

## Abstract

Whether the Coordinate Structure Constraint (CSC) (Ross, 1967) is a syntactic constraint has been discussed much in the literature. This paper reconsiders this issue by drawing on evidence from Japanese and Korean. Our examination of the CSC patterns in relative clauses in the two languages reveals that a pragmatically-based approach along the lines of Kehler (2002) predicts the relevant empirical patterns straightforwardly whereas alternative syntactic approaches run into many problems. We take these results to provide strong support for the view that the CSC is a pragmatic principle rather than a syntactic constraint.

## 1 Introduction

Ross (1967) first noted that extraction from a single conjunct as in (1a) results in an unacceptable sentence but that, if extraction occurs from *both* conjuncts, then the sentence is grammatical, as in (1b) (the latter case is known as ‘across-the-board’ (ATB) extraction).<sup>1,2</sup>

- (1) a. \*This is the magazine that [John bought \_\_] and [Mary bought the book].  
b. This is the magazine that [John bought \_\_] and [Mary didn’t buy \_\_].

Since Ross (1967), the above pattern has been accounted for in terms of a syntactic constraint known as the ‘Coordinate Structure Constraint’ (CSC). However, exceptions to the CSC such as the following, where extraction occurs from a single conjunct, were already noted by Ross himself:

- (2) This is the whiskey that John [went to the store] and [bought \_\_].
- (3) This is the stuff that the guys in the Caucasus [drink \_\_] and [live to be a hundred].

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<sup>1</sup>Grammaticality judgments for sentences taken from previous literature are those reported in the respective sources. Other examples reflect our own grammaticality judgments. In this paper, when marking the acceptability of sentences we do not make a distinction between ‘(syntactically) ungrammatical’ and ‘(semantically or pragmatically) infelicitous’ but simply mark all unacceptable sentences (i.e. sentences rejected by native speakers) with \*.

<sup>2</sup>A terminological note. In this paper, we only deal with cases of CSC violation involving the so-called ‘element constraint’ of the CSC (which prohibits extraction of elements *from* conjuncts). The other part of the CSC, the ‘conjunct constraint’ (which prohibits extraction *of* conjuncts themselves), is a totally different issue. Yatabe (2003) discusses some examples involving scrambling in Japanese that suggest that Japanese nominal coordination does not obey the conjunct constraint.

In (2) and (3), the events denoted by the two conjuncts hold asymmetric semantic relations, constituting either a temporally-ordered series of events (2) or a sequence of events related by a causal relation (3). Based on examples like these (for more data and discussion, see, e.g., Schmerling (1972), Goldsmith (1985), Lakoff (1986), Deane (1991) and Kehler (2002)), some researchers (such as Lakoff (1986), Deane (1991) and Kehler (2002)) have advocated an alternative view about the CSC wherein it is taken to be a pragmatic principle rather than a syntactic constraint.

Whether the CSC is a syntactic constraint or a pragmatic principle is still a highly controversial issue.<sup>3</sup> However, most discussion in the literature has centered on data from English alone, without much cross-linguistic considerations. This paper aims to make a first step in rectifying this situation and to shed a new light on the nature of the CSC by taking a closer look at the CSC patterns in two languages that are typologically distinct from English: Japanese and Korean. We focus on data involving what appear to be coordination constructions<sup>4</sup> in relative clauses in these languages. Crucially, under closer inspection, *both* the relative clause constructions and the apparent coordination constructions in Japanese and Korean turn out to have quite different syntactic properties from their English counterparts. As we will see below, these differences have significant implications for the issue under debate: we show that the syntactic differences of the relevant constructions pose almost insurmountable difficulties for syntactically-based approaches to the CSC whereas a pragmatically-based alternative automatically predicts the relevant data despite all of these syntactic differences.

## **2 Kehler's (2002) pragmatically-based analysis of the CSC effects in English**

We start with a brief review of Kehler's (2002) pragmatically-based analysis of the CSC patterns in English. His work is actually not the first attempt to view the CSC as a pragmatic principle (for example, Lakoff (1986) and Deane (1991) are important precursors), but what makes his analysis remarkable is that it gives a simple and coherent account of the relevant data in terms of a more general theory of discourse relations, which receives independent motivation from a number of complex linguistic phenomena including VP ellipsis, gapping and temporal interpretation of utterances in discourse.

In Kehler's theory, sentences are interpreted to establish one of the following discourse relations to one another: Resemblance, Contiguity, and Cause-effect. The sentences in (1)–(3), repeated here as (4)–(6), exemplify each relation.

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<sup>3</sup>For example, see Postal's (1998) fairly involved attempt to retain the CSC as a purely syntactic constraint; for a clear and concise critical review of Postal's approach, see Levine (2001).

<sup>4</sup>We use the term 'coordination-like constructions' to refer to these constructions as a group; for the reason that they are only *apparent* coordination constructions, see section 4.2.

(4) **Resemblance:**

- a. \*This is the magazine that [John bought \_\_] and [Mary bought the book].
- b. This is the magazine that [John bought \_\_] and [Mary didn't buy \_\_].

(5) **Contiguity:**

This is the whiskey that John [went to the store] and [bought \_\_].

(6) **Cause-Effect:**

This is the stuff that the guys in the Caucasus [drink \_\_] and [live to be a hundred].

The Resemblance relation holds between two clauses when the events denoted by them are construed as being similar or in contrast to one another, as in (4). The Contiguity relation holds between clauses that are construed as forming a sequence of temporally adjacent events, as exemplified in (5). Sentences like (6) exemplify the Cause-Effect relation.

The key idea in Kehler's account of the CSC patterns in English is that different discourse relations impose different constraints on the conjuncts of a coordinate structure in terms of what constitutes a coherent discourse. In particular, the Resemblance relation (but not the other two relations) imposes a requirement on each conjunct of a coordinate structure such that it be parallel to other conjuncts in *all relevant respects* (in what follows, we call this constraint the 'parallelism requirement'). Essentially, Kehler accounts for the (un-)acceptability of CSC violations in terms of the presence vs. absence of this parallelism requirement.

First, the contrast in (4) receives an account along the following lines. The crucial auxiliary assumption here, which is motivated by standard operational tests for topichood (for details, see Kehler (2002)), is that an extracted element is identified as the topic of the sentence from which it is extracted. Given this, the parallelism requirement dictates that the topic of the whole coordinate structure (i.e. the extracted element) be identified as the topic in *all* conjuncts. This explains why extraction from a single conjunct is unacceptable in sentences like (4a). In (4a), the topic of the whole coordinate structure is identified as the topic *only* in the first conjunct, due to the fact that extraction is taking place only from that conjunct. But this produces an asymmetry in terms of topichood in the two conjuncts and hence the parallelism requirement is violated. By contrast, if extraction occurs across the board, the head noun is identified as the topic for both conjuncts and thus the parallelism requirement is maintained. Hence, the ATB extraction cases like (4b) are correctly predicted to be acceptable.

Second, cases involving non-Resemblance relations such as (5) and (6) are crucially different from the above case involving the Resemblance relation in that they do *not* impose the parallelism requirement. From this it follows that the topic of the whole coordinate structure need *not* be distributed across all of the conjuncts. What this means in terms of CSC patterns is that non-ATB extraction is predicted

to be possible in these cases, since there is no problem if the topic of just a single conjunct is extracted and identified as the topic of the whole sentence.

Thus, Kehler's (2002) pragmatically-based analysis makes correct predictions about the CSC patterns in English. If this analysis is on the right track, we should expect to find similar patterns in constructions in other languages that have similar pragmatic functions as English extraction and coordination, even if the constructions in question turn out to have different syntactic properties from their English counterparts. The next section presents data from Japanese and Korean relative clauses involving coordination-like constructions as an instance of just such an empirical domain.

### 3 CSC patterns in Japanese and Korean relative clauses

This section presents data exemplifying the CSC patterns in Japanese and Korean relative clauses. We will review the properties of relative clauses and coordination-like constructions in these languages more closely in section 4. For the time being, it suffices to introduce some basic facts and terminology about the coordination-like constructions in the two languages. In Japanese and Korean, what appears to be a verbal coordination is expressed by marking the non-final conjuncts with the following morphemes: *-te* or *-i* in Japanese and *-ko* in Korean (see the examples below). We call these constructions the *-te/-i/-ko* constructions, respectively. Unlike in Japanese, there are two variants of the *-ko* construction in Korean due to the optionality of a tense marker in the non-final conjunct. We refer to the tensed and untensed variants as the 'tensed *-ko* construction' and the 'untensed *-ko* construction', respectively.

The CSC patterns in Japanese and Korean relative clauses are basically parallel to those in English. First, (7) and (8) exemplify cases involving the Resemblance relation in Kehler's terminology.

- (7) a. \*Kore-ga [John-ga \_\_\_ kat-te/ka-i] [Mary-ga hon-o  
           this-NOM John-NOM    buy-TE/buy-I Mary-NOM book-ACC  
           kat-ta]    zassi-da.  
           buy-PAST magazine-COP  
           'This is the magazine that John bought and Mary bought the book.'
- b. Kore-ga [John-ga \_\_\_ kat-te/ka-i] [Mary-ga \_\_\_ kaw-anakat-ta]  
           this-NOM John-NOM    buy-TE/buy-I Mary-NOM    buy-NEG-PAST  
           zassi-da.  
           magazine-COP  
           'This is the magazine that John bought and Mary did not buy.'

- (8) a. \*I kes-un [John-i \_\_\_ sa(-ess)-ko] [Mary-ka chayk-ul  
This thing-TOP John-NOM buy-PAST-KO Mary-NOM book-ACC  
sa-n] capci-i-ta.  
buy-PAST.REL magazine-COP-DECL  
'This is the magazine such that John bought and Mary bought the book.'
- b. I kes-un [John-i \_\_\_ sa(-ess)-ko] [Mary-ka \_\_\_  
This thing-TOP John-NOM buy-PAST-KO Mary-NOM  
an-sa-n] capci-i-ta.  
NEG-buy-PAST.REL magazine-COP-DECL  
'This is the magazine that John bought and Mary did not buy.'

Just like the corresponding English examples in (1), the CSC is obeyed when the two clauses are semantically symmetric: ATB relativization is acceptable as in (7b) and (8b), but non-ATB relativization leads to unacceptability as in (7a) and (8a).

By contrast, if the discourse relation between the two clauses is either Contiguity or Cause-Effect, the CSC pattern differs from the above case. The relevant examples are given below:

- (9) a. Kore-ga [John-ga \_\_\_ non-de/nom-i] [byooki-ga naot-ta]  
this-NOM John-NOM take-TE/take-I sickness-NOM recover-PAST  
kusuri-da.  
medicine-COP  
'This is the medicine that John took and then recovered from the sickness.'
- b. Kore-ga [John-ga kesa oki-te/oki] [\_\_\_  
this-NOM John-NOM this.morning wake.up-TE/wake.up.I  
tabe-ta] pan-da.  
eat-PAST bread-COP  
'This is the bread that John woke up this morning and ate.'
- (10) a. I kes-un [John-i \_\_\_ mek(\*-ess)-ko] [byeng-i  
This thing-TOP John-NOM take-PAST-KO sickness-NOM  
na-un] yak-i-ta.  
get.better-PAST.REL medicine-COP-DECL  
'This is the medicine that John took and then recovered from the sickness.'
- b. I kes-un [John-i onul-achim-ey shyawue-lul ha(\*-ess)-ko]  
This thing-TOP John-NOM this.morning-at shower-ACC take-PAST-KO  
[\_\_\_ mek-un] ppang-i-ta.  
eat-PAST.REL bread-COP-DECL  
'This is the bread that John took a shower this morning and ate.'

As shown in (9) and (10), if the two clauses are semantically asymmetric, the CSC does not obtain (except for the tensed *-ko* construction, in which it *does* seem to

obtain even in these cases). In these examples, although relativization does not occur across the board, that does not lead to unacceptability.

Now, as can be seen in the examples in (10), the CSC pattern in the tensed *-ko* construction differs from that in other constructions in question. In the tensed *-ko* construction, irrespective of the semantic relation holding between the two clauses, relativization from a single conjunct results in an unacceptable sentence. Thus, the CSC pattern in this construction might be taken as evidence for the claim that, at least for the Korean tensed *-ko* construction, the CSC is a real *syntactic* constraint. However, the tensed *-ko* sentences become significantly ameliorated with explicit phrases indicating the Cause-Effect or the Contiguity relation, as shown by the following examples:

- (11) a. ?I kes-un [John-i \_\_\_ mek-ess-ko] [ku kyelkwa-lo  
 This thing-TOP John-NOM take-PAST-KO the result-as  
 pyeng-i na-un] yak-i-ta.  
 sickness-NOM get.better-PAST.REL medicine-COP-DECL  
 ‘This is the medicine that John took and as a result recovered from the  
 sickness.’
- b. ?I kes-un [John-i onul achim-ey shyawue-lul ha-ess-ko]  
 This thing-TOP John-NOM today morning-at shower-ACC do-PAST-KO  
 [ku taum-ey \_\_\_ mek-un] ppang-i-ta.  
 the next-at eat-PAST.REL bread-COP-DECL  
 ‘This is the bread that John woke up this morning and then ate.’

If the CSC effects in the tensed *-ko* construction were purely syntactic, the amelioration effect found in (11) would be totally unexpected. By contrast, although the unacceptability of the examples in (10) in the tensed variant still needs to be explained, the overall CSC pattern in the Japanese and Korean coordination-like constructions, including these amelioration cases, are fully consistent with the pragmatic approach along the lines of Kehler (2002), as we will discuss in more detail in section 5.

## 4 Properties of relative clauses and coordination-like constructions in Japanese and Korean

In the rest of the paper, we compare syntactically-based and pragmatically-based approaches to the CSC regarding what predictions they make with respect to the data we have seen in the previous section. But in order to embark on this task, we first need to clarify some basic syntactic and pragmatic properties of the relevant constructions in the two languages. Thus, in this section, we take a closer look at Japanese and Korean relative clauses and coordination-like constructions, highlighting the differences between these constructions and their English counterparts.

## 4.1 Properties of relative clauses in Japanese and Korean

### 4.1.1 The non-existence of a filler-gap linkage mechanism in Japanese and Korean relative clauses

Whether Japanese and Korean relative clauses involve a filler-gap linkage mechanism has been debated extensively in the literature. However, most of the arguments for filler-gap analyses depend heavily on theory-internal assumptions (in most cases, in some version of the GB theory; see, for example, Kameshima (1989) and Murasugi (1991) for such proposals). By contrast, by Occam's razor, empirical evidence clearly favors the alternative gapless analysis, as argued by Kuno (1973), Yoon (1993) and Matsumoto (1997). We reproduce here two pieces of evidence for the gapless analysis of relative clauses in Japanese and Korean discussed by these previous authors: (i) the existence of 'gapless' relative clauses, and (ii) the lack of island effects.

First, in Japanese and Korean, there are relative clauses that do not involve any empty positions as in (12), which have been referred to in the literature as 'gapless' relative clauses (cf. Kuno 1973).

- (12) a. [gomu-ga yaker-u] nioi  
rubber-NOM burn-NPST smell  
literally: 'the smell such that rubber burns'  
'the smell that characterizes the burning of rubber'
- b. [komwu-ka tha-nun] naymsay  
rubber-NOM burn-NPST.REL smell  
literally: 'the smell such that rubber burns'  
'the smell that characterizes the burning of rubber'

In the examples in (12), there is no missing element in the relative clause that would correspond to the 'filler', that is, the head noun. Thus, without invoking some ad-hoc mechanism, these examples cannot be accounted for in the filler-gap analysis. By contrast, this construction poses no problems for the gapless analysis, which does not presuppose the existence of an empty position in the relative clause.

Second, the lack of island effects in Japanese and Korean relative clauses provides further evidence against the filler-gap analysis, as has been pointed out by previous authors (Kuno 1973, Yoon 1993, Matsumoto 1997). (13) and (14) show that the Complex NP Constraint and the Adjunct Constraint are not obeyed in relative clauses in the two languages, respectively.

- (13) a. [[\_\_ ki-te i-ru] yoohuku-ga kitanai] sinsi  
wear-TE PROG-NPST clothes-NOM dirty.NPST gentleman  
'the gentleman such that the clothes that he is wearing is dirty'
- b. [[\_\_ ip-koiss-nun] yangpok-i telep-un] sinsa  
wear-PROG-PRES.REL suit-NOM be.dirty-REL gentleman  
'the gentleman such that the suit that he is wearing is dirty'

- (14) a. [[\_\_ sin-da    ato] mina-ga kanasin-da] zyosei  
           die-PAST after all-NOM miss-PAST woman  
           ‘the woman that all missed after she died’  
       b. [[\_\_ cwuk-un    hwuey] motwu-ka kuliuweha-n] yeca  
           die-PAST.REL after all-NOM miss-PAST.REL woman  
           ‘the woman that all missed after she died’

If Japanese and Korean relative clauses involved a filler-gap linkage mechanism, they would be expected to obey island constraints just like English relative clauses. Thus, the lack of island constraints is problematic for the filler-gap analysis.

#### 4.1.2 The pragmatic felicity condition on relative clauses in Japanese and Korean

Having established that Japanese and Korean relative clauses do not involve filler-gap dependency, the question arises as to how relative clauses in these languages are interpreted. In other words, how exactly is the relationship between the head noun and what appears to be the missing position in the relative clause established, assuming that the gapless analysis is correct? The consensus among researchers advocating the gapless analysis, building on Kuno’s (1973) insight on the correlation between relativization and topicalization in Japanese, is that that relation is established purely pragmatically. Here, we briefly outline the key aspects of the gapless analysis by taking Yoon’s (1993) analysis as an example. (It should be noted that Matsumoto’s (1997) analysis of Japanese relative clauses is essentially along the same lines and that we thus assume that Yoon’s analysis is applicable to the Japanese data as well.)

At the heart of Yoon’s analysis is the pragmatic condition imposed on relative clauses in Korean that they are felicitous only when the head noun denotes an entity that is the most salient object or individual in the event described by the relative clause. With this general requirement, an analysis of (15), which involves a simple relative clause with an apparent gap in the object position, goes as follows.

- (15) [John-i    \_\_ manna-un]    salam  
       John-NOM    meet-PAST.REL person  
       ‘the person that John met’

In Yoon’s analysis, the relative clause in (15) simply involves a null pronoun in the object position, not a gap that syntactically corresponds to a filler. Thus, the relative clause denotes an event of John’s meeting somebody, whose identity remains unspecified in the content expressed by the relative clause. Now, it is independently known that, in Japanese and Korean, null pronouns are felicitously used only when the identity of the missing element is recoverable from the context (cf., e.g., Kuno (1973, 18) and Kameyama (1985, 44–5)). What this means in terms of our example (15) is that, in order for the relative clause in this example to be interpretable at all, the identity of the unspecified individual has to be resolved in some way



or other. The most natural way to resolve that identity is to construe the relative clause as making some statement *about* that unspecified individual (in other words, to single out the individual in question as the most salient one), which then brings about the desired result that that individual is identified with the individual denoted by the head noun (by means of the general felicity condition imposed on relative clauses stated above). In other words, here, the link between the missing object and the head noun is established by means of an interaction of the pragmatic and syntactic/semantic properties of the linguistic expressions involved: on the one hand, there is the pragmatic requirement of the identification of the referent of the null pronoun in the relative clause, and, on the other hand, the basic syntactic/semantic function of a relative clause is to supply some information about the nominal expression that it modifies. These requirements are satisfied at the same time by construing the missing element in the relative clause to denote the most salient entity in the relevant event and thereby getting it identified with the head noun. And this is indeed the most readily available interpretation to native speakers of Korean (especially when the sentence is uttered in an out-of-the-blue context). Importantly, in this analysis, there is no syntactic coindexation between the missing element in the relative clause and the head noun.

The cases problematic for syntactic filler-gap analyses discussed in the preceding section can be straightforwardly dealt with in this pragmatically-based analysis. First, in gapless relative clauses like (12), there is no missing element in the relative clause, but the exact same mechanism of the interaction of the pragmatic and syntactico-semantic properties of relative clauses as in the above case carries over here. In the case of (12), we know from world knowledge that, when there is an event of rubber burning, the (distinct) smell of burning rubber can naturally be perceived as the salient entity in that event. Thus, in this sentence, the referent of the head noun (the smell) holds the salience relation to the event (of rubber burning) described by the relative clause in just the same way as in the case of the ordinary relative clause in (15). Second, regarding island effects, since the pragmatic analysis does not involve any syntactic filler-gap linkage mechanism, it correctly predicts that Japanese and Korean relative clauses do not exhibit island effects.

We take these results to strongly favor the pragmatically-based analysis of Japanese and Korean relative clauses along the lines of Yoon (1993) and Matsumoto (1997) over syntactic alternatives based on filler-gap linkage mechanisms.

## 4.2 Properties of *-te/-i/-ko* constructions in Japanese and Korean

Just like relative clauses in Japanese and Korean have very different syntactic properties from their English counterparts, what appear to correspond to English verbal (and sentential) coordination in these languages have very different morpho-syntactic properties from their English counterparts. Specifically, the *-te/-i/-ko* constructions in Japanese and Korean differ from English coordination in that the two clauses in these constructions are asymmetric with respect to the realization of post-verbal suffixes: the finiteness markers, namely, a tense marker in Japanese and

a mood marker in Korean, cannot appear in the non-final clauses in the *-te/-i/-ko* constructions. Relevant examples are given below:

- (16) [John-ga zassi-o kat(\*-ta)-te/-i] [Mary-ga hon-o  
John-NOM magazine-ACC buy-PAST-TE Mary-NOM book-ACC  
kat\*(-ta)].  
buy-PAST  
'John bought the magazine and Mary didn't buy the book.'
- (17) [John-i capci-lul sa(-ess)(\*-ta)-ko] [Mary-ka chayk-ul  
John-NOM magazine-ACC buy-PAST-DECL-KO Mary-NOM book-ACC  
sa-ess\*(-ta)].  
buy-PAST-DECL  
'John bought the magazine and Mary bought the book.'

In (16), the occurrence of the past tense marker *-ta* in the first clause makes the sentence strictly ungrammatical. Similarly, (17) is ungrammatical with the occurrence of the declarative marker *-ta* in the first clause. Due to this restriction on the occurrence of the finiteness marker, the *-te/-i/-ko*-marked clauses cannot stand alone as independent sentences (unlike the conjuncts in English sentential coordination).

Following Yuasa and Sadock (2002), we take percolation of categorical information as the criterion for the syntactic distinction between coordination and subordination. With this criterion, in terms of morpho-syntactic properties, all of the *-te/-i/-ko* constructions in Japanese and Korean are clearly subordination constructions since the finiteness specification of the whole sentence percolates only from the final clause.

In this section, we have seen that *both* relative clauses and the coordination-like constructions in Japanese and Korean have syntactic properties that are clearly different from those of their English counterparts. In the next two sections, we will examine the ramifications of the above independently observed facts about these constructions with respect to the predictions that syntactically-based and pragmatically-based analyses make on the data of Japanese and Korean CSC patterns that we have introduced in section 3.

## 5 Previous syntactic accounts of the CSC

As is the case with the two representative previous proposals (Tokashiki (1989) and Cho (2005)) that we are going to review in some detail in this section, *any* syntactic account of the CSC, due to the very fact that it is a *syntactic* account, would rest on the following two premises: (i) that the CSC is a constraint that is stated in terms of a filler-gap dependency mechanism and (ii) that only coordinate structures are sensitive to that constraint. But then, given what we have seen so far, it should already be clear that relative clauses and the coordination-like constructions in Japanese and Korean turn out to pose extremely severe difficulties to any such attempt, since the empirical evidence in both cases directly undermines the

premises that these approaches crucially presuppose. In the following subsections, we will see that these are indeed precisely the problems that syntactic approaches run into.

## 5.1 Tokashiki (1989)

Tokashiki (1989) notes that the *-te* and *-i* constructions in Japanese behave differently with respect to CSC effects. According to her, CSC effects obtain with the *-i* construction as in (18b), but not with the *-te* construction as in (18a)<sup>5</sup>

- (18) a. Kore-ga Taro-ga [oki-te] [\_\_ arat-ta] kutu-da.  
           this-NOM Taro-NOM wake.up-TE wash-PAST shoe-COP  
           ‘These are the shoes that Taro washed after he woke up.’  
           (lit. \*‘These are the shoes that Taro woke up and washed.’)
- b. ?\*Kore-ga Taro-ga [oki] [\_\_ arat-ta] kutu-da.  
           this-NOM Taro-NOM wake.up-I wash-PAST shoe-COP  
           intended: ‘These are the shoes that Taro washed after he woke up.’  
           (lit. \*‘These are the shoes that Taro woke up and washed.’)

Based on examples like those in (18), Tokashiki argues that the two constructions have different syntactic structures: the *-i* construction, in which the CSC holds, is syntactically coordinate, whereas the *-te* construction, in which the CSC does not hold, is syntactically subordinate.

There are several problems in Tokashiki’s analysis. First, conceptually, the coordination vs. subordination distinction for the *-te* and *-i* constructions has no independent motivation. (As we have seen in the previous section, both constructions are clearly subordination constructions as far as morpho-syntactic properties are concerned.) This syntactic distinction is introduced solely for the purpose of explaining away the case of the *-te* construction, which purportedly does not obey the CSC.

Second, empirically, Tokashiki’s generalization in terms of coordination vs. subordination does not perfectly correspond to the CSC patterns found in the actual

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<sup>5</sup>(18a) and (18b) are Tokashiki’s original examples and the native speaking author of this paper agrees with her judgments. However, we doubt that the unacceptability of (18b) has anything to do with syntactic structure of the sentence per se. Rather, it seems that the unacceptability of (18b) is largely due to the asymmetry in prosodic weight between the two clauses. As can be seen in the following examples, if the first clause is made prosodically heavier than in (18b) by inserting an adverb or by replacing the predicate with a synonymous but longer expression, the acceptability of the example significantly improves:

- (i) a. (?)Kore-ga Taro-ga [asa hayaku oki] [\_\_ arat-ta] kutu-da.  
           this-NOM Taro-NOM morning early wake.up-I wash-PAST shoe-COP  
           ‘These are the shoes that Taro washed after he woke up early in the morning.’
- b. (?)Kore-ga Taro-ga [me-o samas-i] [\_\_ arat-ta] kutu-da.  
           this-NOM Taro-NOM wake up-I wash-PAST shoe-COP  
           ‘These are the shoes that Taro washed after he woke up.’

data after all. As Tokashiki notes herself, even the *-i* construction does not obey the CSC if the semantic relation between the two clauses is asymmetric. The following example illustrates the point:

- (19) Kore-ga Taro-ga [mise-e ik-i] [\_\_\_ kat-ta] sake-da.  
 this-NOM Taro-NOM store-to go-I buy-PAST sake-COP  
 ‘This is the sake that Taro went to the store and bought.’  
 (Tokashiki, 1989, 70)

Tokashiki analyzes cases of the *-i* construction like the above as instantiating syntactic *subordination* (just like the *-te* construction), but she does not give any clear criterion as to how to tell apart cases involving coordination from cases involving subordination with the *-i* construction.

Exceptions to Tokashiki’s generalization are not limited to the *-i* construction. In her analysis, relativization from a single clause in the *-te* construction is predicted to be possible *regardless of* the meaning expressed by the sentence, since the *-te* construction allegedly instantiates subordination uniformly. However, data that counterexemplify this prediction can be easily found:

- (20) \*[Taro-ga kyoo uta-o utat-te] [Hanako-ga kinoo \_\_\_  
 Taro-NOM today song-ACC sing-TE Hanako-NOM yesterday  
 hii-ta] gakk-i-wa gitaa-da.  
 play-PAST instrument-TOP guitar-COP  
 intended: ‘The instrument such that Taro sang a song today and Hanako played it yesterday is the guitar.’

In (20) (where the semantic relation between the two clauses is Resemblance), even though the sentence involves the *-te* construction, relativization from a single clause is unacceptable.

Last but not least, Tokashiki’s whole analysis crucially rests on an empirically untenable assumption about the structure of relative clauses in Japanese. Namely, she assumes that relativization in Japanese involves a movement-based filler-gap linkage mechanism in the GB framework and that the unacceptable patterns such as (18b) are unacceptable *because of* the violation of the CSC stated as a constraint on this syntactic movement operation. However, as we have already discussed in section 4, the assumption that Japanese relative clauses involve a filler-gap linkage mechanism is unwarranted.

## 5.2 Cho (2005)

Cho’s (2005) account of the CSC patterns in Korean is very similar to Tokashiki’s account of the Japanese case. The two variants of the *-ko* construction in Korean are analyzed as instantiating different syntactic structures: coordination and subordination.

Cho first classifies the ‘conjunction’ marker *-ko* into an ‘adjunct’ suffix (designated here as *-ko<sub>1</sub>*) and a ‘conjunct’ suffix (designated here as *-ko<sub>2</sub>*). He then argues

that each type is associated with different syntactic structures (i.e. coordination vs. subordination) and that they receive different interpretations (i.e. ‘asymmetric’ vs. ‘symmetric’). The following table summarizes his proposal:

(21) The distinction between *-ko*<sub>1</sub> and *-ko*<sub>2</sub> (adapted from Cho 2005: 41)

	<i>-ko</i> <sub>1</sub> (adjunct suffix)	<i>-ko</i> <sub>2</sub> (conjunct suffix)
Meaning	‘after’, cause-effect, ‘nonetheless’ (concessive)	‘and’ (logical conjunction)
Structure	subordinate	coordinate
Stem	untensed	tensed
Constraints	none	CSC (with ATB)

Based on the above distinguishing properties of the two variants, Cho argues that the CSC effect obtains only in coordinate structures (i.e. the tensed variant) as in (22b), and not in subordinate structures (i.e. the untensed variant) as in (22a):

- (22) a. Kim-i [pap-ul mek-ko], [\_\_ mek-un] ppang  
Kim-NOM rice-ACC eat-KO1 eat-PAST.REL bread  
‘the bread which Kim ate after eating the rice’  
b. \*Kim-i [pap-ul mek-ess-ko], [\_\_ mek-un] ppang  
Kim-NOM rice-ACC eat-PAST-KO2 eat-PAST.REL bread  
‘the bread which Kim ate the rice and ate’ (Cho 2005: 39)

However, Cho’s analysis suffers from the same theoretical and empirical problems as Tokashiki’s analysis of the Japanese data. The coordination vs. subordination distinction for the two variants of the *-ko* construction not only lacks independent motivation but also cannot account for the whole range of empirical patterns.

In Cho’s analysis, the CSC is not operative in the untensed *-ko* construction since it is analyzed as syntactically subordinate. However, the untensed *-ko* construction *does* actually obey the CSC when the two clauses are semantically symmetric as exemplified by the following data:

- (23) a. \*I kes-un [John-i \_\_ sa-(ess)-ko] [Mary-ka chayk-ul  
This thing-TOP John-NOM buy-PAST-KO Mary-NOM book-ACC  
sa-n] capci-i-ta.  
buy-PAST.REL magazine-COP-DECL  
‘This is the magazine that John bought\_\_ and Mary bought the book.’  
b. I kes-un [John-i \_\_ sa-(ess)-ko] [Mary-ka \_\_  
This thing-TOP John-NOM buy-PAST-KO Mary-NOM  
an-sa-n] capci-i-ta.  
NEG-buy-PAST.REL magazine-COP-DECL  
‘This is the magazine that John bought and Mary did not buy.’

As can be seen in (23), regardless of the occurrence of the tense morpheme in the non-final clause, the ATB pattern is consistently acceptable but the non-ATB pattern is unacceptable. However, Cho’s analysis incorrectly predicts the untensed

version of (23a) to be grammatical since the untensed *-ko* construction is syntactically subordinate for him.

Furthermore, the amelioration effects in the tensed *-ko* construction remains a total mystery in Cho's analysis. According to his analysis, the tensed *-ko* construction, being syntactically coordinate, should uniformly resist CSC violations. However, as we have seen in section 3, examples of the tensed *-ko* construction involving Contiguity and Cause-Effect relations improve significantly with the help of explicit expressions that indicate intended discourse relations (the relevant examples can be found in (11) at the end of section 3).

Finally, Cho's analysis suffers from the same problem as Tokashiki's analysis regarding the way in which the CSC is formulated. His syntactic CSC is formulated as a constraint on the distribution of the SLASH feature in coordinate structures in the HPSG framework, which crucially presupposes the problematic assumption that Korean relative clauses involve a filler-gap linkage mechanism.

Our examination of the previous syntactic accounts of the CSC by Tokashiki (1989) and Cho (2005) has vividly brought out the magnitude of both the theoretical and the empirical obstacles that *any* syntactic account of the CSC would face. Given this, it seems undeniable that we have to accept the conclusion that accounting for the CSC patterns in Japanese and Korean relative clauses in terms of a syntactic constraint simply does not work. In the next section, we show that, in sharp contrast to this striking failure of syntactic approaches, a pragmatically-based alternative straightforwardly predicts the relevant data.

## 6 Pragmatically-based analysis of the CSC patterns in relative clauses in Japanese and Korean

In section 3, we have seen that the CSC patterns in Japanese and Korean relative clauses are basically the same as in their English counterparts. In this section, we show that these patterns are indeed exactly what is predicted by a pragmatically-based approach to the CSC along the lines of Kehler (2002).

First, in cases involving the Resemblance relation, only the ATB pattern is acceptable, as exemplified by the following data reproduced from section 3:

- (24) a. \*Kore-ga [John-ga \_\_\_ kat-te/ka-i] [Mary-ga hon-o  
this-NOM John-NOM buy-TE/buy-I Mary-NOM book-ACC  
kat-ta] zassi-da.  
buy-PAST magazine-COP  
'This is the magazine that John bought and Mary bought the book.'
- b. Kore-ga [John-ga \_\_\_ kat-te/ka-i] [Mary-ga \_\_\_ kaw-anakat-ta]  
this-NOM John-NOM buy-TE/buy-I Mary-NOM buy-NEG-PAST  
zassi-da.  
magazine-COP  
'This is the magazine that John bought and Mary did not buy.'

- (25) a. \*I kes-un [John-i \_\_\_ sa(-ess)-ko] [Mary-ka chayk-ul  
 This thing-TOP John-NOM buy-PAST-KO Mary-NOM book-ACC  
 sa-n] capci-i-ta.  
 buy-PAST.REL magazine-COP-DECL  
 'This is the magazine such that John bought and Mary bought the  
 book.'
- b. I kes-un [John-i \_\_\_ sa(-ess)-ko] [Mary-ka \_\_\_  
 This thing-TOP John-NOM buy-PAST-KO Mary-NOM  
 an-sa-n] capci-i-ta.  
 NEG-buy-PAST.REL magazine-COP-DECL  
 'This is the magazine that John bought and Mary did not buy.'

What is crucial in the pragmatic account is the property of relative clauses in Japanese and Korean that have been independently observed by previous authors (Yoon (1993) and Matsumoto (1997)) such that the head noun denotes a salient entity in the event described by the relative clause. Given this, relativization from a single clause violates the parallelism requirement in terms of what is identified as the salient entity across different clauses. By contrast, ATB relativization does not violate the parallelism requirement since, in this case, the head noun can be construed as denoting the salient entity with respect to *all* of the clauses involved.

The pragmatically-based analysis also correctly predicts that, with discourse relations other than Resemblance, non-ATB relativization in the *-te/-i/-ko* constructions is possible just like in English. The following are examples of Cause-Effect and Contiguity relations reproduced from section 3:

- (26) a. Kore-ga [John-ga \_\_\_ non-de/nom-i] [byooki-ga naot-ta]  
 this-NOM John-NOM take-TE/take-I sickness-NOM recover-PAST  
 kusuri-da.  
 medicine-COP  
 'This is the medicine that John took and then recovered from the sick-  
 ness.'
- b. Kore-ga [John-ga kesa oki-te/oki] [\_\_\_  
 this-NOM John-NOM this.morning wake.up-TE/wake.up.I  
 tabe-ta] pan-da.  
 eat-PAST bread-COP  
 'This is the bread that John woke up this morning and ate.'

- (27) a. I kes-un [John-i \_\_\_ mek(\*-ess)-ko] [byeng-i  
This thing-TOP John-NOM take-PAST-KO sickness-NOM  
na-un] yak-i-ta.  
get.better-PAST.REL medicine-COP-DECL  
'This is the medicine that John took and then recovered from the sick-  
ness.'
- b. I kes-un [John-i onul-achim-ey shyawue-lul ha(\*-ess)-ko]  
This thing-TOP John-NOM this.morning-at shower-ACC take-PAST-KO  
[\_\_\_ mek-un] ppang-i-ta.  
eat-PAST.REL bread-COP-DECL  
'This is the bread that John took a shower this morning and ate.'

In the pragmatic account, the (un-)acceptability of relativization is determined solely by whether the parallelism requirement (imposed by the Resemblance relation) is violated or not. In other words, in the case of non-Resemblance relations, where the parallelism requirement is not operative, nothing goes wrong if the head noun establishes the salience relation just with a single clause. This correctly predicts that all of the sentences in (26) and (27) are acceptable (modulo the anomalous behavior of the tensed *-ko* construction, to which we will turn momentarily).

Finally, we turn to the problematic behavior of the tensed *-ko* construction, whereby it apparently resists CSC violations regardless of the discourse relation in question. We do not have space to discuss this issue in any detail here, but it turns out that the unacceptability of the tensed variant in examples like (27) receives an independent explanation once we take into account the subtle semantic and pragmatic differences between the tensed and untensed variants of the *-ko* construction (a detailed illustration of this is given in Kubota and Lee (2008)). Thus, the anomalous pattern of the Korean tensed *-ko* construction does not necessarily lend support for the view that (at least some part of) the CSC is a syntactic constraint. Further confirmation for this conclusion comes from the amelioration cases for the tensed *-ko* construction that we have already discussed. The relevant examples are reproduced here:

- (28) a. ?I kes-un [John-i \_\_\_ mek-ess-ko] [*ku kyelkwa-lo*  
This thing-TOP John-NOM take-PAST-KO the result-as  
pyeng-i na-un] yak-i-ta.  
sickness-NOM get.better-PAST.REL medicine-COP-DECL  
'This is the medicine that John took and as a result recovered from the  
sickness.'
- b. ?I kes-un [John-i onul achim-ey shyawue-lul ha-ess-ko]  
This thing-TOP John-NOM today morning-at shower-ACC do-PAST-KO  
[*ku taum-ey* \_\_\_ mek-un] ppang-i-ta.  
the next-at eat-PAST.REL bread-COP-DECL  
'This is the bread that John woke up this morning and then ate.'

As we have already pointed out in the previous section, this amelioration effect is



highly problematic for syntactic approaches to the CSC. By contrast, it receives a natural explanation in the present pragmatically-based approach. Essentially, in the account spelled out in Kubota and Lee (2008), the tensed *-ko* construction is associated with the function of denying the existence of any discourse relation between the relevant clauses. The overt indicators in examples in (28) help establish the discourse relations that license non-ATB relativization, but the discourse relations signalled by these indicators are inherently in conflict with the function of the tensed *-ko* construction, which is precisely to deny the existence of such discourse relations. Thus, it is correctly predicted that these sentences improve in their acceptability as compared to those lacking such indicators, but that they improve only to a certain extent and do not become fully acceptable.

To sum up, in this section we have seen that the pragmatically-based analysis of the CSC predicts all of the relevant data regarding the CSC patterns in Japanese and Korean relative clauses straightforwardly.

## 7 Conclusion

In this paper, we have examined the CSC patterns in Japanese and Korean relative clauses and have discussed their theoretical implications. In concluding our discussion, we would like to emphasize once again the importance of the particular empirical domain that we have considered in this paper for the purpose of furthering our understanding of the true nature of the CSC. That is, due to the fact that *both* the relative clause constructions and the coordination-like constructions in Japanese and Korean have properties that are arguably different from those of corresponding constructions in English, the pragmatically-based analysis and syntactically-based alternatives to it that we have compared make strikingly different predictions about the data set examined in this paper. Specifically, whereas the pragmatically-based analysis straightforwardly predicts the correct empirical patterns (except for the single anomalous case of the tensed *-ko* construction, for which an independently motivated explanation is available elsewhere), such a prediction is not available in syntactic approaches; in a syntactic account, one could at best accommodate cases that deviate from the ‘basic’ pattern by means of ad-hoc stipulations. We thus conclude that our cross-linguistic examination of the CSC patterns in Japanese and Korean provides strong support for the view that the CSC is a pragmatic principle rather than a syntactic constraint.

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