Selection and Argument Structure: The Case of Morphological Causatives in Korean*

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Abstract

This paper proposes that morphological causatives in Korean are formed through the causative head, *Caus(e)*, selecting for an element of category Voice as its complement. Under the proposed view, various properties of the causative in Korean are examined and accounted for. Specifically, it is claimed that the limited productivity of morphological causatives and the ungrammaticality of morphological double causatives in Korean are due to the listedness of the causative allomorphs, and that the mono-predicational properties of the causative with respect to coordination and the scope of a degree adverb are attributed to the coordinate structure constraint and an adverb hierarchy, respectively. It is also shown that the bi-predicational properties of the causative with respect to the Condition B effect as well as the scopes of a manner adverb and the adverbial for 'again' can be successfully captured under the proposed approach. The discussion shows that the causative alternation in Korean can be best analyzed when it is viewed to be due to causativization that takes place in the syntax, which may extend to the causative alternation in other languages.

Keywords: causative, selection, argument structure, lexicalism, Korean

1 Introduction

The valence-changing alternation of the kind shown in (1) is often called the causative alternation as the variant with higher valence (1a) is interpreted to involve a causing event and a causer argument that bring about the eventuality described by the variant with lower valence (1b).

(1) a. A mischievous child broke the window.
b. The window broke.

Previous analyses of the causative alternation exemplified in (1) can be grouped roughly into two camps depending on which component of grammar is viewed to bear the primary responsibility. In one camp, it has been argued that the component that is responsible for the causative alternation is the lexicon (Hale and Keyser 1986; Levin and Rappaport Hovav 1995; Reinhart 2002; Reinhart and Siloni 2005; Koontz-Garboden 2009). According to the lexicalist approach, either the causative or the non-causative variants of the predicates participating in the alternation are derived via the lexical operation of decausativization or causativization, thereby the derived variants project structures in the syntax that are distinct from those of the underived ones. In this view, the lexicon is not a mere repository of memorized information; instead, it is a computationally active component of grammar in which generative processes take place to produce novel linguistic representations. In the other camp, on the other hand, it has been claimed that the causative alternation is attributed to the specific way in which each variant is constructed in the syntax, eliminating the need for the computationally active lexicon in grammar (Harley 1995, 2008; Pesetsky 1995; Pylkkänen 2008; Son 2006; Ramchand 2008). According to the syntactic view of the causative alternation, the lexicon can simply be the repository of idiosyncratic information; consequently, grammar can be modeled to have a single component, namely the syntax, where novel linguistic representations are productively generated.[1]

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1. Yet another possible approach to the causative alternation would be the kind proposed by Horvath and Siloni (2011), which is often called the split-lexicalist approach (see also Reinhart and Siloni 2005). Horvath and Siloni argue that (i) the causative-inchoative alternation (which they call the transitive-unaccusative alternation) is due to the lexical operation of decausativization crosslinguistically (Levin and Rappaport Hovav 1995; Reinhart 2002; Reinhart and Siloni 2005), and (ii) the instances of the causative alternation that do not fall under the causative-inchoative alternation are due to the process of causativization, which may apply either in the lexicon (e.g., Hungarian) or in the syntax (e.g., Japanese) depending on a language. The split-lexicalist approach may be grouped together with the lexicalist approach in a broad sense as both introduce the generative lexicon into grammar.

Previous analyses of the causative alternation may also be categorized into three broad groups based on their view on the direction of derivation. The analyses in one camp, which adopt the causativization approach, have argued that the causative variant of the alternation is derived from the non-causative variant (Hale and Keyser 1986; Pesetsky 1995; Harley 2008). Those in another camp have argued that the non-causative variant is derived from the causative variant, adopting the decausativization approach (Levin and Rappaport Hovav 1995; Reinhart 2002; Reinhart and Siloni 2005; Koontz-Garboden 2009). Lastly, the analyses which adopt the common-base approach have claimed that the causative and the non-causative variants share a common base, and each variant is derived independently from the shared base (Harley 1995; Embick 2004; Son 2006; Ramchand 2008; Cuervo 2015).

The arguments over the direction of derivation are often closely associated with the issues of how the syntactic, semantic, and morphological modules of grammar operate and/or interact with one another to derive the end results. The decausativization approach, for instance, has been motivated by the apparent pattern that the availability of the non-causative variant seems to hinge on the types of external argument that the causative variant can have (Levin and Rappaport Hovav 1995; Reinhart 2002; Cuervo 2015; Lavine and Babby 2019). This, if true, means that a lexical verb must have access to its external argument in the lexicon, which in turn means that the external argument is projected by, rather than is severed from, the lexical verb in the syntax (cf. Chomsky 1995; Kratzer 1996). From a morphological perspective, the causative alternation in a language like Russian, exemplified in (2), may be taken to support the decausativization approach assuming that morphology reflects the direction of derivational relations, that is, if the morphologically marked variant is assumed to be derived from its unmarked counterpart (Haspelmath 1993).[2]

(2) rasplavit' 'melt (tr.)' → rasplavit'-sja 'melt (intr.)'
(Haspelmath 1993, 89)

In the case of the causativization approach, on the other hand, an external argument does not have to be associated with a verb in the lexicon, since addition of the causative components (namely, the causing event and a causer argument) can be done in the syntax as well. The apparent correlation in a language like English between the possible types of external argument that the causative variant can have and the availability of the non-causative variant, then, would need to be given an independent account (as in, e.g., Rappaport Hovav and Levin 2012 and Rappaport Hovav 2014). Morphologically, the alternation in a language like Mongolian shown in (3) may be taken to support the causativization approach.

(3) xajl-ax 'melt (intr.)' → xajl-uul-ax 'melt (tr.)'
(Haspelmath 1993, 89)

In (3), the causative variant is morphologically marked whereas the non-causative variant is not, indicating that the potential direction of derivation is from the non-causative to the causative variant. From a semantic perspective, both the decausativization and the causativization approaches, in general, maintain the view that the semantics of the non-causative variant is part of the semantics of the causative variant. In other words, the causative variant is typically taken to have the causative components on top of the semantics denoted by the non-causative variant.[3]

The semantic "part-of" relationship between the non-causative and the causative variants does not have to hold under the common-base approach. The two variants share a common base, but the rest of the derivation may involve different lexical items in each variant such as v_{do} in the derivation of a causative variant and v_{go} in the derivation of a non-causative variant (Cuervo 2015). The direction of derivation is not an issue relevant for the common-base approach. As for the morphological marking that has been considered to reflect the direction of derivation, different possibilities have been proposed under the framework of Distributed Morphology (Halle and Marantz 1993). For instance, the suffix that appears in the causative variant in Japanese has been claimed to be the exponence of the light verb responsible for introducing the causative components into the structure (Harley 2008); and the suffix that marks the non-causative variant in Greek has been suggested to be the realization of the light verbs that do not project an external argument (Embick 2004).

In this paper, I provide an analysis of the causative alternation in Korean exemplified in (4), focusing on the points of controversy introduced above.[4]

2. Haspelmath (1993) suggests that the direction of derivation can be either way and is determined based on the likelihood of spontaneity of the event denoted by a given predicate. If the event denoted by a predicate is more likely to occur spontaneously, the causative form of the predicate tends to be morphologically marked (hence, the direction from the non-causative to the causative variant). On the other hand, if the event denoted by a predicate is less likely to occur spontaneously, the non-causative form of the predicate tends to be morphologically marked (hence, the direction from the causative to the non-causative variant).

3. Koontz-Garboden (2009), building on Chierchia (2004), argues that the non-causative variant is derived through reflexivization of the causative variant. In this view, the causative and the non-causative variants must both have the causative components.

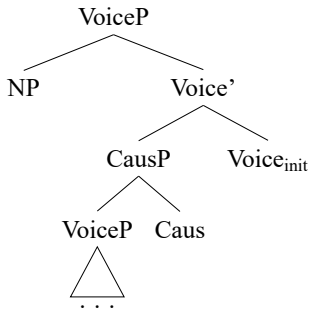
4. I will gloss the suffix that marks the causative variant as -CI- in this paper. Below, I suggest that the suffix is the morphological realization of a Voice head.

(4) a. Apeci-ka swuken-ul mal-li-ess-ta.
father-NOM towel-ACC dry-CI-PST-DECL
'The father dried the towel.'

b. Swuken-i mal-lass-ta.
towel-NOM dry-PST-DECL
'The towel dried.'

Specifically, I first propose that the causative variant in Korean involves the causative head, *Caus(e)* (Pylkkänen 2008), whose function is to introduce a causing event that brings about the eventuality denoted by the predicate that it takes. And, adopting the split vP hypothesis (Pylkkänen 2008; Schäfer 2008; Harley 2013, 2017; Alexiadou, Anagnostopoulou, and Schäfer 2015; Lavine and Babby 2019), I assume the causer argument is introduced by initiative Voice (Kratzer 1996) above CausP in the syntax.[5] That is, I adopt the view that causation is not because of the presence of a causer argument but because of the presence of a causing event (Pylkkänen 2008). The argument that is often referred to as a causer is viewed to be an argument which simply initiates the causing event. Lastly, I claim that the causative head in Korean selects for an element of category Voice. The causative variant of the alternation, then, will involve the structure shown in (5).

(5)



In the sense that the causative components in the causative variant are introduced by independent heads on top of the structure of a non-causative variant, the current approach is in line with the causativization approach. The current approach also follows the tradition of the syntactic approach, as the addition of the causative components is viewed to be done in the syntax.

The paper is organized as follows. In section 2, I provide a quick overview of the basic properties of the morphological causative in Korean. In this section, I conclude that the causative variant is derived from the non-causative variant through causativization in Korean. But as for the component of grammar where the alternation occurs, I simply note, without drawing any conclusion yet, that some of the properties of the causative seem to indicate that it occurs in the lexicon while others seem to indicate that it occurs in the syntax. Putting this issue on hold for a while, I put forward the proposal in section 3, providing analyses of the basic patterns of the causative in Korean. Then in section 4, I discuss the paradoxical behaviors of the causative noted in section 2 and argue that the behaviors can be accounted for under the syntactic (i.e., non-lexicalist) approach adopted in this paper. That is, the component of grammar responsible for the causative alternation is concluded to be the syntax. Finally, in section 5, I provide a brief summary of the paper and suggest that the syntactic causativization approach is generalizable to all languages.

2 Morphological Causatives in Korean

The causative alternation in Korean takes place morphologically with the suffix -CI-, whose allomorphs include *-i-*, *-hi-*, *-li-*, *-ki-*, *-wu-*, *-kwu-*, and *-chwu-*.[6] Notably, the alternation can be found on all classes of predicates in Korean including unaccusatives (e.g., *nok-* 'melt', *nok-i-* 'cause to melt'), unergatives (e.g., *wus-* 'laugh', *wus-ki-* 'cause

5. The term "split vP" is sometimes used more broadly to refer to the structures in which vP as well as VP are split into smaller heads such as the ones proposed by Ramchand (2008), Bowers (2010), and Lohndal (2014), among others. In the text, I am using the term exclusively to refer to the structure where the so-called "little vP" (Chomsky 1995) is decomposed into VoiceP and CausP. Note also that in this paper I will use the term "initiator" as a cover term that refers to the external argument θ-roles such as agent and holder (Kratzer 1996), among others (Ramchand 2008; cf. "effector" of Van Valin and Wilkins 1996 and "originator" of Borer 2005), and I will refer to the external-argument-introducing Voice head(s) as "initiative Voice".

6. Korean also has a few "lexical" causatives exemplified in (i), which lack morphological marking and do not participate in the transitivity alternation (Son 2006), as well as analytic causatives exemplified in (ii), which are derived with the light verb *ha-* 'do'.

(i) Cheli-ka mwun-ul yel-ess-ta.
Cheli-NOM door-ACC open-PST-DECL
'Cheli opened the door.'

to laugh'), adjectives (e.g., *nelp-* 'be wide', *nelp-hi-* 'cause to be wide')[7], and transitives (e.g., *ilk-* 'read', *ilk-hi-* 'cause to read'); and the suffix -CI- invariably appears in the causative variants, not in the non-causative ones, that is, the causative, not the non-causative, variants are morphologically marked. I take the properties of the causative alternation as such to indicate that it occurs through the process of causativization in Korean: i.e., causative variants are derived from their non-causative counterparts, not vice versa. Not to mention the morphological marking which signals the direction of derivation, it would be quite unnatural to assert, for example, that Korean does not have the transitive verb for 'read' and the verb for 'read' should always be derived from the ditransitive verb for 'cause to read' through the grammatical operation of decausativization.

Although the direction of derivation is relatively clear in the causative alternation in Korean, the component of grammar in which the alternation takes place is not so obvious. With respect to the possibility of coordination and the scope of a degree adverb, the causative variant behaves as if the alternation takes place in the lexicon: it does not allow coordination below -CI- as in (6), nor does it allow a degree adverb to modify the stem predicate alone as in (7).

(6) * Ai-ka pwumo-lul [wul-ko wus]-ki-ess-ta.
child-NOM parents-ACC [cry-and laugh]-CI-PST-DECL
Intended: 'The child made the parents cry and laugh.'

(7) Swuni-ka namtongsayng-ul cengmallo koylop-hi-ess-ta.
Swuni-NOM younger.brother-ACC really be.distressed-CI-PST-DECL
'Swuni really made the younger brother distressed.' / *'Swuni made the younger brother really distressed.'

Examples like (6) and (7) may (initially) appear to indicate that the stem predicate and the morpheme -CI- must together occupy a single terminal node in the syntax, which, if the case, would mean that the causative predicate with -CI- was formed in the lexicon before being inserted in the syntax.

However, when it comes to the Condition B effect and the scopes of a manner adverb and *tasi* 'again', the causative variant behaves as if the causative alternation takes place in the syntax: it allows coindexation between the pronominal object and the subject as in (8) (see Reinhart and Reuland 1993 and Horvath and Siloni 2011), and it allows a degree adverb and *tasi* 'again' to have ambiguous scope as shown in (9) and (10), respectively (Son 2006).[8]

(8) Cheli_i-nun cese-lul thonghay taycwung-eykey ku_i-lul al-li-ess-ta.
Cheli_i-NOM book-ACC through public-DAT he_i-ACC know-CI-PST-DECL
'Through the book, Cheli made the public know him.'

(9) Kamtok-i paywu-lul uyca-ey kechilkey anc-hi-ess-ta.
director-NOM actor-ACC chair-LOC roughly sit-CI-PST-DECL
'The director made the actor roughly sit in a chair (in a movie).' / 'The director roughly sat the actor down in a chair (in real life).'

(10) Yenge sensayng-i Swuni-eykey yeymwun-ul tasi ilk-hi-ess-ta.
English teacher-NOM Swuni-DAT example.sentence-ACC again read-CI-PST-DECL
'The English teacher made [Swuni read the example sentence again].' / 'The English teacher again made [Swuni read the example sentence].'

The examples in (8)–(10) appear to indicate that the causative variant involves two predicates which project their own phrases that respectively represent the embedded event and the causing event. This may be considered to show that the causative alternation takes place in the syntax.

In short, it seems relatively clear that the causative alternation in Korean occurs through causativization; however, the component of grammar in which causativization applies is not clear due to the paradoxical behaviors

(ii) Swuni-ka elum-ul nok-key ha-yess-ta.
Swuni-NOM ice-ACC melt-CONN do-PST-DECL
'Swuni caused the ice to melt.'

In this paper, lexical and analytic causatives like (i) and (ii) will not be discussed in any detail. Throughout the paper, the terms "causative" and "causative alternation" will be used to refer to morphological ones unless indicated otherwise.

7. A predicate like *nelp-* 'be wide' is considered to be of category A not category V, because it is not compatible with the suffix *-(nu)n-* which signals that some event or activity is taking place at the moment of utterance: e.g., *Elum-i nok-nun-ta* ('The ice is currently melting') vs. **Kil-i nelp-nun-ta* (*Intended*: 'The road is being wide'). For convenience, I will assume that adjectives are verbalized before being used as a stem predicate in the causative. The analysis in the paper will not be affected if adjectives can be used without verbalization as long as it is instead assumed that expletive Voice (see below in the text) can combine either with unaccusative VP or with AP.

8. Later in the paper, I will argue that there are more interpretations that can be obtained in an example like (10). What matters for now is that the causative predicate in the morphological causative does not seem to be formed in the lexicon when it comes to the scope of *tasi* 'again' as it does not when it comes to the scope of a manner adverb.

exhibited by the causative variants with respect to the possibility of coordination, the scope of a degree adverb, the Condition B effect, and the scopes of a manner adverb and *tasi* 'again'. In the next section, I propose that causativization takes place in the syntax in Korean; and in the section that follows it, I offer analyses of the contradictory patterns presented above.

3 The Syntax and Semantics of Causatives

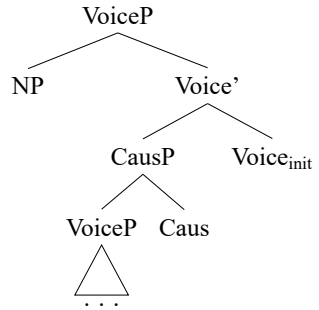
Following Pylkkänen (2008), I first assume that the morphological causative in Korean involves the universal causative element, *Caus(e)*, shown in (11), which introduces the causing event that brings about the eventuality denoted by the complement that it takes.[9]

(11) $[\![\textbf{Caus}]\!] = \lambda P \lambda e \exists v[P(v) \,\&\, \text{cause}(e,v)]$ (where v indicates e 'event' or s 'state')

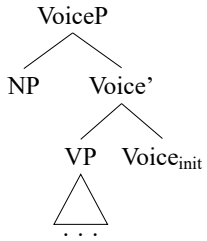
I also assume that Voice comes in two variants in Korean: initiative Voice ($\lambda P \lambda e$[initiator(e,x)]; Kratzer 1996), which combines with transitives or unergatives, and semantically vacuous expletive Voice (λP[P]; Labelle 2008; Schäfer 2008; Alexiadou, Anagnostopoulou, and Schäfer 2015; Wood 2015), which combines with non-agentive intransitives.[10]

With these assumptions, I propose that in Korean, Caus selects for an element of category Voice and accordingly the causative involves the structure shown in (12a), which is constructed based on the non-causative variants shown in (12b–c). The structure in (12b) represents the transitive and unergative, and the structure in (12c) represents the non-agentive intransitive.

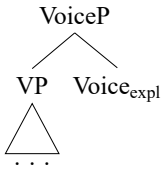
(12) a.



b.



c.



The fact that the causative alternation is found on all classes of predicates in Korean can be accounted for by the structure in (12a), in particular, by the selectional property of Caus that is responsible for the derivation of (12a). Since Caus takes VoiceP as its complement and it does not take the projection of a predicate directly, Caus cannot be semantically selective about the predicate that it occurs with. All that it sees is the VoiceP layer, not the predicate buried below it. Accordingly, the causative alternation, in principle, is not limited to a certain class of predicates in Korean.

9. What I adopt from Pylkkänen (2008) in the paper is limited to the idea that causatives involve the universal causative element shown in (11). The paper does not assume the operation of "Voice-bundling", which seems to be a rather arbitrary operation that may not be fully motivated from a Minimalist perspective. Note, however, that under the criteria suggested by Pylkkänen, Korean may be categorized as a non-Voice-bundling language as it allows the unaccusative-based causative, which is expected not to be allowed in a Voice-bundling language regardless of what complement the bundled Voice head takes. The paper does not adopt Pylkkänen's three-way classification of phase-selecting, verb-selecting, and root-selecting causative heads, either. In the text below, the causative head in Korean is proposed to select for an element of category Voice, whether it is initiative Voice or expletive Voice. Initiative Voice is generally considered to be a phase head, but expletive Voice is often not due to its defective nature; so, the three-way classification is not readily compatible with the approach proposed in the paper. In fact, the classification does not seem to properly capture the behaviors of the causative in Korean: Korean allows the transitive-based causative as we have seen above, which indicates according to Pylkkänen that it has a phase-selecting causative head; but the language does not allow any verbal morphology to intervene between the stem verb and the suffix -Ci- (see section 4.1), nor does it allow all types of adverbial to have scope below -Ci- (see sections 4.2), indicating that it does not have the phase-selecting causative head.

10. In this paper, expletive Voice is assumed to exist in Korean mostly for theory-internal reasons. The causative head may as well be considered to take VoiceP when a transitive or unergative verb is causativized and take VP (or AP) when an unaccusative verb (or an adjective) is causativized. But in that view, the selectional property of the causative head needs to be stated as in "the causative head in Korean selects for VoiceP or VP as the complement". Such a statement leads one to expect that the causative head is allowed to combine with VP whose head is a transitive verb, without the VoiceP layer. This is not the case: when a transitive is causativized, the initiator of the event denoted by the stem verb must exist semantically: for example, *Cheli-ka chayk-ul ilk-hi-ess-ta* (Cheli-NOM book-ACC read-CI-PST-DECL) entails that there exists someone who read a book. The problem of the view without expletive Voice may be circumvented by further assuming that the VP that the causative head can take directly must be projected by an unaccusative verb; however, the series of assumptions will make the grammar much more complicated than the view with expletive Voice proposed in the text. Note that the existence of expletive Voice in Korean may be supported from a morphological perspective in that there are cases where intransitive verbs are marked with -Ci- such as *mwul-li-* 'be fed up' (see footnote 11) as well as where more than one Voice morphology appears in a single causative verb (see below in the text).

As for the suffix -CI- that marks the causative variant in the causative alternation, I assume following K. Kim (2009) that it is the morphological realization of Voice[11]; and I propose that the allomorphy of the Voice head is listed in the lexicon as exemplified below (see Lee 2005 and Son 2006, among others, for a more comprehensive list of the forms of causativized verbs).

(13) a. Voice → *-i-* / {*mek-* 'eat', *cwuk-* 'die', *kkulh-* 'boil', *ttu-* 'float', ...} __ Caus
b. Voice → *-hi-* / {*nelp-* 'be wide', *ilk-* 'read', *ip-* 'put on', ...} __ Caus
c. Voice → *-li-* / {*kal-* 'plow', *al-* 'know', ...} __ Caus
d. Voice → *-ki-* / {*an-* 'hug', *wus-* 'laugh' ...} __ Caus
e. Voice → *-wu-* / (i) {*pi-* 'be empty', *ci-* 'carry', *kkay-* 'wake', ...} __ Caus *or*
(ii) {*ttu-* 'float', *ca-* 'sleep', *thu-* 'sprout', ...} Voice Caus __
f. Voice → *-kwu-* / {*sos-* 'soar', ...} __ Caus
g. Voice → *-chwu-* / {*mac-* 'be hit', *nuc-* 'be late', ...} __ Caus

So, for example, when the verb *cwuk-* 'die' is causativized, the Voice head that occurs immediately above it will be realized as *-i-* according to the listed information in (13a), and when the verb *an-* 'hug' is causativized, the Voice head that occurs immediately above it will be realized as *-ki-* according to the information in (13d). The two cases are illustrated in (14a) and (14b), respectively.

(14) a. ... *cwuk*] $\text{Voice}_{\text{expl}}$] Caus] $\text{Voice}_{\text{init}}$]
die *i*
b. ... *an*] $\text{Voice}_{\text{init}}$] Caus] $\text{Voice}_{\text{init}}$]
hug *ki*

Note in (13) that Voice is realized as *-wu-* in two different environments: one, when it occurs between a verb like *pi-* 'be empty' and Caus as in (13ei); and two, when it occurs above Caus while a verb like *ttu-* 'float' is causativized as in (13eii). In general, the causative head and the Voice head that comes above the causative head do not have an overt morphophonological form; but there are cases where the Voice head above the causative head is given an overt form. Specifically, predicates like *ttu-* 'float', *thu-* 'sprout', *ssu-* 'put on (a hat)', *ca-* 'sleep', *cha-* 'be filled', *tha-* 'burn', etc. are marked with two instances of -CI- in the causative as in *ttu-i-wu-* 'cause to float', *thu-i-wu-* 'cause to sprout', *ssu-i-wu-* 'cause to put on (a hat)', *ca-i-wu-* 'cause to sleep', *cha-i-wu-* 'cause to be filled', *tha-i-wu-* 'cause to burn'. These cases can be analyzed such that both the Voice heads involved in the derivation of the causative are realized as the suffix -CI-. In the case of *ttu-* 'float', for instance, the Voice head that appears between the verb and Caus will be realized as *-i-* according to the information in (13a), and the Voice head that appears above Caus will be realized as *-wu-* according to the information in (13eii). This is illustrated below.

(15) ... *ttu*] $\text{Voice}_{\text{expl}}$] Caus] $\text{Voice}_{\text{init}}$]
float *i* *wu*

The current approach, therefore, captures the cases where there are two instances of -CI- marked on a single stem predicate in the causative, which would not be captured in a principled manner by a lexicalist approach or by a syntactic approach in which the suffix -CI- is seen to be the realization of a causative head itself. The first occurrence of -CI- may be viewed to be an instance of root alternation by the two approaches, but then it will remain open (or will need to be treated as a mere accident) why the alternation is not random and employs the form of an allomorph of -CI-.

Note that the allomorphy of Voice in the causative must be listed as in (13), rather than determined by rules, because as Yeon (1991) points out, the allomorphs can hardly be phonologically motivated from a synchronic point of view as there is no phonetic feature common to the elements that should be preceded by each allomorph. Moreover, there are cases where homonyms are marked with different allomorphs as shown in (16) and (17).

(16) a. *cha-* 'kick' *cha-i-* 'cause to kick'
b. *cha-* 'be filled' *cha-i-wu-* 'cause to be filled'

11. A suggestive piece of evidence for this view may come from the fact that -CI- is identifiable in different contexts other than the causative. For instance, the suffix is found on the simple transitive verbs that do not participate in the causative alternation: e.g., *na-i-* 'submit', *swuk-i-* 'bend', *pel-li-* 'spread (arms, legs, etc.)', among others (S. Kim 1997, 165). It is also found in the intransitive verbs that do not participate in the causative (or passive) alternation: e.g., *mwul-li-* 'be fed up', *kko-i-* 'be swarming, be infesting' *kel-li-* 'take (time)', *wumcik-i-* 'move', etc. There are transitive-intransitive alternations as well where the transitive variant appears with *-ttuli-* whereas the intransitive variant appears with -CI-: *mwune-ttuli-* 'make collapse', *mwune-ci-* 'collapse', *ssule-ttuli-* 'fell down', *ssule-ci-* 'fall down', etc. It might not suffice to conclude based on these cases alone that the suffix -CI- in the causative actually is the realization of Voice. But it seems reasonable to assume that it is, unless there is evidence to the contrary. See K. Kim (2009) for cases where -CI- is marked on unaccusative verbs.

(17) a. *ssu-* 'write' *ssu-i-* 'cause to write'
b. *ssu-* 'put on (a hat)' *ssu-i-wu-* 'cause to put on (a hat)'

The examples in (16) show that the predicates *cha-* 'kick' and *cha-* 'be filled' should be marked with different forms of the suffix -CI- even though they have exactly the same form, and the examples in (17) show that the same holds for the predicates *ssu-* 'write' and *ssu-* 'put on (a hat)'. For many speakers, even a single predicate like *tot-* 'sprout' may be marked with either one of the two allomorphs, *-wu-* and *-kwu-*.[12]

(18) Sinsenhan namwul-i ipmas-ul tot-wu/kwu-ess-ta.
Fresh seasoned.vegetable-NOM appetite-ACC sprout-CI-PST-DECL
'Fresh seasoned vegetable stimulated the appetite.'

Examples like (16)–(18) show that the allomorphy of -CI- is not systematic (hence, is not determined by rules), but is idiosyncratic (hence, is listed in the lexicon).

Apart from the morphology, the listedness (with no default morphophonological rule) is also responsible for the limited productivity of the morphological causative. In contemporary Korean, the morphological causative is productive to a certain extent but not as productive as the analytic causative, and the possibility of causativizing a given predicate itself may vary between speakers. The morphological causative is not entirely productive, because the allomorphy for each predicate has to be "memorized", which means that the derivation of the morphological causative cannot converge purely by grammatical operations unlike that of the analytic causative. Even if the causative structure in (12a) were derived for a given predicate in the narrow syntax, the derivation could still be filtered out as ill-formed at PF if the form of Voice were not listed in the lexicon, and thus, could not be spelled-out. As for the speaker variation, since the allomorphy has to be memorized, the information stored in one speaker's lexicon may be absent in another speaker's lexicon (just as different speakers have different vocabularies). Consequently, *kel-li-* 'cause to walk' and *ppal-li-* 'cause to wash (clothes)', for instance, may sound odd or even "ungrammatical" to some speakers (including myself), even though they are repeatedly used as well-formed examples in the literature and are listed as possible forms in the Standard Korean Dictionary published by the National Institute of Korean Language. In short, morphological causativization is, in principle, a productive process in Korean in the sense that Caus does not impose any selectional restrictions on the class of predicates that it occurs with, but it is restricted in idiosyncratic ways due to the listedness of the allomorphy of Voice in the causative structure.[13]

The listedness of the causative allomorphs is also responsible for the impossibility of double morphological causativization in Korean (Jo 2020). An instance of double morphological causativization is shown below.

(19) * Emeni-ka apeci-eykey aki-lul wus-ki-i/hi/li/ki/wu/kwu/chwu-ess-ta.
mother-NOM father-DAT baby-ACC laugh-CI-CI-PST-DECL
Intended: 'The mother made the father make the baby laugh.'

Under the discussion so far, the structure for an example like (19) must be able to be generated in the narrow syntax, because (i) Caus selects for VoiceP as the complement, and (ii) the projection of Caus is taken by initiative Voice forming VoiceP, which in turn may be selected by Caus again since it satisfies the selectional requirement of Caus. Yet, the example in (19) is ungrammatical. In the current view, the problem must arise at PF. When a Voice head occurs below Caus, it has to be realized as an allomorph of -CI-, and the allomorphy of -CI- is determined contextually according to what lexical predicate is adjacent to the Voice head. This is not possible when double causativization occurs: the Voice head that occurs below the higher causative head is not adjacent to a lexical predicate and thus cannot be given a morphophonological form according to the listed information shown in (13); consequently, the derivation crashes at PF. This is illustrated below.

(20) ... *wus*] $\text{Voice}_{\text{init}}$] Caus] $\text{Voice}_{\text{init}}$] Caus] $\text{Voice}_{\text{init}}$]
laugh *ki* ?? → *Fails to be given a morphophonological form*

In (20), the Voice head highlighted in gray needs to be realized as an allomorph of -CI- since it occurs below Caus (that is, since it is causativized), but no lexical predicate appears adjacent to it, and thus its allomorphic form cannot be determined according to the information in (13).[14] Note importantly that the cases with a verb like *ttu-*

12. The prescribed form listed in the dictionary is *tot-wu-*, yet many contemporary speakers of Korean use the two forms interchangeably.

13. J. Yang (2018) notes that the causative allomorphs had already begun to lose phonological regularity and become idiosyncratic in Medieval Korean (approximately 1000–1600 CE). This suggests that morphological causativization has been losing its purely rule-based productivity since as early as the 11th century.

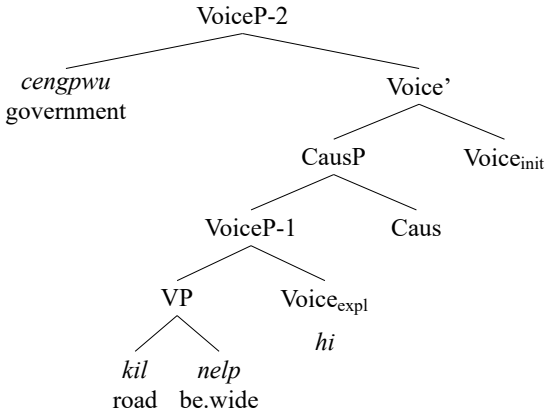
14. An anonymous reviewer points out that double *-sase-* causativization is not allowed in Japanese even though the issue of allomorphy does not arise for the *-sase-* causative, which may be taken to undermine the analysis proposed in the text. However, the fact that an analysis for a construction in one language cannot extend straightforwardly to the corresponding construction in another language does not necessarily mean that the analysis is incorrect. It is quite common that different languages make use of different grammatical constraints for the superficially

'float' discussed earlier in (15) are not instances of double causativization. It is simply single causativization with duplicated -CI- as its derivation only involves one causative head.

Now, turning to the specific derivation of the causative in Korean, the causative of an adjective like (21) will be derived as illustrated in (22) under the current approach. Recall that v in the denotation of Caus is not a variable per se; it is the symbol for eventuality, a notation borrowed from Koontz-Garboden (2009) to indicate 'either state or event'.

(21) Cengpwu-ka kil-ul nelp-hi-ess-ta.
government-NOM road-ACC be.wide-CI-PST-DECL
'The government widened the road.'

(22)



i. ⟦**nelp**⟧ = λxλs[wide(s,x)]
ii. ⟦**VP**⟧ = λs[wide(s,road)]
iii. ⟦**Voice$_{expl}$**⟧ = λP[P]
iv. ⟦**VoiceP-1**⟧ = λs[wide(s,road)]
v. ⟦**Caus**⟧ = λPλe∃v[P(v) & cause(e,v)]
vi. ⟦**CausP**⟧ = λe∃s[wide(s,road) & cause(e,s)]
vii. ⟦**Voice$_{init}$**⟧ = λxλe'[initiator(e',x)]
viii. ⟦**Voice'**⟧ = λxλe∃s[wide(s,road) & cause(e,s) & initiator(e,x)]
ix. ⟦**VoiceP-2**⟧ = λe∃s[wide(s,road) & cause(e,s) & initiator(e,government)]

The stem predicate *nelp-* 'be wide' takes the theme argument *kil* 'road', forming VP in (22ii). Expletive Voice, then, combines with VP and forms VoiceP-1, where the form of expletive Voice is determined to be *-hi-* according to the information listed in the lexicon. Since expletive Voice is semantically vacuous, VoiceP-1 has exactly the same denotation with VP as shown in (22iv). Caus, then, takes VoiceP-1 and introduces the causing event that brings about the state denoted by VoiceP-1. The resulting CausP in (22vi) is taken by initiative Voice in (22vii) and is composed with it through Kratzer's (1996) Event Identification in (23) as shown in (22viii).

(23) *Event Identification*
EI (λxλe[P(e,x)], λe'[Q(e')]) → λxλe[P(e,x) & Q(e)]

The initiator argument of the causing event *cengpwu* 'government', then, is introduced into the derivation, resulting in VoiceP-2 which denotes the set of causing events that bring about a wider state of the road. When the rest of the derivation above VoiceP-2 is completed (in which TP, CP, etc. are projected), the example in (21) is generated with the interpretation 'the government widened the road'.

The derivations of the causative with the other classes of predicates proceed in similar ways. To begin with, the derivation of the unaccusative-based causative proceeds in exactly the same way with that of the adjective-based causative, except that this time the eventuality brought about by the causing event is an event rather than a state. An example of the unaccusative-based causative and its derivation are presented below. Hereafter, I will not spell out the steps of semantic composition for the derivation.

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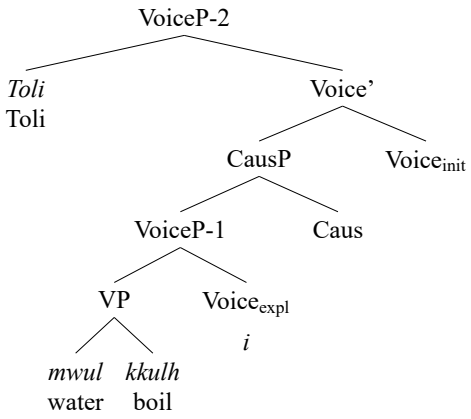
same constructions. It in fact appears that the general ban on double *-sase-* causativization in Japanese is due to a reason different from that in Korean, in that the *-sase-sase-* sequence is reported to be possible if the first *-sase-* is an instance of default "lexical" causativization while the second *-sase-* is an instance of morphological causativization (Kuroda 1993). This suggests that the reason for the general ban on double *-sase-* causativization is not because the causative element fails to be spelled-out unlike the case of Korean.

(24) Toli-ka mwul-ul kkulh-i-ess-ta.
Toli-NOM water-ACC boil-CI-PST-DECL
'Toli boiled the water.'

(25)

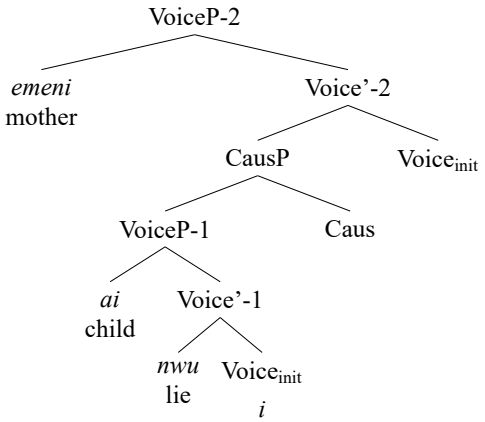


i. ⟦**kkulh**⟧ = λxλe[boil(e,x)]
ii. ⟦**VP**⟧ = λe[boil(e,water)]
iii. ⟦**Voice$_{expl}$**⟧ = λP[P]
iv. ⟦**VoiceP-1**⟧ = λe[boil(e,water)]
v. ⟦**Caus**⟧ = λPλe'∃v[P(v) & cause(e',v)]
vi. ⟦**CausP**⟧ = λe'∃e[boil(e,water) & cause(e',e)]
vii. ⟦**Voice$_{init}$**⟧ = λxλe"[initiator(e",x)]
viii. ⟦**Voice'**⟧ = λxλe'∃e[boil(e,water) & cause(e',e) & initiator(e',x)]
ix. ⟦**VoiceP-2**⟧ = λe'∃e[boil(e,water) & cause(e',e) & initiator(e',Toli)]

The derivation of the unergative-based causative is minimally different from that of the unaccusative-based one: the accusative-marked object in the unergative-based causative is an initiator introduced by initiative Voice rather than a theme introduced by a lexical predicate. An example of the unergative-based causative and its derivation are shown in (26) and (27), respectively.

(26) Emeni-ka ai-lul nwu-i-ess-ta.
mother-NOM child-ACC lie-CI-PST-DECL
'The mother made the child lie down.'

(27)

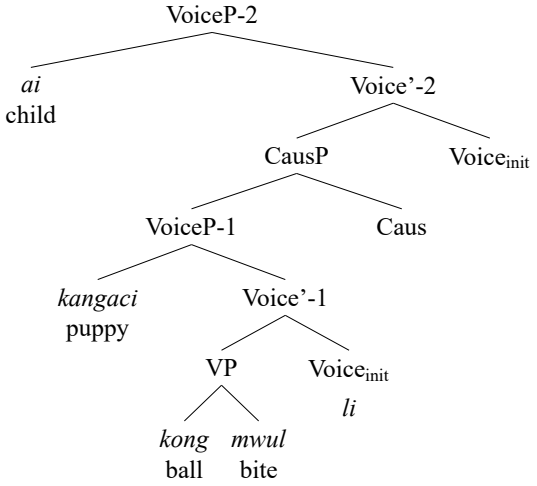


i. ⟦**nwu**⟧ = λe[lie(e)]
ii. ⟦**Voice$_{init}$**⟧ = λxλe'[initiator(e',x)]
iii. ⟦**Voice'-1**⟧ = λxλe[lie(e) & initiator(e,x)]
iv. ⟦**VoiceP-1**⟧ = λe[lie(e) & initiator(e,child)]
v. ⟦**Caus**⟧ = λPλe'∃v[P(v) & cause(e',v)]
vi. ⟦**CausP**⟧ = λe'∃e[lie(e) & initiator(e,child) & cause(e',e)]
vii. ⟦**Voice'-2**⟧ = λxλe'∃e[lie(e) & initiator(e,child) & cause(e',e) & initiator(e',x)]
viii. ⟦**VoiceP-2**⟧ = λe'∃e[lie(e) & initiator(e,child) & cause(e',e) & initiator(e',mother)]

The derivation of the transitive-based causative, again, proceeds in exactly the same way with that of the unergative-based causative, except that this time the lexical predicate takes a theme argument.

(28) Ai-ka kangaci-eykey kong-ul mwul-li-ess-ta.
child-NOM puppy-DAT ball-ACC bite-CI-PST-DECL
'The child made the puppy bite the ball.'

(29)



i. ⟦**mwul**⟧ = λxλe[bite(e,x)]
ii. ⟦**VP**⟧ = λe[bite(e,ball)]
iii. ⟦**Voice$_{init}$**⟧ = λxλe'[initiator(e',x)]
iv. ⟦**Voice'-1**⟧ = λxλe[bite(e,ball) & initiator(e,x)]
v. ⟦**VoiceP-1**⟧ = λe[bite(e,ball) & initiator(e,puppy)]
vi. ⟦**Caus**⟧ = λPλe'∃v[P(v) & cause(e',v)]
vii. ⟦**CausP**⟧ = λe'∃e[bite(e,ball) & initiator(e,puppy) & cause(e',e)]
viii. ⟦**Voice'-2**⟧ = λxλe'∃e[bite(e,ball) & initiator(e,puppy) & cause(e',e) & initiator(e',x)]
ix. ⟦**VoiceP-2**⟧ = λe'∃e[bite(e,ball) & initiator(e,puppy) & cause(e',e) & initiator(e',child)]

Note that under the current view, the highest argument associated with the embedded event in the unergative- and transitive-based causative has the same initiator role that it would in the non-causative counterpart (cf. Legate 2014; Akkuş 2019). The examples in (30) and (31), where the argument in question can be modified by various initiator-detecting adverbials, show that this is in fact that case.

(30) Emeni-ka aitul-ul ekcilo ca-i-wu-ess-ta.
mother-NOM children-ACC unwillingly sleep-CI-CI-PST-DECL
'The mother made the children go to bed against their will.'

(31) Emeni-ka adul-eykey taywang mantwu-lul ceckalak-ulo/chinkwu-wa hamkkey/ekcilo mek-i-ess-ta.
mother-NOM son-DAT great.king dumpling-ACC chopstick-with/friend-with together/unwillingly eat-CI-PST-DECL
'The mother made the son eat the jumbo dumpling with chopsticks/with his friend/against his will.'

In the unergative-based causative in (30), the causee, *aitul* 'children', can be modified by the initiator-oriented adverbial *ekcilo* 'unwillingly' as indicated in the English translation. In the transitive-based causative in (31), the causee, *adul* 'son', can be modified by the instrumental *ceckalak-ulo* 'with chopsticks' and the initiator-oriented comitative *chinkwu-wa hamkkey* 'with a friend', as well as the initiator-oriented adverbial *ekcilo* 'unwillingly'.[15] The adverbials used in (30) and (31) are known to detect an initiator argument associated with initiative Voice (Bruening 2013). The fact that these adverbials can modify the causee in (30) and (31), then, shows that the causee in the unergative- and transitive-based causatives indeed receives the initiator θ-role, which is assigned by initiative Voice.

As is well-known, the causative of a transitive verb can often be interpreted to involve transfer of possession as exemplified below.

15. The adverbial that is most often used to detect an initiator, *ilpwule* 'deliberately', is not allowed to modify the causee for pragmatic reasons: it is contradictory to say that 'someone is made to do something' and 'they did it deliberately' at the same time. Thanks to Faruk Akkuş for pointing this out. Note also that the adverbials in (30) and (31), in principle, can also be interpreted to modify the surface subject, i.e., the causer, although the examples need to be modified somewhat to make them sound natural (e.g., someone being caused/forced with chopsticks to do something sounds awkward). These possibilities are ignored in the text for expository purposes, and accordingly, are not indicated in the English translations.

(32) a. Swuni-ka aki-eykey paci-lul ip-hi-ess-ta.
Swuni-NOM baby-DAT pants-ACC put.on-CI-PST-DECL
'Swuni put the pants on the baby.'

b. Emeni-ka aki-eykey kamkiyak-ul mek-i-ess-ta.
mother-NOM baby-DAT cold.medicine-ACC eat-CI-PST-DECL
'The mother fed the baby medicine for cold.'

In (32a–b), the dative-marked argument, *aki* 'baby', is interpreted as if it were a goal as indicated in the English translations. Naturally, examples like those in (32) have been proposed to involve a type of applicative head, rather than initiative Voice, below CausP (e.g., Son 2006; K. Kim 2011; Legate 2014).[16] But it appears that the dative-marked argument in (32a–b) is still an initiator, and thus must be associated initiative Voice as suggested in this paper.

The dative-marked argument in (32) is semantically distinct from the goal in the sense that some action of the argument is still required for the embedded event to occur. Compare, for instance, the example in (32b) with the one in (33):

(33) Halapeci-ka sonnye-eykey poyak-ul han-chep ponay-ess-ta.
grandfather-NOM granddaughter-DAT invigorating.medicine-ACC one-CL send-PST-DECL
'The grandfather sent a set of (herbal) tonics to his granddaughter.'

In the ditransitive in (33), the dative-marked argument, *sonnye* 'granddaughter' is a goal, and the granddaughter does not have to do anything at all for the sending event to occur. On the contrary, in the case of (32b), the dative-marked argument is still an initiator in the sense that the baby has to do the action of, e.g., swallowing for the eating event to actually occur.[17] Such a difference can be clearly seen when an initiator-oriented adverbial like *ekcilo* 'unwillingly' is used in each construction: the adverbial can be associated with the dative-marked argument in an example like (32b), but it cannot be associated with the dative-marked argument in an example like (33). The transitive-based causative and the ditransitive with *ekcilo* are shown in (34a) and (34b), respectively.

(34) a. Emeni-ka ai-eykey kamkiyak-ul ekcilo mek-i-ess-ta.
mother-NOM child-DAT cold.medicine-ACC unwillingly eat-CI-PST-DECL
'The mother fed the child medicine for cold against his will.'

b. * Halapeci-ka sonnye-eykey poyak-ul ekcilo ponay-ess-ta.
grandfather-NOM granddaughter-DAT invigorating.medicine-ACC unwillingly send-PST-DECL
Intended: 'The grandfather sent (herbal) tonics to his granddaughter against her will.'

The examples above indicate that the transitive-based causative which, at first glance, appears to involve an applicative head is actually derived with initiative Voice. That is, the dative-marked argument is nothing but an initiator.[18]

The impression that the causee is a goal rather than an initiator in examples like (32a–b) is simply due to the world knowledge. The causee, *aki* 'baby', in the example in (32b), for instance, is construed as if it were a goal because according to the world knowledge, the most common way for a mother to make her baby take medicine is by the mother herself putting the medicine in the baby's mouth. In fact, the implication for transfer of possession observed in (32a–b) hardly arises in different contexts as exemplified below.

16. The specific roles that the proposed applicative heads do may differ from one analysis to another; the point in the text is that the so-called "causee" in the transitive-based causative is sometimes taken not to be introduced by initiative Voice.

17. The example in (32a) is more deceptive as the baby does not need to do anything for the putting-on event to take place. But the baby can always resist putting on the pants, preventing the event denoted by the stem predicate from actually taking place. In this sense, the dative-marked argument in (32a) is still in contrast with an example like (33), since the granddaughter in (33) can never prevent the sending event from taking place (even though she may prevent the 'receiving' event).

18. Song (2015, 103) notes that the morphological causative entails the embedded event as illustrated in (ia–b). If this were the case, it would also support the view in the text that the causee in the unergative- and transitive-based causative is introduced by initiative Voice as it would be in the non-causative variant, rather than by some other element.

(i) a. # Emeni-ka ai-lul phyenanhi nwu-i-ess-ciman ai-ka tomwuci nwup-ci ahn-ass-ta.
mother-NOM child-ACC comfortably lie-CI-PST-but child-NOM at.all lie-CONN NEG-PST-DECL
Intended: 'The mother laid down the child in a comfortable way, but the child did not lie down at all.'

b. # Sensayngnim-i haksayngtul-eykey chayk-ul khunsolilo ilk-hi-ess-ciman nwukwuto chayk-ul ilk-ci ahn-ass-ta.
teacher.NOM-NOM students-DAT book-ACC loudly read-CI-PST-but anyone bookACC read-CONN NEG-PST-DECL
Intended: 'The teacher made the students read a book out loud, but no one read it.'

The judgment, however, does not seem to be stable across speakers as some of the Korean speakers that I consulted found the above examples felicitous. It appears that the speakers who allow examples like (ia–b) interpret the causing event as an "attempt" to bring about the embedded event. If the causing event is interpreted to be a mere attempt, the embedded event may not be entailed even if the structure of a causative contains the structure of the corresponding non-causative as claimed in this paper.

(35) a. Kamtok-i paywutul-eykey coyswupok-ul ip-hi-ess-ta.
director-NOM actors-DAT prison.garb-ACC put.on-CI-PST-DECL
'The director made the actors put on prison garb.'

b. Emeni-ka apeci-eykey poyak-ul han-chep mek-i-ess-ta.
mother-NOM father-DAT invigorating.medicine-ACC one-CL eat-CI-PST-DECL
'The mother made the father take a set of (herbal) tonics.'

The examples in (35a–b) are less likely to be interpreted to involve transfer of possession, because the director of a movie usually does not dress the actors herself, and the father is an adult who can take medicine on his own (unless he is in some critical medical condition, which is not likely to be the case considering the type of medicine he was made to take). Based on the discussion above, I conclude that the causee in the transitive-based causative has the same θ-role that it would have in the simple transitive. It is not a goal or some other applied argument.

4 The Paradoxical Behaviors

It has been noted in section 2 that the morphological causative in Korean behaves as if it involved a single predicate with respect to the possibility of coordination and the scope of a degree adverb. With respect to the Condition B effect and the scopes of a manner adverb and the adverbial for 'again', however, the causative behaves as if it involved two predicates, one associated with the embedded event and the other associated with the causing event. In this section, I offer analyses of the paradoxical behaviors of the causative under the approach proposed in section 3.

4.1 Coordination

Coordination is not allowed under the suffix -CI- in the causative in Korean as shown below.

(36) * Ai-ka pwumo-lul [wul-ko wus]-ki-ess-ta.
child-NOM parents-ACC [cry-and laugh]-CI-PST-DECL
Intended: 'The child made the parents cry and laugh.'

(37) * Emeni-ka aitul-eykey [os-ul ip-ko chayk-ul ilk]-hi-ess-ta.
mother-NOM children-DAT [clothes-ACC put.on-and book-ACC read]-CI-PST-DECL
Intended: 'The mother made the children put on clothes and read a book.'

The ungrammaticality of (36) and (37) might seem to indicate that, contrary to what has been argued in this paper, the stem predicate and the suffix -CI- constitute a single lexical item that occupies a single terminal node in the syntax. However, the impossibility of coordination in (36) and (37) may also be given a structural account with the simple assumption that the heads in the domain of the same "first phase" (Ramchand 2008) must form a complex head at PF. That is, the coordination fact that is accounted for with the assumption of a lexical operation of causativization can also be easily accounted for with the assumption of head movement at PF. The first phase refers to the "event-building portion" of a structure, namely, the domain in which the information traditionally seen to reside within a lexical item is decomposed into distinct projections (Ramchand 2008, 16–17). Note that the first phase does not coincide with the notion of "phase", the domain in which the Spell-Out operation takes place. It merely refers to the domain in which a complete event structure is built. In this sense, Ramchand's first phase is similar to what Chung and Ladusaw (2004) call the "event level", the level right before the structure becomes the complement to an inflectional head and the event argument is closed. Under the current approach, the first phase corresponds to the highest VoiceP (i.e., VoiceP selected by an inflectional head such as T) in the causative structure.

The examples involving coordination under -CI- in, for example, (37) will be derived if VPs are coordinated. Given the assumption made above, such a derivation inevitably leads to the violation of the coordinate structure constraint, and thus must be ruled out. To be specific, the predicate in the first conjunct, *ip-* 'put on', might not have to undergo head movement because it is hosted by the conjunction *-ko* 'and', but the predicate in the second conjunct, *ilk-* 'read' has to undergo head movement as it is an element within the first phase that is not supported by any host element. But moving *ilk-* out of the second conjunct to adjoin to Voice leads to the violation of the coordinate structure constraint, which dictates that no element in a conjunct be moved out of that conjunct in a coordinated structure. Therefore, the example in (37) is ungrammatical.[19]

19. If the stem verbs in the conjuncts are identical and thus can undergo across-the-board head movement (Koizumi 2000), the resulting derivation will be well-formed as illustrated below.

Note that under the given assumption, coordination will be possible in the causative if projections bigger than the highest VoiceP are coordinated. In fact, verbal elements can be coordinated below the tense marker as shown in (39) (Yoon 1994).

(39) Emeni-ka aitul-eykey [os-ul ip-hi-ko chayk-ul ilk-hi]-ess-ta.
mother-NOM children-DAT [clothes-ACC put.on-CI-and book-ACC read-CI]-PST-DECL
'The mother made the children put on clothes and read a book.'

If the highest VoicePs are coordinated, it is expected that each conjunct exhibits the full argument structure that is observed in the causative in the non-coordinated environment. However, only VP-internal arguments are observable in the conjuncts in (39). This is because the arguments outside VP in the conjuncts undergo across-the-board movement to some position higher than the coordinated VoicePs in the structure. In fact, it is possible for each conjunct to have the full argument structure when coordinated below the tense marker as shown below.

(40) [Emeni-ka atul-eykey os-ul ip-hi-ko apeci-ka ttal-eykey chayk-ul ilk-hi]-ess-ta.
[mother-NOM son-DAT clothes-ACC put.on-CI-and father-NOM daughter-DAT book-ACC read-CI]-PST-DECL
'The mother made the son put on clothes and the father made the daughter read a book.'

In (40), the arguments in one conjunct differ from those in the other, and thus across-the-board movement is not allowed. Consequently, each conjunct should contain all the arguments that are projected within the highest VoiceP in the typical causative.

The view that the elements within the first phase must form a complex predicate in Korean may be supported, although indirectly, by the fact that no verbal morphology can ever appear between the elements inside the first phase. For instance, the verb *wus-* 'laugh' can be attached by the adjectivalizer *-up-* as in *wus-up-* (laugh-ADJLZ-) 'be laughable', but the derived adjective cannot be causativized as in **wus-up-hi-* (laugh-ADJLZ-CI-) even though adjectives, in principle, can be causativized in Korean. The honorific marker *-(u)si-* cannot intervene between the stem verb and -CI-, either, as in **wus-usi-i/hi/li/ki/wu/kwu/chwu-* (laugh-HON-CI-), even though *-(u)si-* can attach to the verb *wus-* as in *wus-usi-* (laugh-HON-). When two instances of Voice morphology appears on a single predicate (see section 3), as well, no verbal morphology can intervene between the two: **ssu-i-si-wu-* (put.on-CI-HON-CI-). The impossibility of verbal morphology intervening between the elements within the first phase suggests that they *have to* constitute a complex predicate unlike, for example, between the verb and the tense marker, since verbal morphology can easily intervene between the two (see, e.g., Yoon 1994, Koizumi 2000, and Han, Lidz, and Musolino 2007, among many others, for relevant discussion): e.g., *wus-usi-ess-* (laugh-HON-PST-). The intimate relations between the elements within the first phase as such can be captured structurally with the assumption of head movement as suggested above. Note, however, that the cases illustrated here do not constitute an argument against the lexicalist approach in itself. What the assumed head movement does is exactly the same with what a lexical operation would do. The point of the discussion in this subsection is simply that the coordination fact shown in (36) and (37) does not necessarily mean that causativized verbs have to be formed in the lexicon; a syntactic approach may as well account for the fact with a grammatical operation that exists in grammar.

4.2 Adverbs of Degree and Manner

As noted in section 2, degree and manner adverbs show conflicting behaviors in the causative in Korean. On the one hand, a degree adverb cannot detect the embedded eventuality denoted by the stem predicate, and it always scopes over the entire causing event as shown in (41).[20]

(38) Emeni-ka ai-eykey [[cip-eyse paci-lul t_i] (kuliko) [pakk-eyse chima-lul t_i]] ip_i-hi-ess-ta.
mother-NOM child-DAT [[house-at pants-ACC t_i] (and) [outside-at skirt-ACC t_i]] put.on-CI-PST-DECL
'The mother made the child put on the pants at home and put on the skirt outside.'

This is not a possible option in (37).

20. In (41) (as well as in (7) in section 2), an adjective is used as the stem verb to bring out the effect more dramatically. The rigid scope of a degree adverb is not as easily identifiable when the adverb is used in a verb-based causative: for instance, in an example like (i), the adverb may appear to modify either the embedded or the causing event.

(i) Kamtok-i paywu-lul uyca-ey cengmallo anc-hi-ess-ta.
director-NOM actor-ACC chair-LOC really sit-CI-PST-DECL

This is attributable to the fact that the causative entails the embedded event (although there are some speaker variation; see footnote 18). Since the embedded event denoted by a stem verb is entailed to occur in the causative, in other words, since the embedded event is interpreted to really occur in the causative anyway, using a degree adverb like *cengmallo* 'really' gives the impression that it could be associated either with the embedded event or with the causative event. Note that the low scope reading of a degree adverb is much less likely if the degree adverb *silceylo* 'actually' is used instead of *cengmallo* in (i), which is presumably because the former has the semantics (e.g., 'something is true in actuality') that differs from the one (e.g., 'something is true') that may be captured by entailment.

(41) Cheli-ka latio soli-lul cengmallo kh-i-wu-ess-ta.
Cheli-NOM radio sound-ACC really be.big-CI-CI-PST-DECL
'Cheli really turned up the volume of the radio.' / *'Cheli made the radio really loud.'

On the other hand, the manner adverb has ambiguous scope and may be associated either with the embedded eventuality or with the entire causing event (Son 2006). This is shown below.

(42) Kamtok-i paywu-lul uyca-ey kechilkey anc-hi-ess-ta.
director-NOM actor-ACC chair-LOC roughly sit-CI-PST-DECL
'The director made the actor roughly sit in a chair (in a movie).' / 'The director roughly sat the actor down in a chair (in real life).'

The conflicting behaviors of the two kinds of adverbs may initially appear to be problematic for both the lexicalist and the syntactic approaches to the causative in Korean (cf. Pylkkänen 2008). The behavior of the degree adverb can be problematic for the syntactic approach since it appears to indicate that the causative involves a causative verb formed in the lexicon, whose stem predicate cannot be targeted by an independent lexical item, i.e., the degree adverb, in the syntax. The behavior of the manner adverb can be problematic for the lexicalist approach for exactly the opposite reason: the stem predicate can be modified by an independent lexical item, i.e., the manner adverb, in the syntax, making it look like the stem predicate that introduces the embedded eventuality occupies a syntactic position independent of the element that introduces the causing event. In this section, I claim that contrary to the initial impression, the conflicting behaviors are not really problematic for the syntactic approach like the one advocated in this paper.

Many researchers suggest that the hierarchy of adverbs (Jackendoff 1972) is the reflection of the hierarchical positions in which different classes of adverbs appear in the syntax (e.g., Cinque 1999). Among the researchers, Payne (2018) points out that the classes of adverbs that are often grouped together on semantic grounds show parallel syntactic behaviors as well; and based on this observation, she proposes a reduced adverb hierarchy in (43).

(43) Evaluative/speaker-oriented (e.g., *apparently*) > Epistemic (e.g., *probably*, *perhaps*) > Tense (e.g., *once*) & Aspectual (e.g., *already*, *no longer*, *still*, *almost*) > Frequency (e.g., *always*, *never*, *rarely*) & Degree (e.g., *actually*, *really*, *very*) > Manner (e.g., *neatly*, *quickly*)
(Payne 2018, 19)

According to the adverb hierarchy above, a degree adverb appears higher in the structure than a manner adverb does. The relative hierarchy between a degree adverb and a manner adverb as such holds in Korean as well. Consider first the following examples:

(44) a. Cheli-ka silceylo keykelsulepkey nam-uy umsik-ul mek-ess-ta.
Cheli-NOM actually voraciously other-GEN food-ACC eat-PST-DECL
'Cheli actually ate someone else's food voraciously.'

b. ?? Cheli-ka keykelsulepkey silceylo nam-uy umsik-ul mek-ess-ta.
Cheli-NOM voraciously actually other-GEN food-ACC eat-PST-DECL
Intended: 'Cheli actually ate someone else's food voraciously.'

The example in (44a) is perfectly grammatical, in which the degree adverb *silceylo* 'actually' appears before the manner adverb *keykelsulepkey* 'voraciously'. If the order between the two adverbs is the opposite, on the other hand, the sentence becomes barely grammatical as in (44b). The example in (44b) is not completely ruled out because of the possibility that *silceylo* is (mistakenly) construed to have the same meaning with *cengmallo* 'really' which can place focus on the possessor in the object as in 'Cheli voraciously ate the food that really belongs to someone else' rather than construed to have the intended interpretation where it modifies the entire verbal event as in 'Cheli's voracious eating of someone else's food actually took place'. However, the contrast between the two examples in (44) is still quite clear.

The contrast in grammaticality determined by the order between the degree and manner adverbs becomes much more evident when one of the adverbs undergoes movement to the sentence initial position as illustrated in (45) below. In the grammatical example in (45a), the degree adverb *silceylo* 'actually' has moved to the sentence initial position, and in the ungrammatical example in (45b), the manner adverb *keykelsulepkey* 'voraciously' has moved to the sentence initial position. The examples in (45) can be considered to be instances of what Li, Shields, and Lin (2012) call 'neutral preposing' that can be an answer to a question like 'What happened?'.

(45) a. Silceylo Cheli-ka keykelsulepkey nam-uy umsik-ul mek-ess-ta.
actually Cheli-NOM voraciously other-GEN food-ACC eat-PST-DECL
'Actually Cheli ate someone else's food voraciously.'

b. * Keykelsulepkey Cheli-ka silceylo nam-uy umsik-ul mek-ess-ta.
voraciously Cheli-NOM actually other-GEN food-ACC eat-PST-DECL
Intended: 'Voraciously Cheli actually ate someone else's food.'

Note that preposing of the manner adverb itself is not the problem in (45b) since, as shown in (46), the manner adverb can be grammatically preposed if no degree adverb appears in the sentence.

(46) Keykelsulepkey Cheli-ka nam-uy umsik-ul mek-ess-ta.
voraciously Cheli-NOM other-GEN food-ACC eat-PST-DECL
'Voraciously Cheli ate someone else's food.'

So the problem of (45b) must lie in the movement of the manner adverb in the presence of the degree adverb.

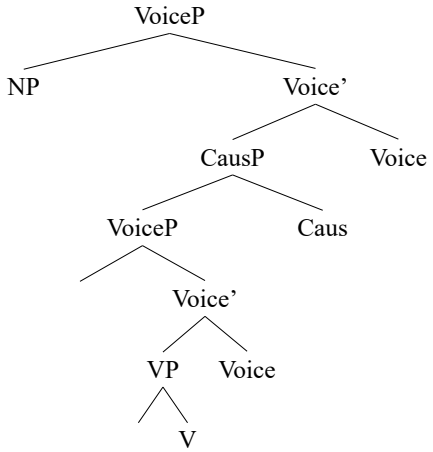
Li, Shields, and Lin (2012) note that the locality effect can arise between adverbs, and claim that Rizzi's (1990) Relativized Minimality can extend to adverbs: i.e., movement of an adverb X to a position Y is blocked in violation of the Relativized Minimality if another adverb Z that can be targeted by the same type of movement intervenenes between X and Y. The contrast between (45a) and (45b), then, can be taken to show that the degree adverb is generated higher in the structure than where the manner adverb is generated. That is, the example in (45a) is grammatical because the manner adverb does not intervene between the position that the degree adverb occupies and the sentence initial position, hence, preposing of the degree adverb does not violate the locality constraint; but the example in (45b) is ungrammatical because the degree adverb intervenes between the sentence initial position and the manner adverb, and thus preposing of the manner adverb violates the locality constraint. This is illustrated below.

(47) [(target position) ... [... degree adverb ... [... manner adverb ...]]]
*

So, the contrast between (45a) and (45b) shows that the degree adverb in fact occupies a position higher than where the manner adverb occupies in Korean.

The conflicting behaviors of the two kinds of adverbs in (41) and (42) can now be taken to be due to their hierarchical relationship; that is, they can be ascribed to the different structural positions to which each kind of adverbs can attach. To elaborate, I assume for concreteness that the degree adverb adjoins to the highest node of category V, whereas the manner adverb is less restricted and can adjoin to any node of category V. With this assumption, consider the structure of the causative in Korean shown below:

(48)



I assume that Caus is an element of category V (i.e., Caus is actually V_{caus}, the notation I have not adopted for readability reasons). Then, according to the current view of the degree and manner adverbs, the degree adverb must adjoin to CausP because it can only adjoin to the highest V node in the structure, whereas the manner adverb may adjoin to either CausP or VP because it is allowed to adjoin to any node of category V. Consequently, the degree adverb always scopes over the causing event, while the manner adverb has ambiguous scope. This way, the assumption made above about the specific attachment sites of the degree and manner adverbs can easily account for the conflicting behaviors of the two kinds of adverbs in the causative in Korean. Importantly, the assumption is in line with the independently motivated adverb hierarchy in (43), which suggests that the conflicting behaviors of the adverbs are actually in support of the syntactic approach to the causative like the one proposed in this paper.

4.3 The Condition B Effect

According to Condition B of Reinhart and Reuland (1993), a predicate whose coarguments are coindexed must either be lexically reflexive or have a SELF-anaphor as an argument. In this view, the possibility of the pronominal object being bound by the causer argument in (49) indicates that the two arguments are not coarguments of the same predicate.

(49) Cheli$_i$-nun cese-lul thonghay taycwung-eykey ku$_i$-lul hwaksilhi al-li-ess-ta.
Cheli$_i$-NOM book-ACC through public-DAT he$_i$-ACC certainly know-CI-PST-DECL
'Through the book, Cheli certainly made the public know him.'

Under the current approach, the causer argument *Cheli* 'Cheli' and the pronominal object *ku* 'he' in (49) may indeed be taken to be arguments of different predicates. This is because the causer argument is projected by initiative Voice associated with the causing event (which is introduced by Caus), whereas the pronominal object is projected by the stem predicate associated with the embedded event (which is introduced by the stem predicate).

However, the issue is not as simple as it initially appears, because the causer argument and the pronominal object cannot be coindexed in the unaccusative-based causative as exemplified below.

(50) Cheli$_i$-ka pithonghan simceng-ulo ku$_{*i}$-lul cwuk-i-ess-ta.
Cheli$_i$-NOM grief.stricken feeling-with he$_{*i}$-ACC die-CI-PST-DECL
'Cheli killed him grief-stricken.'

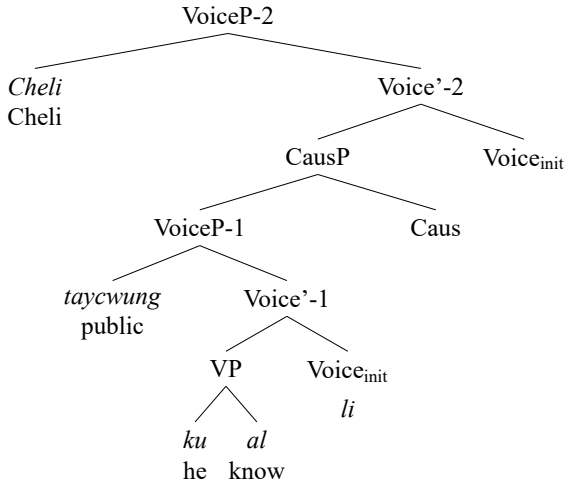
According to the derivation of the unaccusative-based causative proposed in this paper, the causer argument is introduced by initiative Voice associated with the causing event, and the accusative-marked object is introduced by the lexical predicate denoting the embedded event just like the one in the transitive-based causative. This means that under Reinhart and Reuland's Condition B, the causer argument *Cheli* 'Cheli' and the pronominal object *ku* 'he' in (50) must be allowed to be coindexed, contrary to fact. So, it appears that when it comes to the unaccusative-based causative, Reinhart and Reuland's Condition B combined with the current approach to the causative does not provide an adequate account of the Condition B effect in Korean.

In order to resolve this issue, I adopt an alternative version of the binding theory which employs phasehood for the locality domain (e.g., Lee-Schoenfeld 2004; Quicoli 2008; Bruening 2014; Charnavel and Sportiche 2016). Lee-Schoenfeld (2004), for instance, suggests the binding conditions shown in (51a–b). I assume, based on the Phase-Impenetrability Condition, that an element at the edge of a phase can bind an element in the phase and can be bound by an element in the next higher phase.[21]

(51) a. A reflexive must be bound within the minimal phase containing it.
b. A pronominal must be free within the minimal phase containing it.
(Lee-Schoenfeld 2004, 147)

Under the version of Condition B in (51b), the causer argument must be able to bind the pronominal object in the transitive-based causative in (49), because they are not contained within the same phase as illustrated below.

(52)



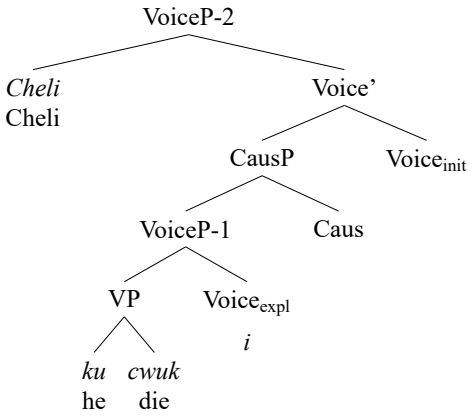
In (52), the causer argument *Cheli* 'Cheli' is minimally dominated by the VoiceP-2 phase, while the pronominal object *ku* 'he' is minimally dominated by the VoiceP-1 phase. Assuming, with Lee-Schoenfeld, that initiative

21. cf. "Being located at the phase-edge means being part of the next higher phase." (Lee-Schoenfeld 2004, 148)

VoiceP constitutes a phase node, the two arguments must belong to distinct phase domains. Since they are not within the same phase domain, the two arguments are allowed to be coindexed without manifesting the Condition B effect.

As for the unaccusative-based causative exemplified in (50), however, coindexation between the two arguments will lead to the violation of Condition B in (51b). This is crucially because unlike the case in (52), the VoiceP that Caus takes in (50) is the projection of expletive Voice which does not project a specifier. The derivation of (50) is illustrated below.

(53)



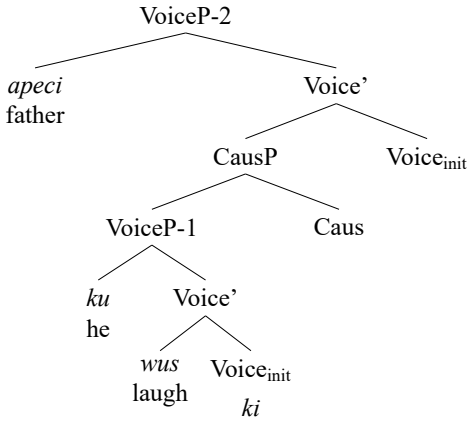
Since it does not project a specifier, VoiceP-1 in (53) can be considered to be "defective", and accordingly, it must not constitute a phrase node in the sense of Chomsky (2008). This amounts to saying that the two arguments *Cheli* 'Cheli' and *ku* 'he' in (53) are within the minimal phase, namely VoiceP-2. Therefore, coindexation between the two arguments brings about the Condition B effect.

The pronominal object in the unergative-based causative is not allowed to be coindexed with the causer argument, either, as illustrated in (54).

(54) Apeci$_i$-ka ku$_{*i}$-lul wus-ki-ess-ta.
father$_i$-NOM he$_{*i}$-ACC laugh-CI-PST-DECL
'The father made him laugh.'

Under the present account, this is because the pronominal object in the unergative-based causative is introduced at the edge of a phrase as shown below.

(55)



In (55), the pronominal object *ku* 'he' is at the phase-edge, which is accessible in both the lower phase (i.e., VoiceP-1) and the higher phase (i.e., VoiceP-2) for binding purposes (Lee-Schoenfeld 2004). Accordingly, the pronominal object cannot be coindexed with the causer argument *apeci* 'father'.

4.4 The Scope of *Tasi* 'Again'

Son (2006) reports that *tasi* 'again' has ambiguous scope in the causative in Korean as shown in (56).

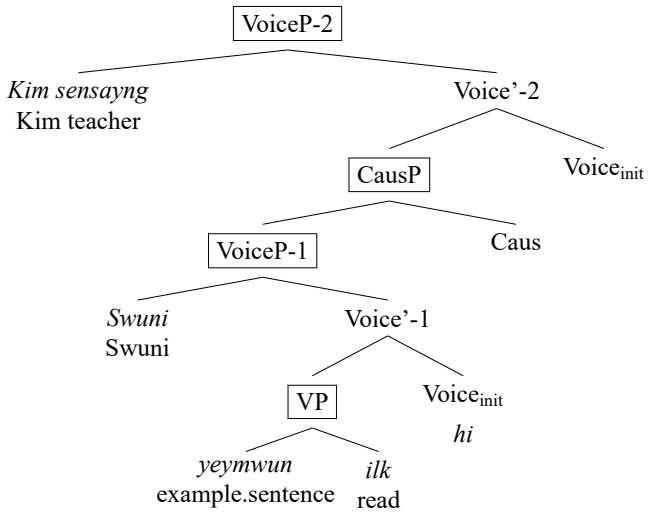
(56) Kim sensayng-i Swuni-eykey yeymwun-ul tasi ilk-hi-ess-ta.
Kim teacher-NOM Swuni-DAT example.sentence-ACC again read-CI-PST-DECL
i. 'Mr. Kim made [Swuni read the example sentence again].'

ii. 'Mr. Kim again made [Swuni read the example sentence].'

The scope of the adverbial for 'again' has often been used to detect syntactic nodes of type ⟨st⟩ in the structure (von Stechow 1996; Beck and Johnson 2004; Son 2006; Bale 2007; Pylkkänen 2008; Bosse, Bruening, and Yamada 2012). More specifically, it has been claimed that the adverbial adjoins to a syntactic node of type ⟨st⟩, and introduces the presupposition that the event denoted by the constituent that it adjoins to has already taken place. In this view, the fact that the example in (56) has two interpretations, one where the embedded event is repeated and the other where the causing event is repeated, indicates that the embedded and the causing events are represented in the syntax separately by independent projections of type ⟨st⟩ to which *tasi* can attach. The ambiguous scope of *tasi*, then, can be considered to support the syntactic approach to the causative in Korean.

According to Son (2006), the transitive-based causative in Korean allows two interpretations shown in (56i–ii), but the present account predicts that there are four interpretations, including the two shown in (56i–ii), that are available for the example in (56). Consider the structure involved in the example in (56) shown below:

(57)



If semantic composition proceeds as claimed in this paper, the structure in (57) will provide four syntactic nodes of type ⟨st⟩ to which *tasi* 'again' can attach: namely, VP, VoiceP-1, CausP, and VoiceP-2 that are indicated by the square frame. The example in (56), then, is expected to allow four interpretations shown in (58i), (58ii), (58iii), and (58iv), which would be generated if *tasi* attached to VP, VoiceP-1, CausP, and VoiceP-2, respectively.

(58) In a classroom context:

i. *VP attachment*: 'Someone had already read the example sentence (voluntarily), but Mr. Kim made Swuni read the example sentence again.'

ii. *VoiceP-1 attachment*: 'Swuni had already read the example sentence (voluntarily), but Mr. Kim made her read it again.'

iii. *CausP attachment*: 'Someone (e.g., a co-teacher) had already made Swuni read the example sentence, but Mr. Kim made her do it again.'

iv. *VoiceP-2 attachment*: 'Mr. Kim had already made Swuni read the example sentence, but he did it again.'

The example in (56) can in fact have any one of the interpretations shown in (58i–iv); hence, the prediction that the transitive-based causative with *tasi* allows four interpretations is borne out.

It is relatively easy to have access to any one of the four interpretations in the given context, but in an example like (59) below, the VP-attachment interpretation is not easily accessible.

(59) Park sensayng-i Cheli-eykey kyokwase-lul tasi ilk-hi-ess-ta.
Park teacher-NOM Cheli-DAT textbook-ACC again read-CI-PST-DECL

i. *VP attachment*: 'Someone had already read the book, but Ms. Park made Cheli read the book again.'

ii. *VoiceP-1 attachment*: 'Cheli had already read the book, but Ms. Park made him do it again.'

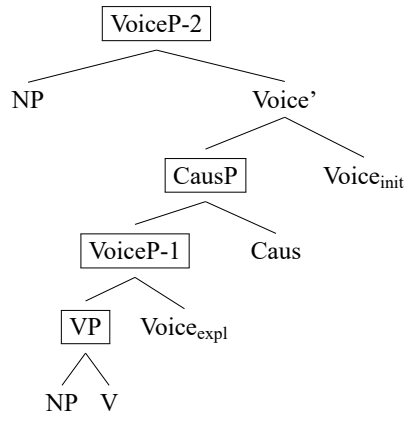
iii. *CausP attachment*: 'Someone had already made Cheli read the book, but Ms. Park made him read the book again.'

iv. *VoiceP-2 attachment*: 'Ms. Park had already made Cheli read the book, but she did it again.'

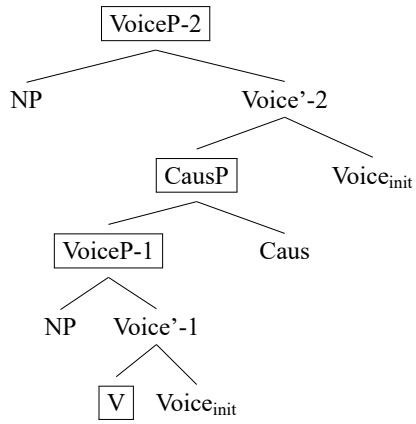
I suggest that this is for pragmatic reasons. More specifically, 'someone' in (59i) cannot be, e.g., Toli, because repetition of the event denoted by VP 'reading the textbook' does not have any pragmatic significance at all unless it is done by the same individual. If Cheli had read the textbook, but nevertheless he had failed to pass an exam for instance, then Ms. Park might make Cheli read the textbook again so that he could pass the exam next time. However, if someone other than Cheli, say, Toli, had read the textbook, then there is no clear reason why, all of a sudden, Ms. Park would make *Cheli* read the textbook again. Therefore, it is implausible to think that what the speaker of the example in (59) meant is that 'someone' in (59i) is not Cheli. This is in contrast to the case in (56) discussed earlier. In that case, 'someone' in the VP-attachment interpretation in (56i) can be either someone other than Swuni or Swuni herself, because repetition of the event denoted by VP 'reading the example sentence' has some pragmatic significance whether or not it is done by the same individual. Whoever had read the example sentence before, Mr. Kim might as well make Swuni read it again so that, for instance, he could help her improve her pronunciation. In fact, the textbook example in (59) may have the VP-attachment interpretation with different initiators too if a specific context is given where the event denoted by VP has some significance. For instance, suppose that Cheli and Toli are not Ms. Park's students but proofreaders of the textbook that Ms. Park had written. In this context, the example in (59) may easily be interpreted to mean that Toli had already read the textbook, but Ms. Park made Cheli read the book again. The VP-attachment interpretation with differing initiators becomes available here, because the event denoted by VP 'reading the textbook' is pragmatically significant in the given context: whether or not it is done by the same individual, reading the textbook may always lead to finding new typos. The fact that the VP-attachment interpretation is available when a context is given supports the view that VP in the causative provides a constituent to which *tasi* 'again' can adjoin.

I have argued above that the scope of *tasi* 'again' provides evidence for the syntactic approach to the causative in general, and for the structure of the causative proposed in this paper in particular. There is a potential problem for the proposed structure, however, which concerns the unergative-based causative. I have limited the discussion to the transitive-based causative so far, arguing that the causative provides four syntactic nodes of type ⟨st⟩ to which *tasi* 'again' can attach in the structure. The same must hold for the intransitive-based causatives since the causative head in Korean always selects a Voice projection of type ⟨st⟩. The structures of the intransitive-based causatives are shown below, where the causative derived from a non-agentive predicate and from an unergative are shown in (60a) and (60b), respectively.

(60) a.



b.



As indicated by the square frame, both the structures in (60a) and (60b) provide four syntactic nodes to which *tasi* can adjoin. However, when the causative is derived from a non-agentive intransitive as in (60a), the causative with *tasi* will only allow three interpretations. This is because one of the four syntactic nodes of type ⟨st⟩ in (60a) is expletive VoiceP whose head is a semantically vacuous identity function; that is, there will be no interpretational difference at all between VP and expletive VoiceP. On the other hand, when the causative is derived from an unergative as in (60b), the causative with *tasi* is expected to allow four interpretations as the transitive-based causative does. This is because the sole argument of an unergative verb is introduced by initiative Voice, and thus there will be an interpretational difference between V and initiative VoiceP.

The prediction about the causative of a non-agentive intransitive is borne out as exemplified in (61).

(61) Apeci-ka mwul-ul tasi kkulh-i-ess-ta.
father-NOM water-ACC again boil-CI-PST-DECL

i. *VP/VoiceP-1 attachment*: 'The water had already boiled, but it cooled down, so the father boiled the water again.'

ii. *CausP attachment*: 'Someone had already boiled the water, but it cooled down, so the father boiled the water again.'

iii. *VoiceP-2 attachment*: 'The father had already boiled the water, but it cooled down, so he did it again.'

The prediction about the causative of an unergative, however, is not borne out: the unergative-based causative with *tasi* allows only three interpretations as shown below.

(62) Emeni-ka aki-lul tasi cay-wu-ess-ta.
mother-NOM baby-ACC again sleep-CI-PST-DECL
i. *V attachment (Impossible)*: 'Sleeping had already occurred, but the mother made the baby sleep again.'
ii. *VoiceP-1 attachment*: 'The baby went to bed, but he woke up in the middle of the night, so the mother made him sleep again.'
iii. *CausP attachment*: 'Someone had already made the baby sleep, but he woke up, so the mother made him sleep again.'
iv. *VoiceP-2 attachment*: 'The mother had already made the baby sleep, but he woke up, so she did it again.'

Contrary to what is predicted according to the structure in (60b), the V-attachment interpretation is not possible for the unergative-based causative as in (62i).

Actually, the same pattern is observed in the simple unergative, and *tasi* 'again' does not seem to be able to attach to an unergative verb in the intransitive frame, either. The example in (63), for instance, cannot have the V-attachment interpretation; it can only have the VoiceP-attachment interpretation.

(63) Aki-ka tasi ca-ss-ta.
baby-NOM again sleep-PST-DECL
i. *V attachment (Impossible)*: 'Sleeping had already occurred, but the baby slept again.'
ii. *VoiceP attachment*: 'The baby had already slept, but he slept again.'

The unavailability of the V-attachment interpretation in (63) indicates that *tasi* cannot attach to an unergative verb in the first place, even though it is of type ⟨st⟩. One possibility is that the sole argument of an unergative verb is not projected by initiative Voice but instead is projected by the unergative verb itself as Bale (2007) suggests. Bale's view may be easily accommodated in the current approach if it is assumed that all intransitives, not only adjectives and unaccusatives, but also unergatives, come with expletive Voice in the structure. In a similar vein, it may be the case that the sole argument of an unergative is semantically selected by the verb but is projected by a special kind of expletive Voice which is semantically vacuous but has the selectional feature [N] (Labelle 2008). By having them occupy different structural positions as such, the different behaviors between the sole arguments in the unaccusative and the unergative may be captured (B. Yang 1991). Yet another possibility would be to give it a pragmatic account along the lines discussed above. That is, since the atelic activity denoted by an unergative verb does not have any pragmatic significance when repeated, the V-attachment reading can barely (if possible at all) be obtained. In this paper, I will not attempt to choose one analysis over the others. I will simply note here that the impossibility of the V-attachment reading in (62i) is a potential problem for the current approach, but there can be an independent explanation for the unexpected behavior of the unergative-based causative.

5 Conclusion

In this paper, I have argued that the morphological causative in Korean is successfully accounted for under a syntactic causativization approach to the causative. First, I have proposed that the causative in Korean involves a causative element, Caus, which selects for elements of category Voice as the complement, and argued that the selectional requirement of Caus is responsible for the fact that the causative can be found on all classes of predicates in Korean. It was noted that although causativization may apply in principle to any class of predicates, it is not entirely productive unlike the analytic causative. The limited productivity of the morphological causative as such has been attributed to the listedness of the allomorphic variation of the suffix -CI-. As for the mono-predicational behaviors of the causative with respect to the possibility of coordination and the scope of an adverb of degree, I have suggested that they can be given independent accounts within the proposed approach. In particular, I have argued that the impossibility of coordination below -CI- is attributed to the coordinate structure constraint and the obligatory wide scope of a degree adverb to the adverb hierarchy. I have shown that the bi-predicational properties of the causative with respect to the Condition B effect and the scopes of an adverb of manner and the adverbial for 'again' can also be successfully accounted for under the proposed structure. The lack of the Condition B effect in the transitive-based causative was claimed to be due to the presence of a phase node between the causer argument and the pronominal object, whereas the manifestation of the Condition B effect in the intransitive-based causative to the absence of a phase node between the causer argument and the pronominal object. The ambiguous scope of

a manner adverb was attributed to the adverb hierarchy, and the ambiguous interpretations of the causative with *tasi* 'again' to the number of syntactic nodes of type ⟨st⟩ in the proposed structure.

The main argument of the current paper is that the causative alternation in Korean can be best analyzed when it is viewed to be due to causativization that takes place in the syntax. The discussion has been limited to the causative in Korean; but the current view may easily extend to the causative alternation in other languages, while attributing the typology of causatives to the different selectional properties of the causative head in different languages (Pylkkänen 2008). For instance, if the causative head in English is assumed to take an element of category V, the difference between Korean and English in the range of predicates to which causativization can apply may be accounted for along the following lines: since the causative head in Korean does not takes (the projection of) a lexical predicate directly, it is not sensitive to the semantic content of the lexical predicate, accordingly, the causative is found on all classes of predicates; in English, on the other hand, the causative head takes (the projection of) a predicate directly, and it is sensitive to the semantic content of the predicate, accordingly, it can only take a change-of-state verb as the complement. The fact that the causative alternation in Hungarian can occur only for agentive predicates, namely, transitives and unergatives, can also be accounted for in terms of selection (although there are complications, e.g., the binding facts in Hungarian causatives differ from those in Korean discussed in section 4.3; see Horvath and Siloni 2011). It can be simply said that the causative head in Hungarian takes initiative VoiceP as the complement. All in all, the syntactic causativization approach advocated in the paper could be extended to offer an account of the typology of causatives with local selectional relations between relevant heads in the derivation.

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