

With the proposal above in mind, let us come back to scope interaction
in relative clauses. Consider (26) again, which is repeated below:

(26) [kinoo daremo-ga  
  zibun-no ie-de mita] eiga,-no namae-o (zenbu) osiete  
  yesterday everyone-Nom self-Gen home-at saw movie-Gen name-Acc all tell.me  
  ‘Tell me all the names of movies that everyone, watched in his house’  
  only ‘names of movies’ >> ‘every’

In the example above, the head DP eiga ‘movies’ has to take scope over the universal quantifier daremo, which may be regarded as support for the non-movement approach. However, suppose daremo, which is at spec-T in (26), is not high enough to take scope over the head noun, as is the case with (36). This supposition is indeed true because if sorezore is added, the universal quantifier can take scope over the head DP as in (39):

(39) [kinoo daremo-ga sorezore  
  zibun-no ie-de mita] eiga,-no  
  yesterday everyone-Nom each self-Gen home-at saw movie-Gen name-Acc all tell.me  
  ‘Tell me all the names of movies that everyone, watched in his house’  
  ‘names of movies’ >> ‘every’; ‘every’ >> ‘names of movies’

The LF structures of (26) and (39) are the following:

(40) [DP[[CP1 [CP2  
  t', [TP daremo-ga ...t_i ...]]] eiga_i]  
(41) [DP[[CP1 daremo-ga sorezore_i [CP2  
  t', [TP t_j ...t_i ...]]] eiga_i]

(40) is the LF structure for (26), and without sorezore, daremo-ga remains at spec-T. Since it cannot c-command t', it cannot take scope over the head DP. In contrast, in (41) daremo-ga is at spec-C_1 thanks to sorezore, and
hence, it c-commands \( t' \), and can take scope over the head DP.\(^8\)\(^9\)

One problem can be raised with the proposal above. That is a question of why \( t_i \) is invalid in terms of scope. (If reconstruction into \( t_i \) were indeed possible, the universal quantifier would take scope over the head DP in (26).) This restriction may be semantic: reconstruction into \( t_i \) implies that the existential quantifier for the head DP takes scope over TP inside the relative clause, and there would be no unbound variables for the head noun inside the relative clause. This poses a semantic problem because lambda abstraction, which semantically channels a relative clause with its matrix clause via the head noun, applies only to a predicate which contains an unbounded variable. In other words, a lambda operator needs an unbounded variable to bind. As a result, reconstruction into \( t_i \) is semantically forbidden. However, reconstruction into \( t'_i \) does not make \( t_i \) a bound variable, and hence, it is possible.

4.3 Reason/manner adjunct relativization revisited

It is actually possible for reason/manner adjuncts to go through long-distance relativization under a certain condition. Examine the following examples:

\(^8\) I assume that \( A \ ka \ B \) 'A or B' as in (27) cannot be raised to spec-\( C_1 \) by itself or does not have support such as sorezore. Hence, the quantifier never takes scope over the head noun.

\(^9\) Interestingly, not all universal quantifiers behave in the same manner with respect to scope interaction. For example, \( \text{dono } N \ mo \) 'every N' does not allow pair-list readings even if sorezore 'each' is added as follows:

(i) \( \text{dono gakusei-mo } \text{sorezore nani-o katta no?} \)
   \( \text{every.student each what-Acc bought Q} \)
   'What did every student buy?'

It seems that \( \text{dono } N \ mo \) somehow cannot be raised to spec-\( C_1 \) even with sorezore unlike \( \text{daremo} \) 'everyone' and \( \text{minna} \) 'everyone'. Consequently, \( \text{dono } N \ mo \) does not show scope interaction via reconstruction in relative clauses as follows:

(ii) \( \text{[dono gakusei-mo sorezore mita] eiga} \)
    \( \text{every.student each saw movie} \)
    'movies that every student saw'
    only 'movies' >> 'every'

I would like to Yasuyuki Kitao (p.c.) for the peculiar nature of \( \text{dono } N \ mo \).
Evidence for Movement in the Derivation of Relative Clauses in Japanese

(42) [Mary-ga [John-ga t_i okorareta to] omotteiru] mitsu-no riyuu-o osiete.
   -Nom -Nom was.scolded C think three-Gen reason-Acc tell.me
   ‘Tell me the three reasons that Mary thinks [that John left t_i]’
(43) [Taro-ga [cp Mary-ga t_i nakidasita to] kiita] ikutuka-no riyuu-o osiete.
   -Nom -Nom started.to.cry C heard some-Gen reason-Acc tell.me
   ‘Tell me several reasons why Taro heard [that Mary started to cry t_i]’
(44) [[Mary-ga [John-ga t_i sono mondai-o toketa to] itteiru]
   -Nom -Nom that problems-Acc could.solved C say
   rei-no hooohoo-towa nan desu ka
   that-Gen method-towa what copula Q
   ‘What is the aforementioned method, with which, Mary says [that John
   managed to solve the problem t_i]?’

Judging from the examples above, it seems that referential adjuncts
which denote individuals allow long-distance relativizing, whereas
non-referential adjuncts which denote predicates disallow it.\textsuperscript{10} Specifically,
adjuncts such as mitsu-no riyuu ‘three reasons’, ikutuka-no riyuu ‘several
reasons’, and rei-no hooohoo ‘the aforementioned method’ can go through
long-distance relativization because they are referential. Although riyuu
and hooohoo themselves are abstract and non-referential, they become
individuated and referential with numerals or deictic elements. It also
makes sense that long-distance relativization of time/place adjuncts is
always possible because time/place adjuncts are referential.

5. Conclusion

In this paper, I have compared a non-movement and a movement
approach to Japanese relative clauses, and have claimed that the movement

\textsuperscript{10} Similarly, Saito (1985: 262) makes a similar remark about long-distance scrambling of
adjuncts. I would like to thank Jun Abe (p.c.) for bringing this information to my attention.
In addition, Rizzi (1990: 89) suggests a possibility of applying the same explanation to
weak islands.
approach is more tenable theoretically and empirically. To support this claim, I have presented new sets of examples in terms of reconstruction effects of scope, idiom chunks, and reason/manner adjunct relative clauses.

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Evidence for Movement in the Derivation of Relative Clauses in Japanese

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