

# Relevance of Grammar and Pragmatics to the Relevancy Condition\*

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This article claims that what is referred to as the Relevancy Condition on Korean Internally Headed Relative Clauses (IHRC) (Kuroda 1976-77, Y-B Kim 2002) consists of both grammatical and pragmatic sub-conditions, which respectively make the embedded clause related to the embedding clause via a grammatical mediator and bear a circumstantial, a causal, or a concessive relation to it. I show, however, that while the grammatical condition has to be met by every IHRC, the pragmatic condition need not be, contra the prevailing assumption. Based on this observation, I classify IHRCs into two types: the entity-central type and the event-central type. In addition, I take up the fundamental question yet to be answered, namely why such a condition holds for the IHRC construction to begin with.

**Key words:** internally-headed relative clauses, the relevancy condition, grammatical sub-condition, pragmatic sub-condition, lexical aspect, grammatical aspect, entity-central IHRCs, event-central IHRCs, event subordination

## 1. Introduction

Korean has what is called the Internally-Headed Relative Clause (IHRC) construction, illustrated in (1), in which the semantic head noun of the relative clause occurs inside of the embedded clause, rather than outside thereof, with a grammatical category *kes* following it.

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(1) The IHRC construction:<sup>1</sup>

John-un	[[ <b>sakwa</b> -ka	thakca-wi-ey	iss-n]-un
J.-Top	[[apple-Nom	table.top-Loc	exist-Imprf]-Rel
<b>kes</b> ]-ul	cip-e	tul-ess-ta.	
kes]-Acc	grasp-Comp	lift-Pst-Decl	

‘There was an/the apple on the table and John picked it up.’<sup>2</sup>

A long-standing puzzle surrounding the IHRC construction is that it is subject to an interpretability condition called the Relevancy Condition, given in (2), when the more familiar externally headed relative clause (EHRC) construction is not (see, among others, C Lee 2001, Y-B Kim 2002).<sup>3</sup>

(2) **The Relevancy Condition:**<sup>4</sup>

For a pivot-independent relative clause [i.e., an IHRC] to be acceptable, it is necessary that it be interpreted pragmatically in such a way as to be directly relevant to the pragmatic content of its matrix clause.

(Kuroda 1976-77, reprinted in Kuroda 1992: 147)

To illustrate, compare (1) and (3).

(3) \*John-un [[sakwa,-ka **ecey** thakca-wi-ey  
 J.-Top [[apple-Nom **yesterday** table.top-Loc  
 iss-te]-un kes,]-ul **onul** cip-e  
 exist-Remote.Pst]-Rel kes]-Acc **today** grasp-Comp

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<sup>1</sup> In this paper, for transcribing the Korean data and the Warlpiri data, the following abbreviations are used:

Acc: accusative case; Aux: auxiliary; Cau: causative; Comp: complex predicate marker; Conj: conjunction; Cop: copula; Dat: dative case; Decl: declarative sentence; Erg: ergative case; Gen: genitive case; Hon: honorific; Loc: locative particle; Neg: Negation; Nom: nominative case; Imprf: Imperfective aspect; Prf: perfect aspect; Pst: past tense; Rel: relative marker; Sg: singular; Top: topic.

<sup>2</sup> What would be the most accurate English translation of the Korean IHRC construction remains rather unclear, because it does not have the semantics of a restrictive relative clause construction, as has been noted in the literature (see B-S Yang 1994, Y Jung 1995, M-J Kim 2004). Hence, to avoid further complications, throughout this paper, I will mostly employ a coordinate structure for translating the relevant Korean data.

<sup>3</sup> The IHRC construction also has numerous syntactic, semantic, and information-structural properties. See S-e Jhang (1991, 1994), B-S Yang (1993, 1994), B-S Park (1994), D Chung (1999), Y-B Kim (2002), C Chung & J-B Kim (2003), M-J Kim (2004, 2007), M Lee (2004), J Lee (2006) and references therein.

<sup>4</sup> This condition was originally proposed for the IHRC construction in Japanese but has been adopted for Korean, due to the striking parallel between the two languages.

tul-ess-ta.  
lift-Pst-Decl

Intended: ‘There was an apple on the table yesterday and John picked it up today.’

In view of the Relevancy Condition, (1) is interpretable but (3) is not,<sup>5</sup> because, here, the embedded clause describes an event that is temporally remote from the embedding clause’s event, making the IHRC bear less direct relevance to the pragmatic content of the embedding clause.<sup>6</sup>

Imposing the Relevancy Condition on the IHRC construction provides a convenient way to explain away some of the peculiarities of the construction. But it does not account for why such a condition should hold to begin with. Furthermore, as it stands, it is not readily testable, because relevancy is not defined clearly.<sup>7</sup> For this reason, we cannot give a principled account of the contrast between sentences like (4) and (5). Imagine that these sentences were uttered in a context in which John had a fight with his sister Mary. He lost the fight, so he wanted to do something to upset her.

(4)	John-un	[[Mary-ka	ecey	inhyeng-ul
	J.-Top	[[M.-Nom	yesterday	doll-Acc
	mantul-Ø]-un	kes]-ul	onul	nayta peliessta.
	make-Prf]-Rel	kes]-Acc	today	took and threw away.

‘Mary made a doll yesterday and John threw it away today.’

(5)	*John-un	[[Mary-ka	ecey	inhyeng-ul
	J.-Top	[[M.-Nom	yesterday	doll-Acc
	halwu	congil	kaci-ko	nol-Ø]-un kes]-ul
	day	long	have-Comp	play-Prf]-Rel kes]-Acc

<sup>5</sup> In this paper, I do not differentiate between ‘(un)acceptable’, ‘(un)grammatical’, and ‘(un)interpretable’.

<sup>6</sup> The sentence becomes grammatical when an EHRC occurs instead of an IHRC, as shown in (i).

(i)	John-un	[[ <sub>ei</sub>	<b>ecey</b>	thakca-wi-ey	<b>iss-te]-un</b>
	J.-Top	[[ <sub>__</sub>	<b>yesterday</b>	table.top-Loc	<b>exist-Remote.Pst]-Rel</b>
	sakwa-lul		<b>onul</b>	cip-e	tul-ess-ta.
	apple-Acc		<b>today</b>	grasp-Comp	lift-Pst-Decl

‘Today John picked up an apple that was on the table yesterday.’

<sup>7</sup> Kuroda (1976-77, reprinted as Kuroda 1992, ch. 3) states that the Relevancy Condition can be satisfied if the embedding clause shares time or location with the embedding clause’s content or provides a motivation for it, but he remains silent as to whether time-location sharing and motivational relation between two events are the only instances of relevancy.

onul	nayta peliessta.
today	took and threw away.

Intended: ‘Mary played with a doll all day yesterday and John threw it away today.’

The contrast between (4) and (5) is hard to capture by relying solely on the Relevancy Condition, because they seem to equally satisfy or violate it: in both sentences, the embedded clause describes an event that is not co-temporaneous with the embedding clause’s event, just as in (3). In addition, in both cases, the content of the embedded clause seems to provide a strong enough motivation for the embedding clause’s subject’s behavior: in (4), the fact that Mary made a doll suggests that the doll might be rather precious to her. Hence, throwing it away would make her upset, which is what John wants to accomplish, given the discourse context. Similarly, in (5), the fact that Mary played with a doll all day long suggests that she is rather fond of the doll. Hence, getting rid of it would hurt her feelings, which is what John wants.

Recently, Y-B Kim (2002) offered a revised Relevancy Condition (RRC), given in (6).<sup>8,9</sup>

**(6) Revised Relevancy Condition (RRC)**

An event  $e$  is relevant to some other event(s)  $e'$  iff

- (i)  $\langle e, e' \rangle \in R_m$ , where  $R_m$  is a set of relations retrievable from the background knowledge of the discourse participants,
- (ii) the predicates denoting  $e$  and  $e'$  share arguments which are pragmatically conspicuous w.r.t.  $r_m$  ( $r_m \in R_m$ ), and
- (iii) the speaker is attuned to  $r_m$ .

(Y-B Kim 2002: 558, (40))

According to Y-B Kim, the two events described by the embedded and the embedding clauses have to stand in some sort of binding relation by sharing *pragmatically conspicuous arguments*. Importantly, what gets to be a pragmatically conspicuous argument varies according to the aspectual properties of the embedded clause’s predicate or the embedded predicate for short. If the embedded predicate is an activity verb in Vendler’s (1957) or Dowty’s (1979) classification, the pragmatically conspicuous argument will be the spatio-temporal

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<sup>8</sup> Several authors, in particular S-e Jhang (1991), B-S Yang (1994), and B-S Park (1994) have also tried to capture some of the interpretive peculiarities of the IHRC construction. Unlike Y-B Kim (2002), however, they do not take up the Relevancy Condition directly and propose a revised version thereof. Hence they are not discussed here. See Y-B Kim (2002) for a brief review of some of these works.

<sup>9</sup> For Japanese IHRCs, Fuji (1998) offers a rendition of the Relevancy Condition.

argument in the sense of Kratzer (1995). This means that the two events described by the embedded clause and the embedding clause must occur at the same time, in the same location. On the other hand, if the embedded predicate is an achievement or an accomplishment verb,<sup>10</sup> what serves as the conspicuous argument is a ‘resultant theme’, which is defined as an object that results from the culmination of the event described by the embedded clause (pp. 556-8). This means that when the embedded event contains a resultant theme, it need not share the same spatio-temporal argument with the embedding event.

Clearly, Y-B Kim’s RRC-based analysis offers a more explicit description of the phenomenon than Kuroda’s original relevancy condition. Furthermore, it shows that not just purely pragmatic factors but also linguistic factors such as the lexical aspect of the embedded predicate matter in interpreting sentences embedding IHRCs. Consequently, it provides a way to account for the contrast between (4) and (5). Under this analysis, (4) is judged good because the embedded predicate is an accomplishment type and hence the two events can be linked by the resultant theme, namely, the doll, rather than by the spatio-temporal argument. By contrast, (5) comes out unacceptable because the embedded verb is an activity type and yet the two events described by the embedded clause and the embedding clause do not share the spatio-temporal arguments.

Despite these merits, however, the RRC-based analysis suffers from several empirical problems. For instance, it wrongly predicts (7) to be ungrammatical, because even though the embedded predicate *tochakha-* ‘to arrive’ is an achievement type, its meaning does not produce a new object or entity, unlike an accomplishment predicate like *cip cis-* ‘to build a house’ does, and furthermore, the events described by the embedded and the embedding clause do not share the spatio-temporal arguments.<sup>11</sup>

- (7) John-un      [[sonnim-i    yek-ey      **tochakha-shi-Ø]-n**    kes]-ul  
       J.-Top        [[guest-Nom   station-Loc **arrive-Hon-Prf]-Rel**   kes]-Acc  
       hothel-lo    moshi-ko    ka-ess-ta.  
       hotel-Goal   take(hon)-KO   go-Pst-Decl.

‘A/the guest arrived at the station and John took him/her to the hotel.’

Another weakness of the RRC is illustrated by its inability to capture the contrast between (8) and (9). In both cases, the main predicate of the embedded

<sup>10</sup> Here, verbs actually mean VPs or predicates. Although these two terms do not mean the same, to keep matters simple, I follow Y-B Kim and do not differentiate them here.

<sup>11</sup> Y-B Kim (2002), in fact, provides an example like (7) to criticize D Chung’s (1999) analysis of the IHRC construction, but he does not discuss exactly how his RRC-based analysis would handle such cases.

clause is an activity predicate *tali* ‘run’ and yet the events described by the embedded and the embedding clauses do not share spatio-temporal arguments. Given this, the RRC will predict both sentences to come out unacceptable, but (9) is judged considerably better, to the point where it can be judged impeccable by some speakers.

- (8) \*John-un [[Mary-ka **talli-Ø]-n kes]-ul  
 J.-Top [[M.-Nom **run-Prf]-Rel kes]-Acc  
 mwul-ul cwu-ess-ta.  
 water-Acc give-Pst-Decl****

Intended: ‘Mary ran and John offered water to her (immediately after that).’

- (9) (?)John-un [[Mary-ka **talli-ki-lul mak machi-Ø]-n  
 J.-Top [[M.-Nom **run-nom-Acc just finish-Prf]-Rel  
 kes]-ul mwul-ul cwu-ess-ta.  
 kes]-Acc water-Acc give-Pst-Decl****

‘Mary just finished running and John offered water to her (immediately after that).’

These facts show that although Y-B Kim’s RCC-based analysis has made a significant step forward in capturing the interpretative behavior of IHRCs, it still falls short of explaining the full spectrum of data. Moreover, it raises the following questions:

- (10) **Questions to be answered:**
- (i) What constitutes a meaningful relation that holds between the two events described by the embedded and the embedding clauses in the IHRC construction?
  - (ii) What linguistic factors other than lexical aspect affect the acceptability of sentences?
  - (iii) What does every well-formed IHRC sentence have in common, regardless of the embedded predicate’s Aktionsart, that is, be it an achievement, an accomplishment, or an activity/process type?
  - (iv) What exactly is the division of labor between pragmatic factors and linguistic factors in determining the interpretability of sentences?

In the remainder of this article, I answer these questions by offering a more precise and empirically adequate rendition of the Relevancy Condition and the RRC while incorporating their insights. The new condition will consist of both

grammatical and pragmatic sub-conditions. The grammatical sub-condition ensures that there is a temporal overlap between the contents of the embedded and the embedding clauses; the pragmatic sub-condition ensures that the content of the embedded clause bears a circumstantial, cause-effect, or concessive relation to the content of the embedding clause. I further show that, while the grammatical condition has to be met by every IHRC, the pragmatic condition need not be. Based on this observation, I classify IHRCs into two types: the entity-central type and the event-central type. It will be shown that this two-way typology aligns well with the two distinctive discourse-pragmatic functions sentences instantiating the IHRC construction seem to fulfill. Another important claim will be that the interpretability condition on the IHRC construction reflects a more general principle that governs the interpretation of a complex clause structure wherein one clause is subordinated to another without an overt connective linking them. Support for this claim will be drawn from parallels between the IHRC construction and other complex clause constructions from unrelated languages such as the free adjunct construction in English and the adjoined relative clause construction in Warlpiri.

## 2. A New Interpretability Condition

One of the most important lessons we have learned from reviewing the existing analyses is that what is referred to as the Relevancy Condition has both pragmatic and grammatical components to it. In this section, I capitalize on this lesson and propose a new interpretability condition that has these components built into it. I also provide answers to the first two questions addressed in (10).

### 2.1. The Grammatical Sub-condition

I argue that the grammatical component of the interpretability condition on the IHRC construction requires that the embedded clause describe a temporary state that holds at the time of the embedding clause's event and this state contain the intended semantic head noun of the IHRC. This requirement is more formally stated in (11). Informally, this formalization means that, for a sentence instantiating the IHRC construction to be judged acceptable, the embedded clause's event  $e$  must have a stative subpart  $s$ , which temporally overlaps with the embedding event  $e'$ , and the relative clause's semantic head noun's denotation  $k$  must bear a thematic role (e.g., Agent or Theme), both in  $s$  and in  $e'$ .

(11) **The New Interpretability Condition (partial)**

In order for an IHRC to be interpretable, for events  $e$  and  $e'$  the embedded and the embedding clauses describe, respectively, and a temporary state  $s$ , an individual  $k$ , and thematic relations  $P$  and  $Q$ ,

- (i)  $s \leq e \ \& \ s \infty e'$ ; and
- (ii)  $P(k, s) \ \& \ Q(k, e')$ .

Here, ' $\leq$ ' indicates a part-whole relation, and  $\infty$  temporal overlap.

This restriction is reminiscent of what M-J Kim (2007) proposed as a solution to the so-called formal linking problem, which is usually considered independent of the workings of the Relevancy Condition.<sup>12</sup> But, unlike M-J Kim, who does not specify whether the embedded clause should describe a temporary state or a permanent state, I explicitly argue that it has to describe a temporary state. Making this amendment is necessary because we will otherwise incorrectly predict that the embedded clause can contain an individual-level predicate in the sense of Carlson (1977), even though such cases have been shown to be unacceptable by several authors (e.g., C Lee 2001, Y-B Kim 2002, M Lee 2004). To illustrate this point, consider (12).

- (12) \*Minho-nun [[Mary-ka **yengliha**]-n kes]-ul koylophiessta  
 M.-Top [[M.-Nom **smart**]-Rel kes]-Acc bothered.

Intended: 'Mary is smart and Minho bothered her for that.'

(Adapted from Y-B Kim's (2002) (35a))

Here, the embedded clause describes the state of someone being smart, and the intended head noun Mary is in that state and, furthermore, this state holds at the time of the embedding clause's content. But the sentence is judged to be unacceptable and the only offending factor we can identify is that the embedded clause describes a semi-permanent property of an individual, namely 'being smart'. Hence, we conclude that the embedded clause of an IHRC must describe a temporary state.

What does it mean for a sentence to describe a temporary state, though? In the literature, temporary state descriptions are typically treated as synonymous with stage-level predicates in the sense of Carlson (1977). This is because prototypical stage-level predicates such as 'hungry' and 'depressed' describe spatio-temporally bound or non-permanent states of an individual. In view of

<sup>12</sup> The formal linking problem refers to the puzzle that, despite the well-known discourse sensitivity and interpretive indeterminacy, not every nominal that occurs in the embedded clause can serve as the head noun of the IHRC. For details, see M-J Kim (2007) and references therein. For further relevant discussion on the restriction on the semantic head noun of an IHRC, see, among others, S-e Jhang (1991, 1994).

Parsons' (1990) treatment of Aspect, however, sentences can also describe still other types of temporary state when the grammatical aspect is progressive or perfect.<sup>13</sup>

According to Parsons, a progressive sentence describes an *in-progress state*, which holds true while the event described by the sentential predicate is in progress (p. 234). Although he does not discuss of whom an in-progress state holds true, I assume that it holds true of every individual that participates in the event described by the sentence. This assumption is deemed reasonable because when an event is in progress, every participant in the event undergoes certain developmental stages, which are precisely what in-progress states are supposed to capture. To exemplify, the English sentence *John is throwing a ball* describes the in-progress states of both John and a ball, and these states hold true as long as the event is in development and hence temporary.

As for a perfect sentence, Parsons submits that it describes a *target state* when its predicate is telic, i.e., an accomplishment or an achievement type. A target state describes the state of the direct object or the incremental theme after the event described by the sentence has culminated.<sup>14</sup> This state is considered temporary because it may not last forever. To illustrate, the sentence *John has thrown a ball onto the roof* describes the target state of the ball after John threw it onto the roof. This state will cease to hold when the ball is removed from the roof and thus is temporary (pp. 234-5).

To summarize Parsons' idea as it is adopted here, both in-progress states and target states are temporary states, just like the denotations of stage-level predicates, but there are two crucial differences between them. One is that while an in-progress state can be described by any progressive sentence, regardless of the Aktionsart of the sentential predicate, a target state can be described only by perfect sentences with a telic predicate. The other difference is that whereas in-progress states hold true of any event participant, target states hold only for (incremental) theme arguments.

These differences between the two types of temporary states, in conjunction with the proposed grammatical condition on the IHRC construction, lets us see that not only the lexical aspect but also the grammatical aspect of the embedded clause's predicate affects the acceptability of sentences. The reason is that whether a sentence describes a temporary state or not will depend on both the Aktionsart of the predicate and its grammatical aspect. If the sentence has an atelic predicate such as activity type, then it can describe a temporary state

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<sup>13</sup> Parsons' (1990) treatment of Aspect is also adopted by M-J Kim (2007) but, unlike here, she uses it primarily to establish that certain types of Aspect can introduce a state to the semantic composition.

<sup>14</sup> Kamp & Reyle (1993) call this state a *result state*. But I adopt Parsons' terminology here and continue to call it a *target state*.

only if the grammatical aspect is progressive. Hence, the sentence will be judged good only if the embedded clause takes on progressive aspectual morphology. If the embedded clause has a telic predicate, i.e., an accomplishment or an achievement verb, then it can describe a temporary state not only when the grammatical aspect is progressive but also when it is perfect.<sup>15</sup> Therefore, the sentence will be judged good even if the embedded clause takes on perfect aspect morphology as long as the intended head noun is the (incremental) theme argument; if the embedded clause’s aspect is progressive, what serves as the head noun of the IHRC will not matter, since every event participant is contained in an in-progress state.

This analysis, in effect, obviates the need to write separate interpretability conditions according to whether the embedded clause’s predicate is an accomplishment/achievement type or an activity type, unlike the case in Y-B Kim (2002). To see this, reconsider sentences (4) and (5).

- (4) John-un            [[Mary-ka    ecey            inhyeng-ul  
       J.-Top            [[M.-Nom    yesterday      doll-Acc  
  
       mantul-∅]-un    kes]-ul        onul            nayta peliessta.  
       make-Prf]-rel    kes]-Acc      today          took and threw away.  
  
       ‘Mary made a doll yesterday and John threw it away today.’

- (5) \*John-un            [[Mary-ka    ece            inhyeng-ul  
       J.-Top            [[M.-Nom    yesterday      doll-Acc  
  
       halwu            congil        kaci-ko        nol-∅]-un    kes]-ul  
       day              long           have-Comp    play-Prf]-Rel kes]-Acc  
  
       onul              nayta peliessta.  
       today             took and threw away.

Intended: ‘Mary played with a doll all day yesterday and John threw it away today.’

Recall that, under Y-B Kim’s RRC-based analysis, the reason for the contrast between (4) and (5) was due to the presence vs. absence of a pragmatically conspicuous argument. But what counts as a pragmatically conspicuous argument differs from one sentence to another, because the embedded clauses

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<sup>15</sup> It has been observed by M-J Kim (2007) (and also by Fuji (1998) for Japanese) and that the embedded clause of the IHRC construction resists perfective aspect, which presumably locates the event time inside the topic time (Klein 1994): in the IHRC construction, for some reason, the event time of the embedded clause of the IHRC construction invariably precedes the topic time, namely, the time of the embedding clause, rather than being included in it.

have different types of predicate, namely, an accomplishment type vs. an activity type. Furthermore, the explanation does not follow from the RRC itself; it comes from *ad hoc* assumptions on pragmatically conspicuous arguments. Under the analysis advanced here, on the other hand, the two sentences receive a more uniform account: in both cases, their (un)grammaticality is attributed to the interaction between the lexical and the grammatical aspect of the embedded clause. In (4), the embedded clause has a telic predicate with perfect aspect and hence it describes a target state. This state describes the state of the doll, which is the intended head noun of the IHRC, after the culmination of the event. Furthermore, this state holds at the time of the embedding clause's event; the doll was still in the target state when John came along and threw it away. Hence the sentence is predicted to be judged good. In (5), by contrast, the embedded clause has an atelic predicate with perfect aspect. Hence, it does not describe a temporary state of the doll, in violation of the proposed condition (11).

Reconsider now sentences (8) and (9). The contrast between the two sentences was problematic for Y-B Kim's analysis but it now receives a simple explanation, along the same line of reasoning we just offered for (4) and (5).

- (8) \*John-un [[Mary-ka **tali-Ø]-n kes]-ul  
 J.-Top [[M.-Nom **run-Prf]-Rel kes]-Acc  
 mwul-ul cwu-ess-ta.  
 water-Acc give-Pst-Decl****

Intended: 'Mary ran and John offered water to her (immediately after that).'

- (9) (?)John-un [[Mary-ka **tali-ki-lul mak machi-Ø]-n  
 J.-Top [[M.-Nom **run-nom-Acc just finish-Prf]-Rel  
 kes]-ul mwul-ul cwu-ess-ta.  
 kes]-Acc water-Acc give-Pst-Decl****

'Mary just finished running and John offered water to her (immediately after that).'

In both (8) and (9), the embedded clause's grammatical aspect is perfect but, importantly, their predicates differ in their telicity: while the embedded predicate of (8) is atelic, the embedded predicate of (9) is telic, due to the presence of the aspectual predicate *machi-* 'finish'. Hence, only the latter describes the target state of the theme argument Mary, which is the intended head noun of the IHRC. This state holds at the time of the embedding clause's content; that is, Mary was still in that state when John offered her water. Consequently, the sentence comes out acceptable.

An additional welcome result of the present analysis is that it explains why some sentences are never judged good on the intended readings, regardless of how satisfactorily they meet the Relevancy Condition. Such cases are illustrated by (13): suppose that this sentence was uttered in a context in which John has a goofy cat named Sophie. Given this information, we can parse the sentence in such a way that the content of the embedded clause bears a causal relation to the content of the embedding clause. Despite this parsing possibility, however, the sentence cannot be judged acceptable if the head noun of an IHRC is construed as Sophie, as indicated by the English translations.

- (13) John-un [[Sophie-ka ecey cangnankam-ul  
 J.-Top [[S.-Nom yesterday toy-Acc  
 pwuswu-Ø]-un kes]-ul onul nayta peliessta.  
 destroy-Prf]-Rel kes]-Acc today took and threw away.

‘Sophie destroyed a toy yesterday and John took it (= the toy) out and threw it away today.’

Not: ‘Sophie destroyed a toy yesterday and John took her (= Sophie) out and threw her away today.’

In the light of the proposed analysis, the impossible reading is expected because Sophie is not in a temporary state that is described by the embedded clause; what is in this state is the toy that she broke yesterday. Hence the sentence can be judged good only if what John threw away is construed as the toy.<sup>16</sup>

The interpretive behavior of (13) clearly shows that discourse-pragmatic factors can affect the acceptability of sentences but only to a certain extent; they cannot override the grammatical conditions proposed in (11). But then why is it that the IHRC construction is so notorious for its discourse-sensitivity? Also, what does it mean for an event description to be interpreted as bearing pragmatic relevance to another event description? In the next section, I answer

<sup>16</sup> An anonymous reviewer wonders whether the analysis put forward here can capture the interpretive behavior of sentences like (i) without resorting to S-e Jhang’s (1994) NP accessibility-based account, since it appears that what can serve as the semantic head noun of an IHRC seems to correlate with its grammatical function in the sentence.

(i) [[Sonyen-i kong-ul cha-Ø]-un kes]-i changmwun-ul kkay-ss-ta  
 [[boy-Nom ball-Acc kick-Prf]-Rel kes]-Nom window-Acc break-Pst-Decl  
 ‘The ball that the boy kicked broke the window.’

Not: ‘The boy who kicked the ball broke the window.’

I believe that we can deal with sentences like this by applying the account offered for (13); the boy cannot be the semantic head noun, because it is not in the state that overlaps with the embedding clause’s eventuality. Given this, it seems that the proposed analysis can capture the facts just as well as S-E Jhang’s analysis does without running into the problems pointed out by Y-B Kim (2002).

these questions by spelling out the pragmatic sub-condition of the interpretability condition.<sup>17</sup>

## 2.2. The Pragmatic Sub-condition

This pragmatic component of the interpretability condition dictates that the embedded clause be interpreted in such a way as to readily bear a circumstantial, a cause-effect, or a concessive/contrastive relation to the embedding clause's content. This amounts to saying that a well-formed IHRC must receive an interpretation in which it is paraphrased as a 'while/when', 'because', or 'even though' clause that restricts the meaning of the embedding clause. This condition incorporates the insights of Kuroda's (1976-77) and Y-B Kim's (2002) Relevancy Conditions. Unlike its predecessors, however, it specifies what kind of relations can hold between the contents of the embedded and the embedding clauses—that is, what constitutes a relevant or meaningful relation that can hold between two events. Furthermore, it delimits such relations to be of three kinds, namely, circumstantial, causal, and concessive/contrastive. Thus, we now have an interpretability condition on the IHRC construction that is concrete enough to be validated or invalidated.

By adding this pragmatic component to the interpretability condition developed in (11), we obtain (14). Here, the third sub-condition is meant to capture the idea that the state *s* which the embedded clause describes must bear a circumstantial, a causal, or a concessive/contrastive relation to the eventuality *e*'

<sup>17</sup> The reviewer who raised the issue in fn. 16 also notes, by citing S-e Jhang (1994), that IHRCs which occur in the subject position of the embedded clause tend to behave like a reason or temporal modifier of the embedding clause, as illustrated in (ii) and (iii).

- (i) [Sinpwu-ka elkwul-i yeppu-Ø]-n key] cham mayhokcek-i-ta  
 bride-Nom face-Nom pretty-N.pst]-Rel kes.Nom very attractive-Cop-Decl  
 'The bride whose face is pretty looks very attractive.  
 Or 'Because the bride is pretty, she looks very attractive.'
- (ii) [Nay-ka Inho-uy son-ul cap-Ø]-un key] chakaw-ess-ta  
 [I-Nom I-Gen hand-Acc hold-Prf]-Rel Kes.Nom] be.cold-Pst-Decl  
 'Inho's hand, which I held, was cold'  
 Or 'When I held Inho by the hand, his hand was cold.'

According to my intuitions, (i) is good but (ii) is hopelessly ungrammatical. So limiting our discussion to (i), I submit that it does not instantiate the IHRC construction, even though it looks deceptively similar, because the embedding predicate *cham mayhokcek-i* 'be very attractive' can select for non-individual-denoting expressions such as *cem* 'point/aspect', as shown in (ii').

- (ii') [[Sinpwu-ka elkwul-i yeppu-Ø]-n cem]-i cham mayhokcek-i-ta  
 [[bride-Nom face-Nom pretty-N.pst]-Rel point]-Nom very attractive-Cop-Decl  
 Lit.: 'The bride is very attractive to me because of the point that she is pretty.'

Given this, while I acknowledge that there might be a significant correlation between an IHRC's grammatical function and its interpretive possibilities, I do not address this issue in this paper.

that the embedding clause describes.

(14) **The New Interpretability Condition (complete)**

In order for an IHRC to be interpretable, for events  $e$  and  $e'$  the embedded and the embedding clauses describe, respectively, and a temporary state  $s$ , an individual  $k$ , and thematic relations  $P$  and  $Q$ , and a relation  $r$ ,

- (i)  $s \leq e$  &  $s \infty e'$ ;
- (ii)  $P(k, s)$  &  $Q(k, e')$ ; and
- (iii)  $r \langle s, e' \rangle$ , where  $r \in \{\text{circumstantial, cause-effect, concessive}\}$ .

Here, ' $\leq$ ' indicates a part-whole relation, and ' $\infty$ ' a temporal overlap.

At this juncture, a question arises as to when one relation, as opposed to another, gets assigned to the contents of the embedded and the embedding clauses. I hypothesize that a circumstantial relation is always available by default, while the availability of the other two relations hinges on the discourse context and the discourse participants' world knowledge; that is, they require some work on the discourse participants. The reason for this difference is that, whereas satisfying the grammatical sub-condition would automatically make the embedded clause bear a circumstantial relation to the embedding clause, in order to assign a cause-effect or a concessive relation to the contents of the embedded and the embedding clauses, the discourse participants have to see some sort of implicational or counter-implicational relation between them and make inferences from it. To be more specific, if the embedded clause describes  $s$  and the embedding clause describes  $e'$ , in order to assign a cause-effect relation between them, the discourse participants or hearers have to know that  $s$  implicates  $e'$ . In order to assign a concessive relation between them, on the other hand, they need to know that  $s$  implicates  $\sim e'$ , i.e., the opposite of  $e'$ . Needless to say, seeing such relations between two eventualities can be due to either contextually given knowledge or world knowledge. But it has to be shared by the discourse participants as common ground or background assumptions. This idea is in line with what Y.-B. Kim intends to convey by imposing the first sub-condition of the RRC on the IHRC construction, which dictates that the set of relations that hold between the two events should be retrievable from the background knowledge of the discourse participants.

This analysis lets us explain why there is greater individual variation on the acceptability judgments if the embedded clause's aspect is perfect, as opposed to progressive: when the embedded clause has perfect aspect, it is much more difficult to assign a circumstantial relation between two eventualities and thereby give a 'while' clause reading to an IHRC. This difficulty coerces a cause-effect or a concessive reading for the IHRC but neither reading can be

readily assigned without precisely knowing the discourse context or what the speaker had in mind when uttering the sentence. Turning the logic around, we can also explain why sentences with perfect aspect tend to be judged acceptable only when the embedded clause is interpreted to bear a cause-effect or a concessive relation to the embedding clause’s content. This is because, in such cases, circumstantial readings are harder to assign.

The proposed analysis also enables us to address how and why the discourse context can affect the acceptability of sentences, even dramatically in some cases. To exemplify, out of the blue, the following sentence would be judged bad. This is because, under normal circumstances, one would not attack someone who is visiting from a far-away place.

(15)	#John <sub>j</sub> -un	[[Bill-i	men	kos-ulopwuthe
	J.-Top	[[B.-Nom	remote	place-from
	ku <sub>j</sub> -lul	chac-a	o-∅]-n	kes]-ul
	he-Acc	visit-Comp	come-Prf]-Rel	kes]-Acc
	ttayli-e	nwuphiessta.		
	hit-Conj	floored		

Intended: ‘Bill came to visit John from a remote place and John flooded him.’

(Adapted from Kuroda 1992: 151, (19))

Suppose, however, that we all know that John has a mental problem which causes him to be violent at times. Today is one of the days in which he suffers severely from this mental problem. Judged against this backdrop, the sentence comes out perfectly acceptable, because we can now assign a concessive relation between the contents of the embedded and the embedding clauses.

This shifted acceptability judgment on (15) suggests that, in many cases, what is at stake in interpreting the IHRC construction is not the acceptability or unacceptability of a sentence; rather, it is the pragmatic oddity or unlikelihood of the event it describes. This kind of tricky discourse-sensitivity of the IHRC construction can only be captured by integrating pragmatic factors into its interpretability condition. But if we integrate pragmatic factors, then we will need to clarify their exact contribution to determining the acceptability or unacceptability of sentences. This need, I believe, is met by the proposed analysis.

### 2.3. Summary

In this section, I have proposed a novel interpretability condition on the IHRC construction that has both grammatical and pragmatic components

built into it. It has been shown that the grammatical condition subsumes Y-B Kim's notion of pragmatically conspicuous arguments and the pragmatic condition subsumes much of the core idea behind Kuroda's original relevancy condition. Along the way, I have also answered the first two questions raised in (10): (i) what constitutes as a meaningful relation between the two eventualities described by the embedded and the embedding clauses are circumstantial, causal, and concessive; (ii) not just the lexical aspect but also the grammatical aspect of the embedded clause matters, because together they determine what kind of state the embedded clause can describe and what argument will be in it. In the next section, I answer the other two questions, namely (iii) what does every well-formed IHRC have in common, regardless of its Aktionsart?, (iv) what exactly is the division of labor between pragmatic factors and linguistic factors?

### 3. The Two Subconditions and Two Types of IHRCs

In this section, I show that the two sub-conditions I just proposed do not have an equal status. In brief, while the grammatical condition needs to be met by every sentence, the pragmatic condition need not be. This is illustrated by comparing (16) and (17).

- (16) John-un [[Mary-ka ppang-ul mantu-Ø]-un kes]-ul mekessta.  
 J.-Top [[M.-Nom bread-Acc make-Prf]-Rel kes]-Acc ate

'John ate the result of Mary's bread-making event, i.e., the bread.'

Not necessarily: 'John ate the bread that Mary baked while/because/although it was in the state of being baked.'

- (17) John-un [[Mary-ka naka-n]-un kes]-ul putcapassta.  
 J.-Top [[M.-Nom go.out-Prg]-Rel kes]-Acc stopped

Not: John stopped the result of Mary's going out event.

'John stopped Mary when (or because) she was going out.'

In both (16) and (17), the grammatical sub-condition is met, because the embedded clauses describe temporary states that hold true at the time of the embedding clause's events and they contain the intended heads, namely, the bread and Mary, respectively. When it comes to the pragmatic condition, however, only (17) is construed as needing to satisfy it. That is, the embedded clause of (16) need not bear a circumstantial, cause-effect, or concessive relation to the matrix clause, whereas the embedded clause of (17) must bear a circumstantial (or a causal) relation to the embedding clause, as indicated by the English translations.

Why do the two sub-conditions have a different status? I submit that this is because there are two types of IHRCs, one that is subject to only the grammatical condition and the other that is subject to both the grammatical and the pragmatic conditions. Importantly, the difference between the two types of IHRCs correlates with their meaning.<sup>18</sup> Descriptively speaking, IHRCs that only need to meet the grammatical condition such as (16) are entity-oriented and those that need to meet both the grammatical and pragmatic sub-conditions such as (17) are event-oriented. For expository convenience, here and throughout the paper, I will call the former entity-central IHRCs and the latter event-central IHRCs. I turn now to stating their characteristics.

Entity-central IHRCs are called as such, because their primary function is to present or introduce a new discourse entity that has come into existence due to the culmination of the event described by the embedded clause. Given this definition, it is not surprising that the embedded predicate of an entity-central IHRC is typically a verb of creation such as ‘bake bread’ and ‘build a house’ with perfect aspect marking on it. It is also expected that this type of IHRCs encompasses cases that involve resultant themes in the sense of Y-B Kim, which refer to objects that come into existence due to the culmination of relevant events. The following sentences further illustrate the entity-central IHRC construction.<sup>19</sup>

Further illustration of the entity-central IHRC construction

- (18) John-un [[Mary-ka mwul-ul kkuli-Ø]-un kes]-ulo  
 J.-Top [[M.-Nom water-Acc boil-Prf]-Rel kes]-with  
 khephi-lul thassta.  
 coffee-Acc made

‘John prepared coffee with the result of Mary’s water-boiling event, i.e., the boiled water.’

(Adapted from Y-B Kim (2002), ex. (11a))

- (19) John-un [[Mary-ka pwul-ul phiwue twu-Ø]-un  
 J.-Top [[M.-Nom fire-Acc make leave-Prf]-Rel  
 kes]-ey mwul-lul ppwulyessta.  
 Kes]-Goal water-Acc sprinkled

‘John sprinkled water over the result of Mary’s fire-making event, i.e., the fire.’

(Adapted from Y-B Kim (2002), ex. (11b))

<sup>18</sup> Here, meaning encompasses both semantics and pragmatics including discourse functions.

<sup>19</sup> More illustrations are also found in the paper: e.g., (4).

- (20) John-un [[Mary-ka hongshi-lul mal-li-Ø]-n  
 J.-Top [[M.-Nom ripe.persimmon-Acc dried-Cau-Prf]-Rel  
 kes]-ul mekessta.  
 kes]-Acc ate

‘John ate the result of the event in which Mary dried a ripe persimmon, i.e., the dried persimmon.’

Turning now to event-central IHRCs, their primary function is to present the eventuality described by the embedded clause and relate it to the eventuality described by the embedding clause. That is, what is focused is the eventuality itself rather than a salient individual in it. Consequently, an event-central IHRC receives an interpretation in which it restricts the embedding clause’s content as if it were a ‘when/while’, ‘because’, or an ‘even though’ clause. From this, we can infer that what is at stake in the event-central IHRC construction is the relevance of the embedded clause’s content to the embedding clause’s content. This property has been illustrated by (17). Additional illustrations are also found in various places in this article. For instance, take sentences (1), (7), and (9), which are repeated below. Importantly, these examples also show that, in terms of form, there is no single characteristic that unifies event-central IHRCs except that the embedded predicate is not a verb of creation. Hence, one can say that, compared to entity-central IHRCs, event-central IHRCs constitute the elsewhere case.

Illustration of the event-central IHRC construction

- (1) John-un [[sakwa-ka thakca-wi-ey iss-n]-un  
 J.-Top [[apple-Nom table.top-Loc exist-Imprf]-Rel  
 kes]-ul cip-e tul-ess-ta.  
 kes]-Acc grasp-Comp lift-Pst-Decl

‘There was an/the apple on the table and John picked it up.’

Or ‘John picked up an/the apple because/when it was on the table.’

- (7) John-un [[sonnim-i yek-ey tochakha-shi-Ø]-n kes]-ul  
 J.-Top [[guest-Nom station-Loc arrive-Hon-Prf]-Rel kes]-Acc  
 hothel-lo moshi-ko ka-ess-ta.  
 hotel-Goal take(hon)-KO go-Pst-Decl

‘A/the guest arrived at the station and John took him/her to the hotel.’

Or ‘John took the guest to the hotel when he/she was in the state of having just arrived at the station.’

- (9) (?) John-un [[Mary-ka tali-ki-lul mak machi-Ø]-n  
 J.-Top [[M.-Nom run-nom-Acc just finish-Prf]-Rel  
 kes]-ul mwul-ul cwu-ess-ta.  
 kes]-Acc water-Acc give-Pst-Decl

‘Mary just finished running and John offered water to her (immediately after that).’

Or ‘John offered water to Mary when/because she just finished running.’

Given this characterization of the two types of IHRCs, we can now see more clearly why entity-oriented IHRCs are exempt from the pragmatic condition proposed in (14iii). This is because they are concerned with introducing new discourse participants which are in a temporary state described by the embedded clause, rather than making two event descriptions bear a tight semantic relation to each other. Hence, even though entity-central IHRCs can be interpreted in such a way as to bear one of the three relations to the embedding clauses, it is not required of them; such relations come out due to the discourse participants’ inferential reasoning on the situations described. On the other hand, event-oriented IHRCs have to meet both the grammatical and the pragmatic sub-conditions, because their function is to introduce an eventuality that forms a part-whole relation with the eventuality described by the embedding clause. This idea accords well with Kuroda’s insightful conjecture that, in the IHRC construction, the two events described by the embedded and the embedding clauses form a superordinate event either in the physical domain or in the consciousness of the protagonist of the matrix clause’s event (Kuroda 1992: 151). Under the present analysis, when the two events are circumstantially related, they form a superordinate event in the physical domain; when they are causally or concessively related, they form a superordinate event in the consciousness of a relevant protagonist.

To summarize this section, I have classified IHRCs into the entity-central type and the event-central type and have shown that while the grammatical sub-condition on IHRCs has to be met by both types of IHRC, the pragmatic sub-condition only needs to be met by the event-central type. Importantly, this analysis shows that pragmatic factors play a lesser important role in determining the acceptability of sentences, contrary to the prevailing assumption. This answers the other two questions in (10), namely (10iii) and (10iv).

#### 4. Why Such an Interpretability Condition on IHRCs?

Let me turn now to addressing a fundamental question that has been left

unaddressed in the literature, namely why the IHRC construction is subject to an interpretability condition whereas the EHRC construction is not.

I argue that such a condition is resorted to because the IHRC construction instantiates a complex clause construction wherein two clause meanings are connected without an overt connective. Such a complex clause forming strategy is obviously economical in that fewer words are used but it causes processing difficulty. Hence the resulting construction is subject to an interpretability condition that restricts the range of possible interpretations that can be assigned to its instantiations. The flip side of this claim is that the EHRC construction is not subject to the same kind of constraint because it does not instantiate the same kind of complex clause construction; what is being linked in this construction are two sets of individuals and what an EHRCs does is to restrict the head noun's meaning by reducing the size of the set in its denotation. For instance, the expression *thief who was running away* denotes a smaller set of thieves than *thief* does.

The begging question now is then why an IHRC can bear a circumstantial, a cause-effect, or a concessive relation to the embedding clause but not something else such as irony or paradox? I contend that this is because the three relations are encoded in the human mind as the most basic relations that can hold between two eventualities. This claim is supported by the fact that such relations are among the most commonly found in the interpretations of complex clause constructions that lack an overt connective. To illustrate, consider (21) and (22), which exemplify the free adjunct construction in English and the adjoined relative clause (RC) construction in Warlpiri. As documented by Stump (1985) and Hale (1976), respectively, in the free adjunct and the adjoined RC constructions, the subordinate clause is construed as standing in a temporal, causal, or concessive relation to the content of the superordinate clause, even though there is no overt connective linking the two clauses. Furthermore, the range of interpretations these adjuncts can receive relative to the matrix clauses is more or less indeterminate, just like the case with IHRCs.<sup>20</sup>

(21) The free adjunct construction in English:

- a. circumstantial or causal free adjunct:

**Listening to the radio**, John fell asleep.

- b. causal or circumstantial free adjunct:

**Still recovering from the recent surgery**, Joanna did not want to go on the trip.

<sup>20</sup> Kuroda (1976-77) and Shimoyama (2002: 123-24, fn. 29) have observed a similar parallel between Japanese IHRCs and English free adjuncts but these observations were not made in the context of addressing why the IHRC construction is subject to the Relevancy Condition.

- c. concessive or circumstantial free adjunct:

**Suffering from a severe cold**, John helped other people to move.

(22) The Warlpiri adjoined RC construction:<sup>21</sup>

- a. circumstantial/temporal RC:

Ngajulu-rlu	lpa-rna	karli	jarntu-rnu,
I-Erg	Aux-1Sg	boomerang	trim-Pst,

<b>kuja-Ø-npa</b>	<b>ya-nu-rnu</b>	<b>nyuntu</b>
<b>Comp-Aux-2sg</b>	<b>walk-Pst-hither</b>	<b>you</b>

'I was trimming a boomerang when you came up.'

- b. concessive RC:

<b>kutja-ka-lu</b>	<b>yuwarli</b>	<b>nganti-rni</b>	<b>jurlpu</b>	<b>panu-kari-rli</b>
<b>Comp-Aux</b>	<b>nest</b>	<b>build-non.past</b>	<b>bird</b>	<b>many-other-Erg</b>

<b>kankarlu</b>	<b>watiya-rla,</b>	<b>marna-ngka</b>	<b>ka-nyanu</b>
<b>up</b>	<b>tree-Loc,</b>	<b>spinifex-Loc</b>	<b>Aux-Refl</b>

jinjiwarnu-rulu	nganti-rni	yujuku-pardu.
jinjiwarnu-Erg	build-non.past	shelter-diminutive

'Whereas many other birds build a nest up in a tree, the jinjiwarnu (special bird) builds itself in a small shelter in the spinifex grass.'

- c. causal RC:

<b>Nyampu</b>	<b>kuja-ka-rna</b>	<b>junma</b>	<b>marda-rni</b>	<b>ngajulu-rlu,</b>
<b>his</b>	<b>Comp/Aux-1Sg</b>	<b>knite</b>	<b>have-non.past</b>	<b>1-Erg,</b>

ngula	kapu-rna-ju	ngajulu-rlu-lku	paji-rni.
so	Aux-1sg(Subj)-1sg(Obj)	1-Erg-now/then	cut-Non.past.

'I have this knife, so I'm going to cut myself now.'<sup>22</sup>

Another important argument in support of the present analysis comes from the fact that temporal connectives can often receive concessive interpretations. For instance, *while* and *when* can be readily replaced by *even though*, as the near semantic identity of the (a) and (b) sentences in (23) and (24) suggests.

<sup>21</sup> The Warlpiri sentences are taken from Hale's (1976) examples (5), (25), and (24), respectively.

<sup>22</sup> Hale (1976) does not call the relation that holds between the RC and the embedding clause as cause-effect. He says, however, that the 'relative clause specifies an enabling condition for the event projected in the main clause' (p. 87, emphasis added). When an event *e* serves as an enabling condition for another event *e'*, one is bound to bring about the other. This, I believe, justifies calling the relation cause-effect.

- (23) a. **While** John plays no musical instrument, he can sing rather well.  
 b. **Even though** John plays no musical instrument, he can sing rather well.
- (24) a. I had to go help Mary **when** I was suffering from a cold.  
 b. I had to go help Mary **even though** I was suffering from a cold.

This interpretive versatility of temporal connectives suggests that there is a profound connection between a temporal/circumstantial relation and a concessive relation. This connection can be taken to lend indirect support to the proposed idea that, in the human mind, temporal/circumstantial, causal and concessive relations are encoded as most basic relations that hold between two separate eventualities.

Alternatively, but relatedly, we can view the workings of the pragmatic sub-condition on the IHRC construction as a reflex of Gricean Maxims at a sub-utterance level. Given that sentences instantiating the IHRC construction instantiate complex clause constructions, they can be recast as mini-discourses. If such recasting is possible, then Gricean maxims should apply to these discourses, just as they apply to ordinary discourses. Since the IHRC construction does not contain an overt connective, of particular relevance to present discussion will be the Maxims of Manner and Relevance, which respectively dictate that utterances be clear and relevant to the purpose of the conversation (Grice 1975). Given the absence of an overt connective in the IHRC construction, the workings of these maxims will restrict possible readings for IHRCs to be ones that are readily identifiable. Since temporal/circumstantial, causal, and concessive readings seem to be the most commonly found readings for an embedded clause across languages, an IHRC receives one of the three interpretations.

Why do we then need the grammatical sub-condition, as well as the pragmatic sub-condition? I argue that it is needed to form a complex clause structure without using an overt connective. Events are discrete entities and thus cannot be connected to each other without a less discrete or more 'liquid' or glue-like entity linking them. Therefore, event subordination without an overt connective is bound to require a temporary state to be present in the structure connecting the events at issue. It is important to note that such a requirement is not construction-specific. Cross-linguistically, complex clause constructions concerned with forming bigger events by combining two separate events tend to comply with what Rothstein (2003) calls *time-space-participant connect*. This operation essentially says that, for two events to form one complex clause, they have to share time, space, and an event participant. Workings of this operation can be exemplified in the English participial small clause construction illustrated in (25).<sup>23</sup>

<sup>23</sup> See Fabricius-Hansen (2006) for a cross-linguistic survey of similar constructions.

- (25) a. John caught Mary **sneaking out of the room**.  
 b. John spotted Mary **cheating on the exam**.  
 c. John sprained my ankle **skating**.

All the three sentences above describe a complex event in which the eventuality described by the embedded clause forms a part-whole relation to the eventuality described by the embedding clause. In all cases, the embedded event also shares the time, the space, and an event participant with the embedding event. Importantly, this parallels the way in which sentences instantiating the IHRC construction are interpreted. Given this parallel, we can conjecture that the grammatical sub-condition on the IHRC construction may in fact be a variant of Rothstein's (2003) *time-space-participant connect* operation.

In sum, under scrutiny, the IHRC construction turns out to be not as exotic as it appears to be. Similar interpretability conditions are also found to be operative in other complex clause constructions.<sup>24</sup> All these constructions are subject to similar conditions because they result from a grammaticalization process that is regulated by both an economy-based constraint and a processing-based constraint. In essence, the economy-based constraint says, 'Avoid redundancy' and the processing-based constraint says, 'Make the semantic relation between the two clauses visible.' Consequently, if a construction has 'saved' one or two words by not pronouncing them, it has to delimit the range of possible interpretations. It can also be subject to the grammatical condition in (14i-ii) or Rothstein's *time-space-participant connect* because two events cannot be linked without some sort of grammatical mediator such as a temporary state or a pronominal.<sup>25</sup>

## 5. Summary and Conclusion

The central claim of this article has been that the Relevancy Condition on

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<sup>24</sup> There are of course some fine-grained differences between the IHRC construction and the other complex clause constructions. For instance, while temporal overlap between the contents of the embedded and the embedding clauses is necessary for the IHRC construction, temporal adjacency between the two is sufficient for the free adjunct construction (e.g., *John came home last week, leaving again this week*). This difference may arise because the IHRC is more integrated into the structure of the embedding clause, as suggested by the absence of an intonational break between the embedded and the embedding clauses, unlike the case in the free adjunct construction. I leave full exploration of this topic to future research.

<sup>25</sup> It is widely held that the IHRC construction contains some sort of pronominal that serves as the mediator between the semantic head noun inside the embedded clause and the argument of the embedding clause's predicate (see, among others, C Chung and J-B Kim (2003), M-J Kim (2004, 2007), J Lee (2006)). Similarly, free adjuncts, adjoined relatives, and participial small clauses are believed to involve pronominal linkers to the matrix clauses, be they null (e.g., PRO) or not. See the works cited in the text.

Korean IHRCs consists of both grammatical and pragmatic sub-conditions, which respectively ensure that the embedded clause gets related to the embedding clause via a grammatical mediator and it bears a circumstantial, a causal, or a concessive relation to it. We have seen, however, that what I call entity-central IHRCs need not meet the pragmatic condition, while event-central IHRCs need to meet both conditions. Another important idea advanced was that the interpretability condition reflects a possibly universal constraint that regulates a grammaticalization process wherein two event descriptions form one super-event description in the absence of an overt connective. It remains to be seen how the effects of the proposed condition can be derived compositionally and whether it carries over to Japanese IHRCs, whose parallel to Korean IHRCs invoked the Relevancy Condition in the first place.<sup>26</sup>

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<sup>26</sup> An anonymous reviewer raises an issue with the proposed two-way typology of IHRCs, suggesting that a uniform analysis would be more desirable. Evaluating the validity of this objection has to be left for future research as well.

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