The Japanese Internally-Headed Relative Clause as a Marked Head-Complement Structure

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Abstract

This paper proposes a new analysis of Internally-Headed Relative Clauses (IHRC) in Japanese in Head-driven Phrase Structure Grammar (HPSG) which defines IHRC in terms of the feature specification of the main predicate. IHRC is characterized as a special type of head-complement structure, in which the predicate has highly marked ARG-ST and VAL features corresponding to IHRC. Motivated by diachronic and synchronic data, the proposed analysis also suggests a way to accommodate the constructional elusiveness of IHRC.

1   Introduction

This paper claims that IHRC should be defined as a special type of non-head daughter of a head-complement structure. To be more exact, it is claimed that IHRC is defined in the feature specification of the predicate that takes the complement. I deny that IHRC in isolation designates a certain entity (or a target).

Several motivations invite this claim. The structure of IHRC in Japanese is synchronically and diachronically in close relation with other constructions which are all characterizable in terms of different argument structures of the main verb.[1] Besides, the IHRC has no syntactic marker in itself indicating as such; IHRC in isolation can be interpreted only as denoting an event. IHRC interpretation obtains only when it occurs as an argument of a certain main predicate.

Previous analyses of IHRC have preferred defining IHRC in its own terms, i.e., that it denotes an entity internal to the IHRC, for the sake of maintaining the locality of information.[2] A simple main predicate is not supposed to refer to an entity embedded in the complement clause. I draw on Yoon's (1993) concept of R-relation (which of course needs revision for IHRC) to circumvent the problem. That is, the main predicate does not directly refer to a specific entity of the complement clause; it refers to the event denoted by the clause, which is indirectly associated with the entity.[3]

Undeniably, IHRC has a peculiar structure. It is characterized by the apparent syntactic-semantic discrepancy; IHRC apparently involves a clausal complement, which, however, designates not the event denoted by the clause but a certain entity participating in the event. Besides, IHRC in Japanese is almost notorious for its elusiveness as a grammatical construction. Although Kuroda's

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[1] Here and throughout this paper I use the term *construction* in a non-technical sense. It is paraphrasable as "a pattern or class of structure"

[2] Kim's (1999) analysis successfully accommodates the indeterminacy of entity and event readings of IHRC(/clausal complement), but the analysis has two drawbacks. First of all, the analysis fails to explain the cases of implicit target; secondly, it implies the semantic equivalence between IHRC (of entity reading) and EHRC, which actually is not the case. The semantic difference between IHRC and EHRC is particularly evident when the target is modified by quantifiers and certain types of other modifiers (Shimoyama 1999). In other words, Kim's (1999) analysis licenses IHRC (of entity reading) as a full-fledged relative clause, and therefore fails to capture any peculiarity of IHRC as a relative clause.

[3] This actually makes IHRC a misnomer.

(1974-77) seminal work called attention to IHRC as a special class of relative clauses nearly a quarter of a century ago, there still is a controversy whether IHRC is an independent construction or not. In Modern Japanese, IHRC is superficially non-distinct from clausal complement structures, and some of the IHRC are indistinguishable from certain adverbial clauses. Some maintain that IHRC is just an adverbial clause with empty categories as shown below. The data of IHRC provide no solution to the controversy. The data are documented in novels and in other publications, and yet they are far from being unanimously accepted. Some find them awkward at best, some regard them as cases of sloppy wording, and some reject the data across the board.

A constraint-based phrase structure grammar is a system to generate (or license) all and only grammatical structures of a given language. A structure is licensed iff it satisfies all the relevant constraints. A licensed structure is a legitimate structure of the language. There is no difference, conceptual, functional, or whatever, among the licensed structures. The question is: if IHRC is a legitimate structure, then why is it so hard to obtain?

Generally, the scarcity of acceptable data is ascribed to the amount of constraints. Passives are generally difficult to obtain in Japanese, for example. This is considered due to semantic constraints (such as animacy) on subjects and on verbs to be passivized, as well as to pragmatic constraints involving point of view and other concepts. Notice, however, that such interplay of constraints does not necessarily lead to the negation of the construction *per se*. If some passives are not readily available, nobody questions the legitimacy of passives as a class of structure in Japanese. Admittedly, IHRC is under many semantic and pragmatic constraints, and it is possible to explain the low acceptability in terms of such constraints. However, IHRC is peculiar in that the scarcity of acceptable data is interpreted as a reason to doubt IHRC as a construction. In this paper, I would also like to explain the elusiveness of IHRC without having recourse to semantic or pragmatic constraints. I do not claim that the elusiveness indicates the fuzziness of the boundaries between IHRC, clausal complement and adverbial clause; the three are distinct classes of structure. I assume instead that the elusiveness reflects two fundamental traits of IHRC: (1) The structure of IHRC is literally close to that of the other two, and (2) IHRC is an extremely marked structure. What follows explores how these two traits really lead to the elusiveness.

This paper proceeds in the following way. Section 2 overviews the problems of IHRC from synchronic and diachronic points of view. It will be shown that IHRC is synchronically an elusive and diachronically an unstable construction. Section 3 proposes a new analysis of IHRC as a transient and marked structure, and considers the consequences of the proposal. Section 4 concludes the discussion.

2   Problems of IHRC

2. 1   Synchronic Elusiveness of IHRC as a Class

One of the long-standing problems around IHRC is how to solve the apparent syntactic-semantic discrepancy; IHRC apparently involves a clausal complement, which, however, designates not the event denoted by the clause but a certain entity participating in the event. The distinction between clausal complement and IHRC is made not by a morphological or syntactic clue of any sort but by the selectional restriction of the main verb. That is, the apparent clausal complement counts as IHRC when the main verb requires an entity rather than an event as its argument. Thus exactly the same sequence within the square brackets counts as a clausal complement in (1), and as IHRC in (2), depending on the main verb:

(1)   [[Kinoo   ringo   —o   moratta]   no]   —o   oboeteita.
      yesterday   apple   acc   received   nmlzr   acc   remembered
      'I remembered that I had received some apples yesterday.'

(2) [[Kinoo   ringo –o moratta] no]   –o tonari -ni osusowake-sita.
     yesterday   /apple acc received nmlzr acc neighbor dat share
     'I had received some apples yesterday, which I shared with my neighbor.'

In addition, Japanese has a type of concessive adverbial clause involving a nominalizer [no] and a conjunctive particle homonymous with case markers as in (3). Due to the combination of the nominalizer and the particle, and because Japanese allows ellipsis of an understood argument, the adverbial clause is sometimes indistinguishable from IHRC (with the apparent target 'apple.') It is particularly so when the putative IHRC accompanies a concessive meaning as in (4):

(3) [[Kaimono –ni iku-tumori-datta] no]   –o   kekkyoku itinitizyuu ie –ni ita.
     shopping   to go-intended   nmlzr conj? after-all   all-day   home stayed
     'Though I had wanted to go shopping, I stayed home all day long after all.'
(4) [[Ringo –o kau-tumori-datta] no]   –o un-yoku tomodati –ni (ø/ringo -o) waketemoratta
     apple acc buy-intended nmlzr conj? luckily   friend –by pro/apple -acc share-gave
     'Though I had intended to buy an apple, luckily, my friend gave me one.'

Thus IHRC has a definitional problem; it is not clear whether IHRC is a construction independent of adverbial clauses or clausal complement. Some of the ambiguities of IHRC and adverbial clause cannot be inductively resolved. This situation has motivated some linguists to claim that there is no such thing as IHRC as an independent class. It is simply a type of adverbial clause with an empty category as in (4), and the apparent referential dependence is not one of relative clause but of anaphoric relation. And yet there is equally strong position to claim that IHRC is not an adverbial clause, and that the [o] is a case marker. Lacking in objective evidence, the issue almost seems to be a matter of conviction. The only solid fact is that IHRC and adverbial clauses are very similar in some respects, while they are different in others.

2.2 Diachronic Unstability of IHRC

The overlap in distribution among clausal complement, IHRC, and adverbial clause could be seen as a synchronic reflection of their diachronic development. In his very influential work in 1955, Ishigaki has shown that at least a type of IHRC (which is followed by a nominative case marker [ga]) emerged in 10th century out of the clausal complement, and the concessive adverbial clause developed out of the IHRC during 11th century. The following data of Classical Japanese illustrate the three stages of development; (5) is an instance of clausal complement, (6) IHRC, and (7) adverbial clause:

(5) [Hodonaku makarinu-beki-nameri to omou] –ga   kanasiku haberu nari
     soon   die-MODAL   think nom sad   be
     'I find it sad to think that he would die soon.'
(6) [Ori-tamaheru hana -o   oogi –ni utiokite   miwi tamaheru] –ga, yoyo akamimoteyuku
     pick (honorific) flower acc fan on put   see (honorific) nom   turn-red
     'He put on the fan the flower which he picked and watched it, which was turning red.
(7) [Otiiri keru toki   mi-no-toki narikeru] –ga   hi -mo youyaku kurenu
     depressed when 10 a.m. was   conj? sun   finally   set-in
     'It was around ten a.m., when I felt depressed, but now the sun finally sets in.'

Notice that these clauses in Classical Japanese do not involve a nominalizing particle [no].[4] The nominalizer [no] was introduced between 15th and 17th centuries, compensating for the loss of

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[4] The Modern IHRC is not a direct descendant of the Classical IHRC listed here in that they at least involve regional differences, but they share essentially the same syntactic structure, except the nominalizer [no] in Modern IHRC, and I assume basically the same structures for both.

verb inflection indicating nominalization. The development of the adverbial clause had presumably been completed before this, and was immune to the introduction of [no]; otherwise, we would not have the conjunctive [ga] (i.e., without preceding [no]), meaning concession or contradiction, which are in frequent use in Modern Japanese:[5]

(8) [Asobi ni iku tumori-datta] –ga ame –ga hutte simatta.
play for go intended conj rain nom fell-aspect
'Though I had intended to go out for fun, it rained after all.'

From a general perspective, the diachronic change from a complement into an adjunct (=adverbial clause) (or vice versa) is not necessarily uncommon. Bender and Flickinger (1999), for instance, give an HPSG analysis of the diachronic change of *as if*-clause acquiring the status of complement. Even more generally, the alternation of argument and adjunct is a very common grammatical phenomenon characterizing, for instance, the agent phrase in passivization. What is unusual in this case is that IHRC mediated the change from clausal complement into adverbial clause. It is, therefore, not simply the case of putting a clause in the argument structure and taking it out. As a working hypothesis, then, I assume that the structure of IHRC reflects the series of diachronic change, and that the structure of IHRC is a form of transition that motivated the development of adverbial clause.

In view of the development of adverbial clause, one thing I already mentioned above has a significant implication. Recall that IHRC is often confused with adverbial clauses even today, as the sentence (4) shows. Note that this phenomenon is separate from the development into adverbial clauses which took place 1000 years ago. The adverbial clause in (4), for instance, ends in [no-o], with [o] preceded by the nominalizing particle [no]. We also have an adverbial clause ending in [no-ga] as in (9), in addition to with the one ending in [ga] shown in (8) above with virtually the same meaning:

(9) [[Asobi ni iku tumori-datta] no] –ga ame –ga hutte simatta.
play for go intended nmlzr conj rain nom fell-aspect
'Though I had intended to go out for fun, it rained after all.'

Therefore, what we have today is a rather novel phenomenon, which happened after the introduction of the nominalizer [no]. After all, we have two sets of consessive adverbial clauses involving [ga], i.e., those ending in [ga] and in [no-ga], the former of which is by far the more firmly established in Modern Japanese. The complex conjunctive particles [no-ga] and [no-o], on the other hand, have not been listed in Japanese grammar books yet, but they are well-documented in various linguistic analyses of IHRC, so much as to motivate the adverbial clause analysis of IHRC. What this means is that the development from IHRC into adverbial clause is a recurring process; the IHRC is constantly feeding motivation for the development, producing two separate sets of adverbial clauses, with and without [no] so far. This eternal unstability suggests that the structure of IHRC is literally a form of transition.

3 Analysis

3.1 Clausal complement and adverbial clause

From the assumption that IHRC takes a transitional form, mediating clausal complement and adverbial clause, it follows that IHRC cannot be defined independent of the main predicate. The diachronic change from argument to adjunct concerns the argument structure or the subcategorization information

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[5] So the conjunctive particle [ga] in Modern Japanese is homonymous with the Classical one in (7), but they differ in the form of the predicate preceding the particle.

of the main verb.   To reflect the transition, IHRC must rather be defined in relation to the main verb.

First of all, the following are rough representations of the feature structure of predicates of (5) and (7) above, which take a clausal complement and an adverbial clause, respectively.[6]

(10)   Clausal complement

$$
\begin{bmatrix}
\text{SYN} \mid \text{VAL} \mid \text{SUBJ} & \langle S_i \rangle \\
\text{DEPS} & \langle S_i \rangle \\
\text{ARG-ST} & \langle [\ \ ]_i \rangle \\
\text{SEM} \mid \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & be\ sad \\ \text{SIT} & s \\ \text{theme} & i \end{bmatrix} \right\rangle
\end{bmatrix}
$$

(11)   Adverbial clause

$$
\begin{bmatrix}
\text{SYN} \mid \text{VAL} & \begin{bmatrix} \text{SUB} & \langle NP_i \rangle \\ \text{COMPS} & \langle S_j \rangle \end{bmatrix} \\
\text{DEPS} & \langle NP_i,\ S_j \rangle \\
\text{ARG-ST} & \langle [\ \ ]_i \rangle \\
\text{SEM} \mid \text{RESTR} & \left\langle \begin{bmatrix} \text{RELN} & turn\ dark \\ \text{SIT} & s \\ \text{theme} & i \end{bmatrix} \right\rangle
\end{bmatrix}
$$

The structures above are not the lexemes in lexical entries but already incorporate information for syntactic mapping.   Accepting the line of analysis of Sag and Wasow (1999) and Bouma et al. (1999) and, I assume that lexical entry goes through Argument Realization in the form of (12) below.   (10)-(11) shows the feature structures of arguments that are already realized.   In their system, VALence feature (SUBJ/COMPS) is mapped from ARGument-Structure through DEPendantS feature.   DEPS feature, according to Bouma et al. (1999), is an intermediate level between the ARG-ST and the VAL.   ARG-ST includes arguments which play a part in the semantic restriction set, whereas Argument Extension (Bouma et al. 1999) given in (13) below adds adjuncts in DEPS.   VAL (or SUBJ and COMPS) is mapped from DEPS.   So simply put, syntactic argument is present both in DEP and VAL as well as in ARG-ST, while adjunct is present in DEPS and VAL alone:

(12)   Argument Realization (Bouma et al. 1999)

$$
word \rightarrow \begin{bmatrix} \text{SUBJ} & \boxed{1} \\ \text{COMPS} & \boxed{2} \ominus list(gap\text{-}ss) \\ \text{DEPS} & \boxed{1} \oplus \boxed{2} \end{bmatrix}
$$

(13)   Argument Extension (Bouma et al. 1999)

$$
verb \rightarrow \begin{bmatrix} \text{ARG-ST} & \boxed{1} \\ \text{DEPS} & \boxed{1} \oplus list\ (`adverbial') \end{bmatrix}
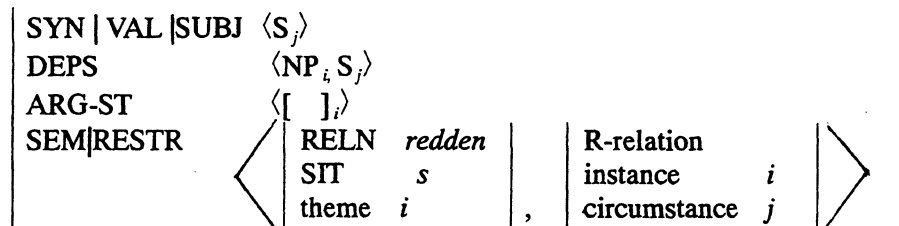$$

Given these mechanisms, (10) is intuitively an ordinary structure with a clausal complement. The clause bears an index shared by the theme argument of the predicate *to be sad (saddening)* in its restriction set, as well as by an argument in its argument structure.   The adverbial clause in (11), which is mapped through Argument Extension in (13), is also an ordinary structure in the sense that the adjunct (adverbial clause) is included only in VAL and DEPS.

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[6] The analysis is limited to the cases involving nominative marker [ga], since the diachronic development attested by Ishigaki (1955) is limited the clauses marked with [ga].

3.2   IHRC

I propose that a predicate taking IHRC roughly has the following structure, which is for (8):

(14)   IHRC

$$
\begin{bmatrix}
\text{SYN | VAL |SUBJ} & \langle S_j \rangle \\
\text{DEPS} & \langle NP_i\, S_j \rangle \\
\text{ARG-ST} & \langle [\quad]_i \rangle \\
\text{SEM|RESTR} & \left\langle
\begin{bmatrix}
\text{RELN} & redden \\
\text{SIT} & s \\
\text{theme} & i
\end{bmatrix},
\begin{bmatrix}
\text{R-relation} & \\
\text{instance} & i \\
\text{circumstance} & j
\end{bmatrix}
\right\rangle
\end{bmatrix}
$$

This is again not the feature structure of the lexeme *to redden*. The proposed structure indicates that the predicate syntactically takes a clausal (S) argument, which, however, does not play a role in the *reddening* relation (or the relation designated by the main predicate). This is introduced by the Argument Extension in (12), and hence is present in DEPS as well. On the other hand, the theme argument of the *reddening* relation is coindexed with an argument in the ARG-ST, and consequently with an NP argument in DEPS, but it is not syntactically realized as an argument (hence, absent from VAL (SUBJ) list.) Intuitively, then, this structure tries to capture the obvious syntax-semantics discrepancy of IHRC; IHRC is syntactically a clausal complement, but the main predicate requires as its argument an NP denoting an entity, which, however, is not its syntactic argument.

Notice that in the structure (14), the required entity (theme argument indexed as *i*) is not directly linked to an argument of the clausal complement. Instead, I assume that they are linked by a special kind of pragmatic relation termed R-relation here, following Yoon's (1993) practice and spirit in his comprehensive approach to the relative clause (noun modification) structures in Korean (and presumably applicable to Japanese as well).[7] The R-relation takes two arguments: one which is coindexed with a semantic argument that the main predicate requires, and the other circumstantial argument (proposition) which is coindexed with the clausal complement. In the present case, what this means is that there was an event in which the agent picked a flower and put it on his fan to observe, and something salient in the event was turning red. What was turning red is most likely to be interpreted as the flower after all. Though the linkage is considerably indirect for a "relative clause," this kind of indirectness is not a drawback of the analysis. As mentioned in Footnote 2 above, it is a fact that IHRC allows the target which is not explicitly included in the IHRC, and that IHRC is semantically distinct from EHRC, which involves direct linkage.[8] The indirect linkage via R-relation is an advantage in that it offers a more comprehensive and adequate account of IHRC.
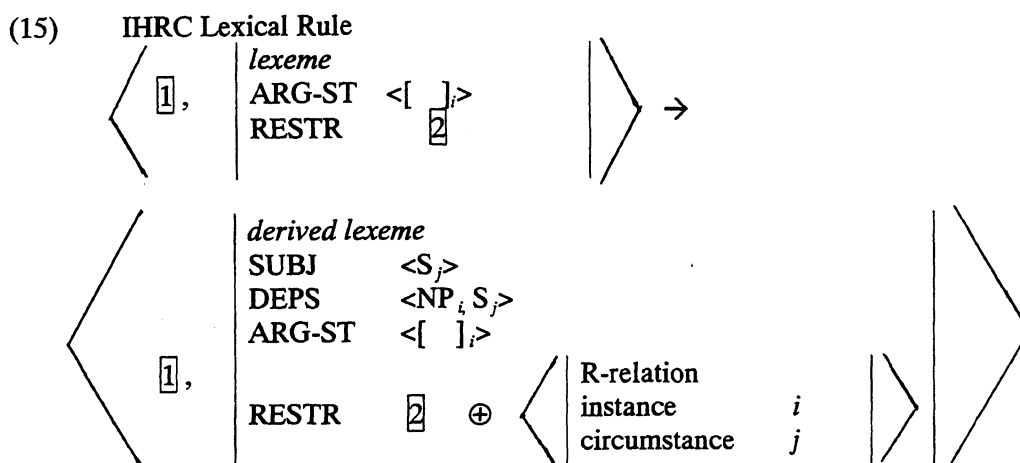
I started with an assumption that IHRC is uniquely elusive and unstable as an independent class because of the two traits of IHRC: (1) IHRC is structurally similar to clausal complement and adverbial clause, and (2) IHRC has a highly marked structure. Comparing (14) with (10) and (11), one would easily see the trait (1). IHRC shares the VAL feature with clausal complement, and DEPS feature with adverbial clause.

The trait (2) concerns the licensing mechanism of the structure. The proposed structure of the main verb is obviously anomalous, in that its syntactic subcategorization and argument structure involve a marked discrepancy. I propose that the following lexical rule to license this structure. The lexical rule (15) licenses a predicate which overrides the regular syntactic mapping of Argument Realization in (12):[9]

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[7] Importantly, I do not mean that the R-relation for noun modifications discussed in Yoon (1993) and the R-relation for IHRC are identical. They share certain properties, but they are distinct relations. I use the term R-relation as a general concept, from which different types of relations are instantiated.

[8] So the proposed analysis could be interpreted as a HPSG version of adverbial clause analysis. The issue, however, seems largely terminological.
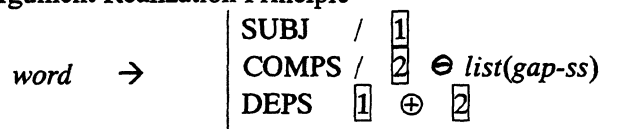
[9] Sag and Wasow's (1999) Argument Realization Principle (ARP) and Bouma et al.'s (1999) one in (12) are different in that the former does not assume the level of DEPS but links ARG-ST and VAL directly. Otherwise

(15)   IHRC Lexical Rule

$$\left\langle \boxed{1}, \begin{array}{|l} \textit{lexeme} \\ \text{ARG-ST} \quad <[\quad]_i> \\ \text{RESTR} \quad \boxed{2} \end{array} \right\rangle \rightarrow$$

$$\left\langle \boxed{1}, \begin{array}{|l} \textit{derived lexeme} \\ \text{SUBJ} \quad <S_j> \\ \text{DEPS} \quad <NP_i\ S_j> \\ \text{ARG-ST} \quad <[\quad]_i> \\ \text{RESTR} \quad \boxed{2} \oplus \left\langle \begin{array}{|l} \text{R-relation} \\ \text{instance} \qquad i \\ \text{circumstance} \quad j \end{array} \right\rangle \end{array} \right\rangle$$

The core operation of this rule is to license the anomalous argument projection from DEPS to VAL features, together with the introduction of R-relation.   Notice that the projection from the ARG-ST to DEPS features in the output of the rule simply simulates the regular Argument Extension in (13).   And if the DEPS in the rule goes through the regular Argument Realization in (12), we would get the VAL feature of the adverbial clause in (11), which explains why the IHRC repeatedly gave rise to the adverbial clause in the history of Japanese.   That is to say, from the same ARG-ST, a clausal complement obtains if it is directly mapped to VAL features through ARP, an adverbial clause if it goes through Argument Extension before ARP, and an IHRC if goes through a lexical rule which simulates the Argument Extension while overriding ARP.

In other words, it is proposed that the licensing of IHRC is endorsed by the defeasibility of ARP, which has been tacitly maintained undefeasible cross-linguistically (Sag and Wasow 1999, Bouma, et al. 1999).   The ARP in Japanese as default inheritance is independently supported by the data of the *te-ar* resultative in Modern Japanese, which at least suggests that ARP can be defeasible in a certain system of language.[10]   The following represents the defeasible version of Argument Realization Principle for Japanese:

(16) Japanese Argument Realization Principle

$$word \rightarrow \begin{array}{|l} \text{SUBJ} \quad / \quad \boxed{1} \\ \text{COMPS} \ / \ \boxed{2} \ominus \textit{list(gap-ss)} \\ \text{DEPS} \quad \boxed{1} \oplus \boxed{2} \end{array}$$

Overriding a strong constraining principle like ARP may well imply the lack of constructional stability, which is the very trait of IHRC in Japanese.   Neither clausal complement nor adverbial clause is anomalous in this sense, since both of them abide by ARP.   This difference I claim explains the unique kind of elusiveness and unstability of IHRC as a class of structure.   From this consideration it is suggested that the development from clausal complement through IHRC to adverbial clause embodies the loss and regain of stability.   In particular, the recurring development from IHRC into the adverbial clause is motivated by the strong quest for stability.

4   Conclusion

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they are the same, and I henceforth call Bouma et al's (1999) Argument Realization as ARP.

[10] The ARP in Japanese as default inheritance is independently supported by the data of the *te-ar* resultative in Modern Japanese, which at least suggests that ARP can be defeasible in a certain system of language.   For the analysis, please refer to Kikuta (to appear).

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In this paper I have proposed a way to define IHRC in terms of the lexical specification of the main predicate. I accounted for the elusiveness of IHRC drawing on its structural closeness with clausal complement and adverbial clause, and on the markedness of the structure. I claimed that ARP is defeasible in Japanese, and that the structure of IHRC is highly marked in that it goes through a lexical rule which overrides the ARP.

Additional theoretical implications of the proposed analysis include that it demonstrated the effectiveness of the level of Dependents (DEPS) proposed by Bouma et al. (1999). This interface level makes it possible not only to capture the commonality between the IHRC and adverbial clause, but also to represent how IHRC motivated the development of adverbial clause.

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